

# Master

SERIES  
by BLACK&DECKER™

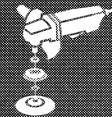
**NEW!** **5590 5000 RPM 7"/9" Angle Grinder**  
**5591 6000 RPM 7"/9" Angle Grinder:**  
 Premium quality large angle grinders designed to work with 7" and 9" grinding wheels and backing pads for grinding and sanding in the most demanding applications.



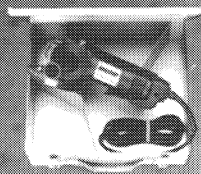
**NEW!** **5580 4½" Angle Grinder:**  
 Premium quality small angle grinder for grinding and sanding for a variety of jobs.



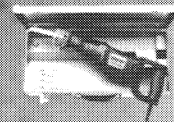
**NEW!** **5581 4½" Angle Grinder Kit:**  
 The same high quality grinder as the 5580 with a metal kit box.



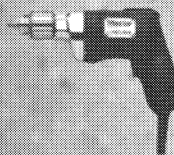
All Master Series grinders comes equipped with Wheelfast™ Universal Tool Flange System that eliminates the need for wrenches and nuts, as standard equipment.



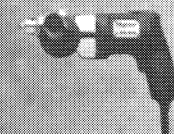
**NEW!** **5321 Cut-Saw™ Variable-Speed Reciprocating Saw:**  
 Premium quality saw with an easy-to-use thumb dial variable-speed control.



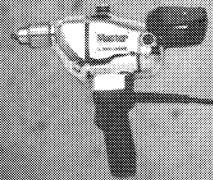
**5111 Holgun® ¾" VSR Drill:**  
 Premium quality pistol-grip drill designed for long life in heavy-duty use in a variety of materials—wood, masonry and composites.



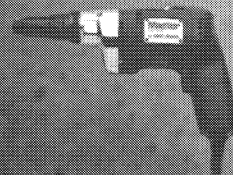
**5130 Holgun® ½" VSR Drill:**  
 Premium quality drill with maximum power for its compact size. Designed for drilling larger diameter holes with a no-load speed of 600 RPM.



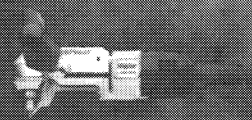
**5140 ½" Spade Handle Drill:**  
 Premium quality spade handle drill for the heaviest industrial and construction demands.



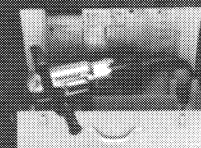
**5274 Versa-Clutch® Scrugun® VSR Screwdriver:**  
 Premium quality adjustable clutch screwdriver designed to drive a wide variety of fasteners to perfect tightness.



**5158 Timberwolf™ ½" Right Angle Drill:**  
 Premium quality drill designed for plumbers and electricians who need to drill large diameter holes in tight quarters.



**5159 Timberwolf™ ½" Right Angle Drill Kit:**  
 The same quality drill as the 5158 with a metal kit box.



**Black & Decker (U.S.) Inc.**  
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 P.O. Box 798  
 Hunt Valley, Maryland  
 21030-0798

Form No. 741664  
 Printed in U.S.A.

(NOV88-CD-1)

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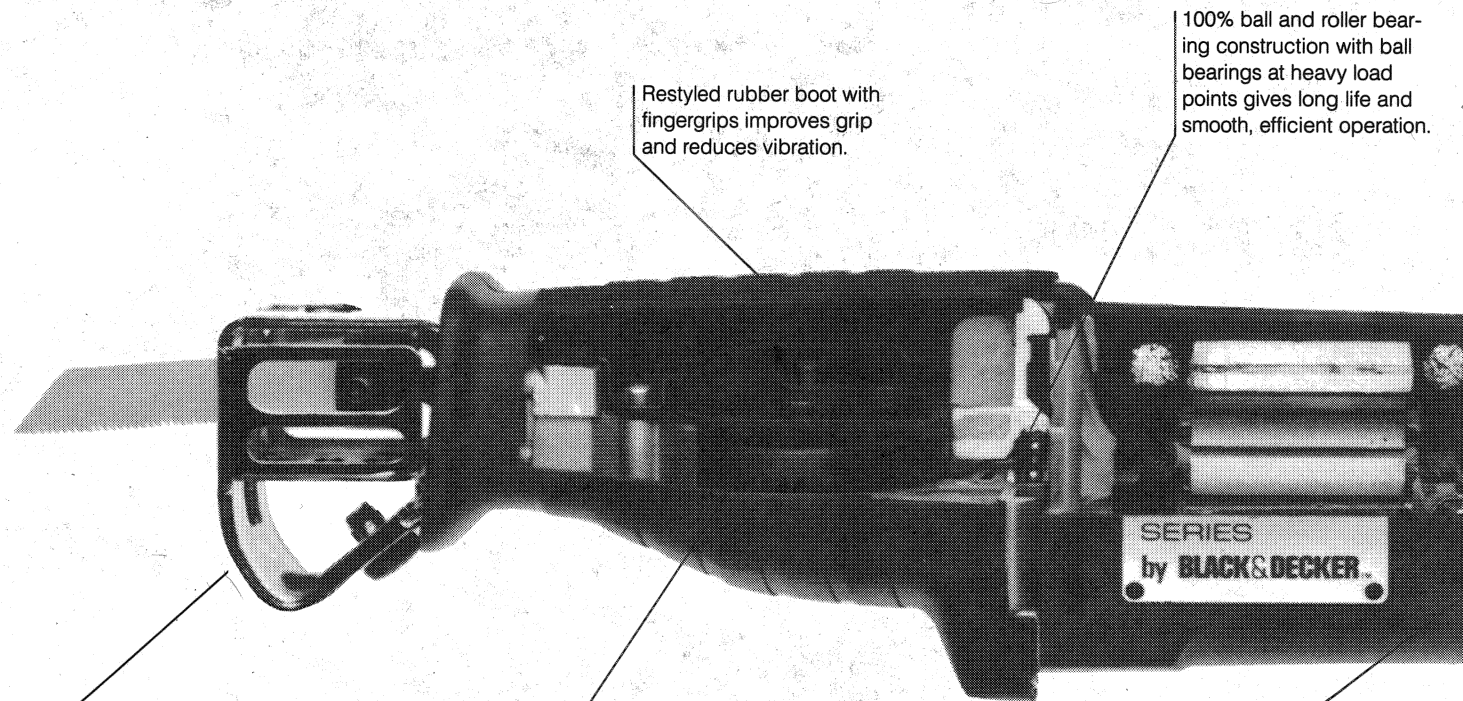
## Instruction Manual

## 5321 Cut-Saw™ Variable-Speed Reciprocating Saw Kit

*Masterpieces of Power and Performance*



# Finally, a reciprocating saw designed to improve upon perfection.



Restyled rubber boot with fingergrips improves grip and reduces vibration.

100% ball and roller bearing construction with ball bearings at heavy load points gives long life and smooth, efficient operation.

Fixed shoe design gives maximum cutting visibility. Radius edge provides easier plunge cuts.

Counterweighted gear reduces vibration and operator fatigue.

Brushes can be inspected and replaced without disassembling the tool, minimizing downtime.

Powerful 8.0 amp Black & Decker motor gives long service.

Compact, lightweight design minimizes user fatigue and facilitates easier handling in confined spaces.

**You're a pro.** Proud of your work. Always ready to take on a new challenge. Confident you'll do the best job possible.

With the new Master Series™ Cut-Saw™ reciprocating saw you can count on doing the job even better. Because your new saw is better than any you've used before. This saw is designed to perform in the most demanding applications.

The Master Series saw gives you more of what you want. More power. More performance. And gives it to you better. With better design. Better parts. Better service.

You get more power with the largest, most-powerful Black & Decker built motor found in a reciprocating saw.

You get more comfort and control with a restyled rubber boot and fingergrips. Plus the counterweighted gear reduces vibration so you'll have less fatigue.

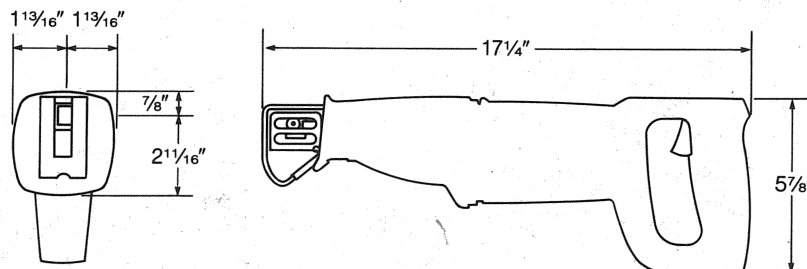
You get more performance from the 100% ball and roller bearing construction.

The new easy-to-use thumb dial variable-speed control allows you to preset your cutting speed as well as maintaining variable speed in the trigger switch to master the cutting task at hand.

Look at the other special features of your new Cut-Saw reciprocating saw as pictured in the cut-away view we've provided.

Once you use your new Master Series saw, we think you're going to agree Master Series tools are masterpieces of power and performance.

## Size and dimensional clearances:



## Extension Cords

Tools that have 3-wire cords requiring grounding must only be used with extension cords that have 3-prong grounding type plugs and 3-pole receptacles. Only round jacketed extension cords should be used, and we recommend that they be listed by Underwriters Laboratories (U.L.) (C.S.A. in Canada). If the extension will be used outside, the cord must be suitable for outdoor use. Any cord marked as outdoor can also be used for indoor work. The letters "WA" on the cord jacket indicate that the cord is suitable for outdoor use.

An extension cord must have adequate wire size (AWG or American Wire Gauge) for safety, and to prevent loss of power and overheating. The smaller the gauge number of the wire, the greater the capacity of the cable, that is 16 gauge has more capacity than 18 gauge. When using more than one extension to make up the total length, be sure each individual extension contains at least the minimum wire size.

To determine the minimum wire size required, refer to chart below.

CHART FOR MINIMUM WIRE SIZE (AWG) OF EXTENSION CORDS

NAMEPLATE RATING-AMPS	TOTAL EXTENSION CORD LENGTH-FEET							
	25	50	75	100	125	150	175	200
0 - 10.0	18	18	16	16	14	14	12	12
10.1 - 13.0	16	16	14	14	14	12	12	12
13.1 - 15.0	14	14	12	12	12	12	12	---

Before using an extension cord, inspect it for loose or exposed wires, damaged insulation, and defective fittings. Make any needed repairs or replace the cord if necessary. Black & Decker has extension cords available that are U.L. (C.S.A. in Canada) listed for outdoor use.

## Commercial/Industrial Use Warranty

Black & Decker (U.S.) Inc. warrants this product for one year from date of purchase. We will repair without charge, any defects due to faulty material or workmanship. Please return the complete unit, transportation prepaid, to any Black & Decker Service Center or Authorized Service Station, listed under "Tools Electric" in the yellow pages. This warranty does not apply to accessories or damage caused where repairs have been made or attempted by others.

## Caution

To assure product SAFETY and RELIABILITY, repairs, maintenance (excluding brush inspection and replacement) and adjustment should be performed by BLACK & DECKER Service Centers or other qualified service organizations, always using BLACK & DECKER replacement parts.

Like most Black & Decker tools, your Cut Saw is listed by Underwriter's Laboratories to ensure that it meets stringent safety requirements.



This symbol on the nameplate means the product is listed by Underwriter's Laboratories, Inc.

See 'Tools-Electric'  
—Yellow Pages—  
for Service & Sales



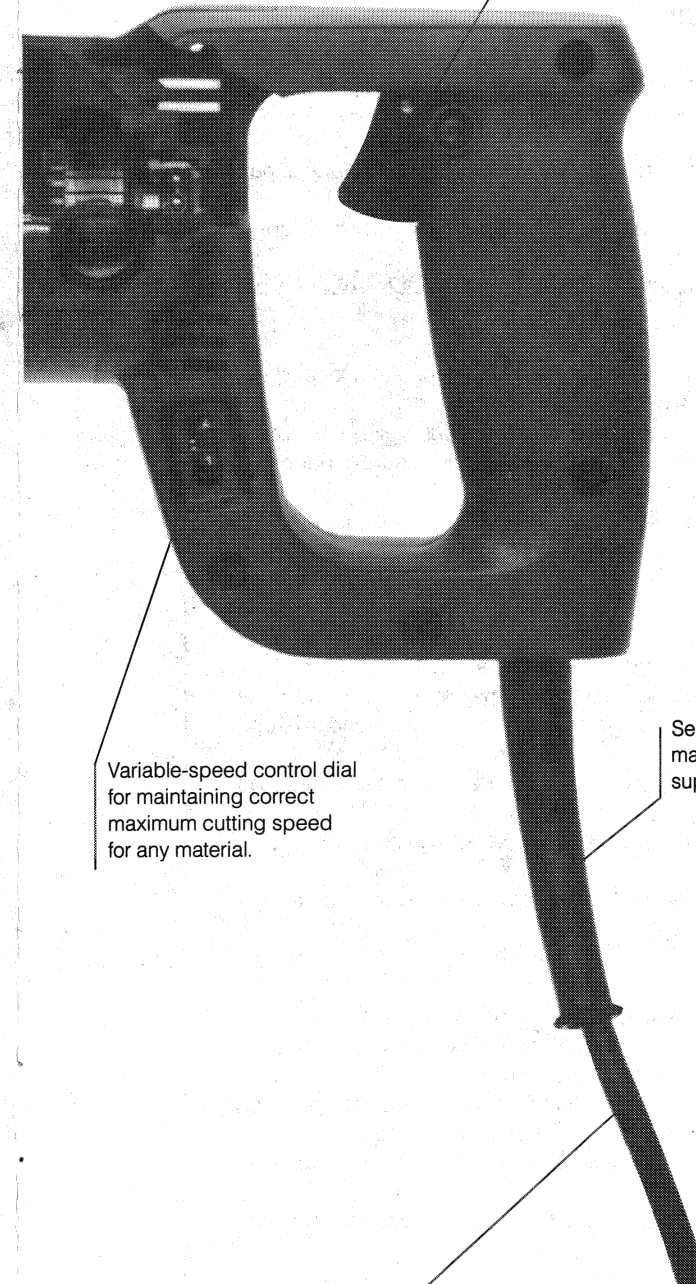
**NOTES**

Rubber wrench holder keeps wrench handy.

**New, unique speed control system**

Variable-speed trigger switch provides maximum user control by allowing slow controlled cutting starts and speed variations up to control dial setting.

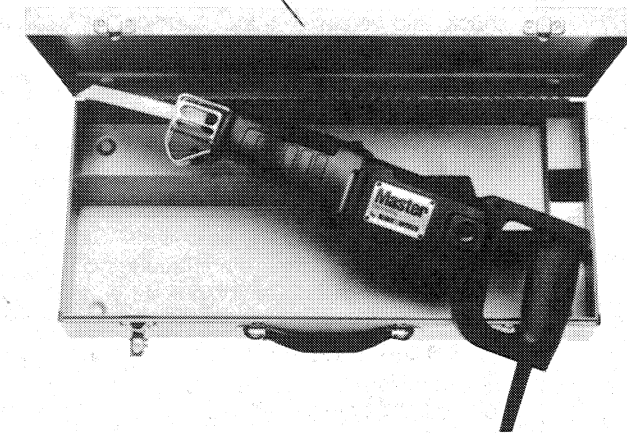
Metal kit box is durable and stores saw with 6-inch blade in place.



Variable-speed control dial for maintaining correct maximum cutting speed for any material.

Separable cord protector makes replacing the power supply cord fast and easy.

10 foot long rubber power supply cord provides extra length for ease of use and stays flexible at low temperatures.



**Specifications:**

Stroke length (inches)	1 1/8
Current rating @ 120V AC only (amps)	8.0
Maximum power output (watts/horsepower)	770/1.0
Power output at rated current (watts/horsepower)	370/ .5
Strokes per minute	1700-2400
Gear reduction ratio	9.167:1
Weight w/o cord (lbs)	7.3
Shipping weight (lbs.)	17.5

**Commonly used service parts' numbers:**

Power supply cord	36480-98
Separable cord protector	330005-01
Trigger Switch	448533-01
brushes including brush springs	450374-02
Armature	448519-00
Field	448525-71
Allen wrench	99056-06
Allen wrench holder	449817-01
Speed control less dial	145282-00

**Standard equipment:**

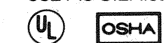
5321 includes 5 bi-metal saw blades, Allen wrench and holder, heavy gauge metal kit box.

**Available accessories:**

Black & Decker's complete line of reciprocating saw blades.

**Regulatory agency listing and compliance:**

5321 is U.L. listed and in compliance with OSHA.











## Important Safety Instructions

**WARNING:** When using Electric Tools, basic safety precautions should always be followed to reduce the risk of fire, shock, and personal injury, including the following:














### READ ALL INSTRUCTIONS

- KEEP WORK AREA CLEAN.** Cluttered areas and benches invite injuries.
- CONSIDER WORK AREA ENVIRONMENT.** Don't expose power tools to rain. Don't use power tools in damp or wet locations. Keep work area well lit.
- GUARD AGAINST ELECTRIC SHOCK.** Prevent body contact with grounded surfaces. For example: pipes, radiators, ranges, refrigerator enclosures.
- KEEP CHILDREN AWAY.** All visitors should be kept away from work area. Do not let visitors contact tool or extension cord.
- STORE IDLE TOOLS.** When not in use, tools should be stored in dry, and high or locked-up place—out of reach of children.
- DON'T FORCE TOOL.** It will do the job better and safer at the rate for which it was intended.
- USE RIGHT TOOL.** Don't force small tool or attachment to do the job of a heavy-duty tool. Don't use tool for purpose not intended, for example, don't use circular saw for cutting tree limbs or logs.
- DRESS PROPERLY.** Do not wear loose clothing or jewelry. They can be caught in moving parts. Rubber gloves and non-skid footwear are recommended when working outdoors. Wear protective hair covering to contain long hair.
- USE SAFETY GLASSES.** Also use face or dustmask if cutting operation is dusty.
- DON'T ABUSE CORD.** Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil and sharp edges.
- SECURE WORK.** Use clamps or a vise to hold work. It's safer than using your hand and it frees both hands to operate tool.
- DON'T OVERREACH.** Keep proper footing and balance at all times.
- MAINTAIN TOOLS WITH CARE.** Keep tools sharp and clean for better and safe performance. Follow instructions for lubricating and changing accessories. Inspect tool cords periodically and if damaged have repaired by authorized service facility. Inspect extension cords periodically and replace if damaged. Keep handles dry, clean and free from oil and grease.
- DISCONNECT TOOLS.** When not in use, before servicing, and when changing accessories, such as blades, bits, cutters.
- REMOVE ADJUSTING KEYS AND WRENCHES.** Form habit of checking to see that keys and adjusting wrenches are removed from tool before turning it on.
- AVOID UNINTENTIONAL STARTING.** Don't carry plugged-in tool with finger on switch. Be sure switch is off when plugging in.
- OUTDOOR USE EXTENSION CORDS.** When tool is used outdoors, use only extension cords intended for use outdoors and so marked.
- STAY ALERT.** Watch what you are doing. Use common sense. Do not operate tool when you are tired.
- 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 by an authorized service center unless otherwise indicated elsewhere in this instruction manual. Have defective switches replaced by authorized service center. Do not use tool if switch does not turn it on and off.
- DO NOT OPERATE** portable electric tools near flammable liquids or in gaseous or explosive atmospheres. Motors in these tools normally spark, and the sparks might ignite fumes.

SAVE THESE INSTRUCTIONS  
FOR FUTURE USE

	BLADE TYPE	LENGTH	TEETH PER INCH	APPLICATION	AMOUNT PER PKG.	COLOR
<b>HIGH SPEED STEEL/METAL CUTTING BLADES</b>						
	FAST METAL CUTTING	2-3/4"	14	Cuts metals heavier than 1/8" (barstock, angles, fiber "Transite," hard rubber, etc.)	10	RED
		4"	14		10	RED
		6"	14		10	RED
	FAST METAL CUTTING	2-3/4"	18	Cuts metal heavier than 18 gauge (pipe conduit, channels, tubing, etc.).	10	RED
		4"	18		10	RED
		6"	18		10	RED
	FAST METAL CUTTING	4"	24	Cuts metals lighter than 18 gauge (sheet, tubing, trim, etc.)	10	RED
		6"	24		10	RED
	FAST METAL CUTTING	4"	32	Cuts very light gauge metals (sheet, tubing, trim, etc.).	10	RED
	FAST SCROLL METAL CUTTING	3"	14	Cuts irregular contours in sheet metal heavier than 18 gauge.	10	YELLOW
		3"	18		10	RED
		3"	32		10	RED
<b>BI-METAL BLADES</b>						
	BI-METAL	6"	7	Roughing-in wood cutting. Fast cutting and longer life when cutting heavy gauge metal	10	GOLD
		4"	10		10	GOLD
		4"	14		10	GOLD
		4"	18		10	GOLD
		4"	24		10	GOLD
		6"	14		10	GOLD
6"	18	10	GOLD			
<b>CARBIDE TIPPED BLADES</b>						
	CARBIDE TIPPED	4"	6	Cuts fiberglass and similar materials and all types of wood. Rapid cutting for production.	1	SILVER
		6"	6		1	SILVER
<b>CARBIDE COATED BLADES</b>						
	CARBIDE COATED	4"	Coarse	Cuts fiberglass, polyesters, epoxies, melamines, silicones, asbestos, cement, nail embedded wood and plaster with nails.	10	BLACK
		6"	Coarse		10	BLACK

## Cut-Saw Blade Selection Chart

BLADE TYPE	LENGTH	TEETH PER INCH	APPLICATION	AMOUNT PER PKG.	COLOR
<b>ALL PURPOSE WOOD &amp; COMPOSITION BLADES</b>					
	GENERAL PURPOSE	6"	General purpose roughing in. Resists nails. Cuts heavy gauge, non-ferrous metal tubing. Ideal for tree pruning.	10	ALUMINUM
		12"		5	ALUMINUM
	SKIPTOOTH	6"	Cuts up to 3/4" plywood, plastics. Extra space for chip clearance.	10	PURPLE
	FAST WOOD CUTTING	12"		5	PURPLE
	DELUXE FAST-CUTTING	6"	Fast roughing-in wood without nails. Long blade life.	10	BLACK
	FLEXIBLE-BACK WOOD AND COMPOSITION	6"	Cuts wood without nails, plaster, asphalt, "Transite," and cast aluminum. For inaccessible flush cuts in wood, use 12" blade.	10	BLACK
		12"		5	ORANGE
	NAIL EMBEDDED WOOD CUTTING	4"	Cuts nail embedded wood, asbestos, plaster, plywood and insulating wool.	10	BLACK
		6"		10	BLACK
		10"		10	BLACK
	DOWN CUTTING	6"	For down cutting in wood with nails where smooth edges are required.	10	BLACK
	FINE WOOD CUTTING	4"	Useful for opening wood boxes and crates with nails. Removing wood siding and shingles.	10	BLACK
		6"		10	BLACK
	POCKET CUTTING	4-3/32"	Pocket cuts in wood, plaster, and similar materials.	10	BLACK
	DOUBLE EDGE	4-5/16"	Pocket cuts in wood, plaster and similar materials, cuts both directions without removing blade from material.	5	ORANGE
	OFFSET FLUSH DOUBLE EDGE	4-1/4"	Flush cuts in corners and tight spots in wood, plaster and similar materials.	5	BLACK
	PLASTER CUTTING	6"	Cuts plaster, plaster board and other abrasive materials.	10	WHITE
		4-1/4"		5	10
<b>SCROLL CUTTING WOOD AND COMPOSITION BLADES</b>					
	FAST CUTTING SCROLL	3-5/8"	Fast cutting small radius holes, irregular cuts in wood, plaster and similar materials. Long life high speed steel blade.	10	BLACK
	WOOD AND COMPOSITION SCROLL CUTTING	3-5/8"	Makes small radius holes and irregular cuts in wood, plaster and similar materials.	10	GRAY

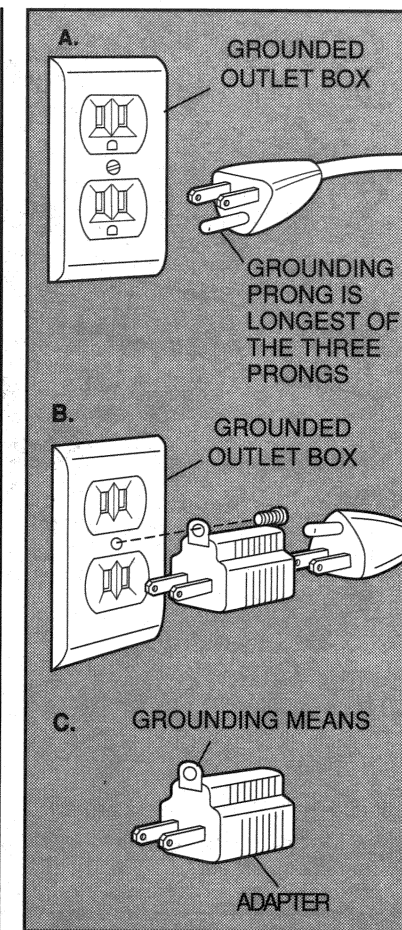
## Additional Saw Safety Rules

- KEEP HANDS AWAY** from cutting area. Never reach underneath the material for any reason. Hold front of saw by grasping the contoured gripping area. Do not insert fingers or thumb into the vicinity of the reciprocating blade and blade clamp. Do not stabilize saw by gripping the shoe.
- KEEP BLADE SHARP.** Dull blades may cause the saw to swerve or stall under pressure.  
**CAUTION:** When sawing into walls, floors or wherever "live" electrical wires may be encountered, **DO NOT TOUCH ANY METAL PARTS OF THE TOOL!** Hold the Cut Saw only by its plastic handle to prevent electric shock if you saw into a "live" wire.

## SAVE THESE INSTRUCTIONS

### Grounding

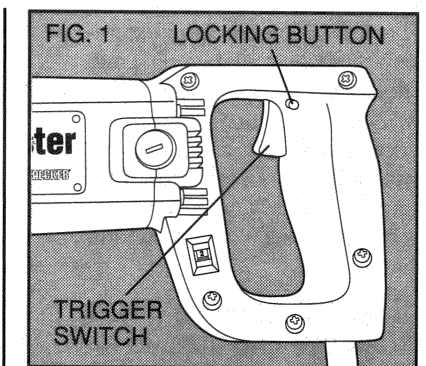
This tool should be grounded while in use to protect the operator from electric shock. The tool is equipped with an approved three-conductor cord and three prong grounding type plug to fit the proper grounding type receptacle. The green (or green and yellow) conductor in the cord is the grounding wire. Never connect the green (or green and yellow) wire to a live terminal. Your unit is for use on less than 150 volts, it has a plug like that shown in Figure A. An adapter, Figures B and C, is available for connecting Figure A plugs to two-prong receptacles. The green-colored rigid ear, lug, etc., must be connected to a permanent ground such as a properly grounded outlet box. ADAPTER SHOWN IN FIGURES B & C IS NOT FOR USE IN CANADA.



### Trigger Switch (Variable Speed) (Fig. 1)

The Variable Speed Trigger Switch will give you added versatility. The further the trigger is depressed the higher the speed of the Cut-Saw. To turn the tool "OFF" release the trigger. To lock the Trigger Switch in the "ON" position for continuous operation, depress the trigger, push in the Lock Button on the left side of the handle and then release the trigger. To release Locking Mechanism, depress trigger fully, then release it.

**CAUTION:** Use of very slow speed is recommended only for beginning a cut. Prolonged use at very slow speed may damage your Cut-Saw.

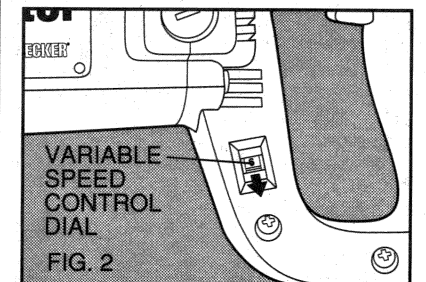


### Variable Speed Control Dial

The Variable Speed Control Dial on your saw sets the upper limit for the variable speed trigger switch described above (the lower limit is always 0). The range of selection is from a maximum of 1700 strokes per minute to a maximum of 2400 strokes per minute.

The numbers 1 through 6 appear on the outer rim of the dial to serve as reference points. The numbers are not indicative of any speed except that the number 6 represents the highest maximum speed (2400) and the number 1 represents the lowest maximum speed (1700).

To set a maximum speed limit for the trigger switch, rotate the dial as shown in Figure 2. When the trigger switch is squeezed all the way, the speed that you have set with the dial is the maximum speed of the tool.



Remember that speed control is still the function of the trigger switch. No matter what limit you set with the dial the variable speed trigger switch will operate from 0 to the set maximum.

Lower speeds are best for cutting sheet metal, metal pipe, metal conduit, etc. Higher speeds are best for cutting wood, plastic, composition boards and similar materials. When in doubt as to which speed is best for your application, try a few test cuts in scrap material.

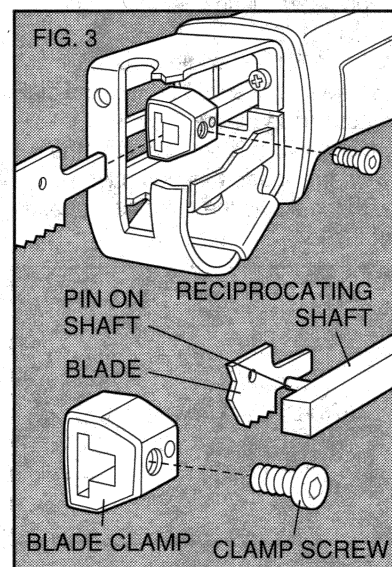
### Blade Clamping (Fig. 3) TURN OFF AND UNPLUG SAW.

To install blade into saw:

1. Loosen clamp screw.
2. Insert blade shank from the front between the reciprocating shaft and the blade clamp. Locate hole in blade over pin on reciprocating shaft.
3. Tighten clamp screw.

If the blade should break off and the shank does not come out of the clamp, be sure the clamp screw is loose and eject the shank with a nail or pointed object.

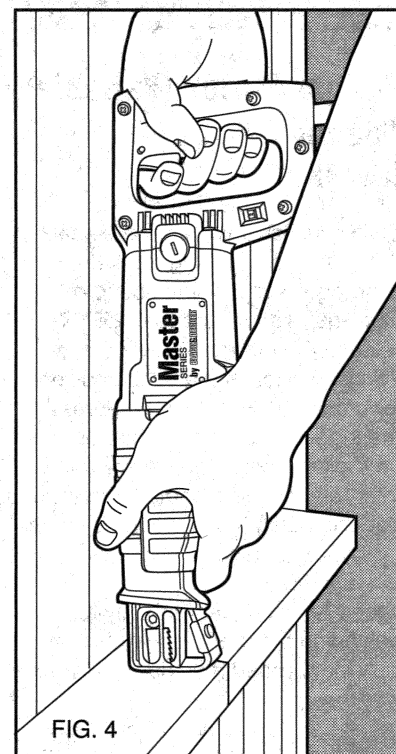
**NOTE:** A special pin holds the blade clamp on the reciprocating shaft to prevent the clamp from coming off when clamp screw is loosened.



### Flush-To Cutting (Fig. 4)

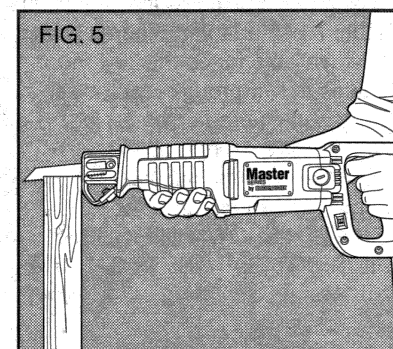
The exclusive, compact design of the Cut-Saw motor housing and

spindle housing permits extremely close cutting to floors, corners and other difficult areas.



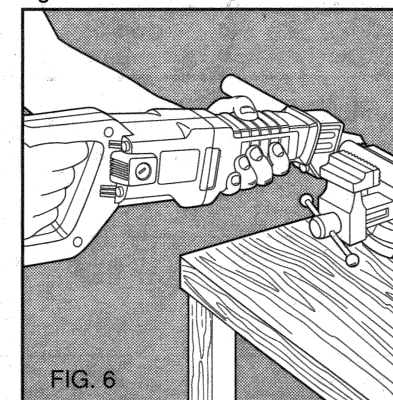
### Wood Cutting (Fig. 5)

Before cutting any type of wood, be sure it is firmly anchored or clamped to prevent slipping. Check blade chart on pages 8 and 9 for type and length of blade necessary for best results. Place blade lightly against work to be cut, switch on saw motor and allow it to obtain maximum speed before applying pressure. Always hold saw firmly with both hands while cutting. Whenever possible, the saw shoe must be held firmly against the material being cut. This will prevent the saw from jumping or vibrating and minimize blade breakage.



### Metal Cutting (Fig. 6)

This unit has different metal cutting capacities depending upon type of blade used and on the metal to be cut. Please check Blade Chart on pages 8 and 9 for better blade selection. Use a finer blade for ferrous metals (those with an iron content), and a coarse blade for non-ferrous materials. In thin gauge sheet metals it is best to clamp wood to both sides of sheet. This will insure a clean cut without excess vibration or tearing of metal. Always remember not to force cutting blade as this reduces blade life and causes costly blade breakage.



**NOTE:** It is generally recommended that when cutting metals you should spread a thin film of oil or other coolant along the line ahead of the saw cut for easier operation and longer blade life. For cutting aluminum, kerosene is preferred.

### Pocket Cutting (Wood Only)

The initial step in pocket cutting is to measure the surface area to be cut and mark clearly with a pencil, chalk or scribe. Insert pocket cutting blade in blade clamp, and tighten blade clamp securely. Next, tip the saw backward until the back edge of the shoe is resting on the work surface. Now switch motor on, always permitting blade to attain maximum speed. Grip handle steadily and begin a slow, deliberate upward swing with the handle of the saw, as shown in Figure 7. Blade will begin to feed into material. Always be sure blade is completely through material before continuing with pocket cut.

### Lubrication

Your tool was properly lubricated before leaving the factory. In from two to six months, depending upon use, take or send your tool to a Black & Decker Service Center, or authorized service station, for a complete cleaning, inspection and lubrication. Tools used constantly on production jobs will need relubrication more often. Also, tools "out of service" for long periods should be relubricated before being put back to work.

### Accessories

The accessories listed in this manual are available at extra cost from your local dealer or Black & Decker Service Center. A complete listing of service centers is included on the owner's registration card packed with your tool.

If you need assistance in locating any accessory, please contact: User Services, Black & Decker (U.S.) Inc., U.S. Power Tools Group, 626 Hanover Pike, P.O. Box 618, Hampstead, MD 21074-0618.

