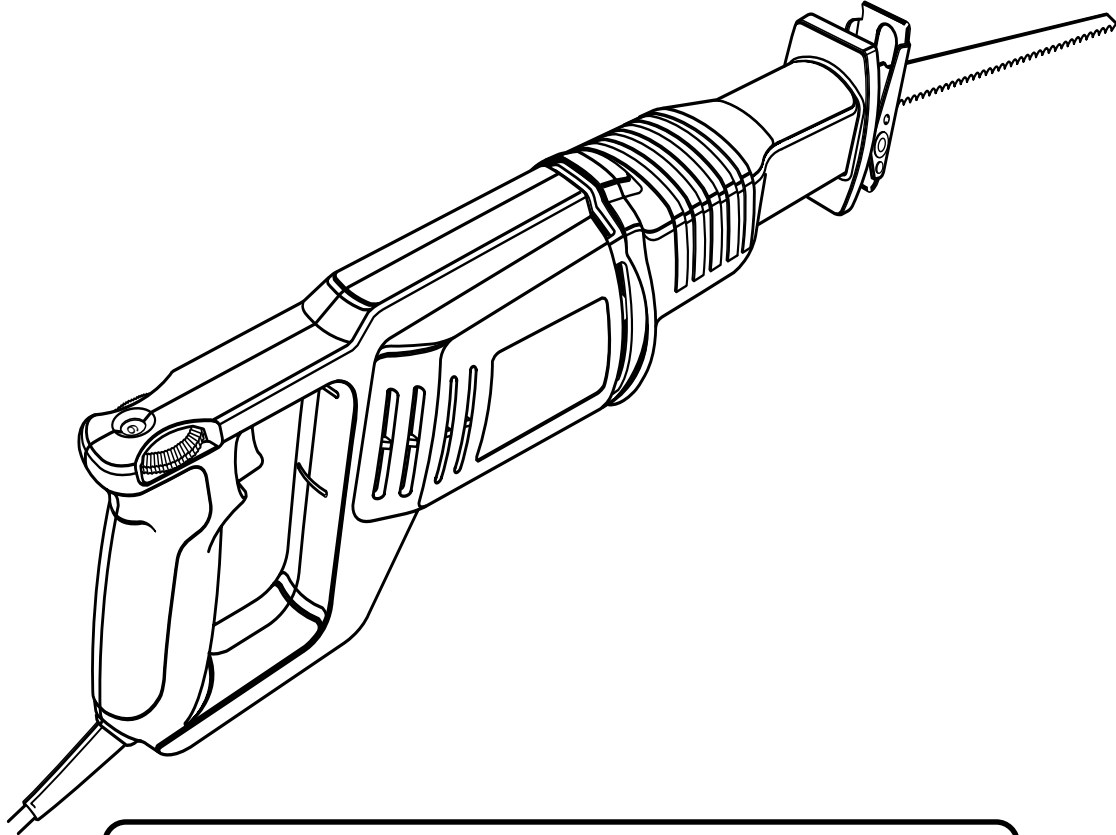




OPERATOR'S MANUAL VARIABLE SPEED RECIPROCATING SAW RJ160V - DOUBLE INSULATED



SPECIFICATIONS:

Length of stroke	1 3/16 in. (30 mm)
Variable Strokes per Minute	2400 max
Rating	120 volts, 60Hz, AC
Input	6.0 amps
Net weight	7.3 lbs. (3.32 kg.)

THANK YOU FOR BUYING A RYOBI RECIPROCATING SAW.

Your new saw has been engineered and manufactured to Ryobi's high standard for dependability, ease of operation, and operator safety. Properly cared for, it will give you years of rugged, trouble-free performance.

CAUTION: Carefully read through this entire operator's manual before using your new saw.

Pay close attention to the Rules for Safe Operation, Warnings, and Cautions. If you use your saw properly and only for what it is intended, you will enjoy years of safe, reliable service.

Please fill out and return the Warranty Registration Card so we can be of future service to you.

Thank you again for buying Ryobi tools.

SAVE THIS MANUAL FOR FUTURE REFERENCE

TABLE OF CONTENTS

■ Product Specifications	1
■ Table of Contents and Introduction	2
■ Rules for Safe Operation	3
■ General Safety Rules	4-5
■ Symbols and Electrical	6
■ Unpacking and Features	7
■ Operation	8-10
■ Maintenance	11
■ Parts Ordering / Service	12

INTRODUCTION

Your reciprocating saw has many features for making cutting operations more pleasant and enjoyable. Safety, performance, and dependability have been given top priority in the design of this tool making it easy to maintain and operate.

CAUTION:

Carefully read through this entire operator's manual before using your new saw. Pay close attention to the Rules for Safe Operation and all Safety Alert Symbols including Danger, Warning, and Caution. If you use your saw properly and only for what it is intended, you will enjoy years of safe, reliable service.

WARNING:



The operation of any power tool can result in foreign objects being thrown into your eyes, which can result in severe eye damage. Before beginning tool operation, always wear safety goggles or safety glasses with side shields and a full face shield when needed. We recommend Wide Vision Safety Mask for use over eyeglasses or standard safety glasses with side shields. Always wear eye protection which is marked to comply with ANSI Z87.1.



Look for this symbol to point out important safety precautions. It means attention!!! Your safety is involved.

RULES FOR SAFE OPERATION

The purpose of safety symbols is to attract your attention to possible dangers. The safety symbols, and the explanations with them, deserve your careful attention and understanding. The safety warnings do not by themselves eliminate any danger. The instructions or warnings they give are not substitutes for proper accident prevention measures.

SYMBOL

MEANING



SAFETY ALERT SYMBOL:

Indicates danger, warning, or caution. May be used in conjunction with other symbols or pictographs.



DANGER: Failure to obey a safety warning will result in serious injury to yourself or to others. Always follow the safety precautions to reduce the risk of fire, electric shock and personal injury.



WARNING: Failure to obey a safety warning can result in serious injury to yourself or to others. Always follow the safety precautions to reduce the risk of fire, electric shock and personal injury.



CAUTION: Failure to obey a safety warning may result in property damage or personal injury to yourself or to others. Always follow the safety precautions to reduce the risk of fire, electric shock and personal injury.

NOTE:

Advises you of information or instructions vital to the operation or maintenance of the equipment.

DOUBLE INSULATION

Your Ryobi power tool is double insulated. This means you are separated from the tool's electrical system by two complete sets of electrical insulation. This extra layer of insulation is intended to protect the user from electrical shock due to a break in the wiring insulation. All exposed metal parts are isolated from the internal metal motor components with protecting insulation. Double insulated tools do not need to be grounded.



WARNING:

The double insulated system is intended to protect the user from shock resulting from a break in the tool's internal wiring. Observe all normal safety precautions related to avoiding electrical shock. Failure to do so could result in possible serious injury.

IMPORTANT

Servicing of a tool with double insulation requires extreme care and knowledge of the system and should be performed only by a qualified service technician. For service we suggest you return the tool to your nearest **RYOBI AUTHORIZED SERVICE CENTER** for repair. When servicing use only identical Ryobi replacement parts.



WARNING:

Do not attempt to operate this tool until you have read thoroughly and understand completely all instructions, safety rules, etc. contained in this manual. Failure to comply can result in accidents involving fire, electric shock, or serious personal injury. Save operator's manual and review frequently for continuing safe operation, and instructing others who may use this tool.

GENERAL SAFETY RULES



WARNING:


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

SAVE THESE INSTRUCTIONS

Work Area

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

Electrical Safety

- **Double insulated tools are equipped with 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 a polarized outlet. Do not change the plug in any way.** Double insulation  eliminates the need for the three wire grounded power cord and grounded power supply system.
- **Avoid body contact with grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is grounded.
- **Don't expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- **Do not abuse the cord. Never use the cord to carry the tools or pull the plug from an outlet. Keep cord away from heat, oil, sharp edges or moving parts. Replace damaged cords immediately.** Damaged cords increase the risk of electric shock.
- **When operating a power tool outside, use an outdoor extension cord marked "W-A" or "W".** These cords are rated for outdoor use and reduce the risk of electric shock.

Personal Safety

- **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use tool while tired or under the influence of drugs, alcohol, or medication.** A moment of

inattention while operating power tools may result in serious personal injury.

- **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
- **Avoid accidental starting. Be sure switch is off before plugging in.** Carrying tools with your finger on the switch or plugging in tools that have the switch on invites accidents.
- **Remove adjusting keys or wrenches before turning the tool on.** A wrench or a key that is left attached to a rotating part of the tool may result in personal injury.
- **Do not overreach. Keep proper footing and balance at all times.** Proper footing and balance enables better control of the tool in unexpected situations.
- **Use safety equipment. Always wear eye protection.** Dust mask, non-skid safety shoes, hard hat, or hearing protection must be used for appropriate conditions.

Tool Use and Care

- **Use clamps or other practical way to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.
- **Do not force tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed.
- **Do not use tool if switch does not turn it on or off.** Any tool that cannot be controlled with the switch is dangerous and must be repaired.
- **Disconnect the plug from the power source before making any adjustments, changing accessories, or storing the tool.** Such preventive safety measures reduce risk of starting the tool accidentally.
- **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
- **Maintain tools with care. Keep cutting tools sharp and clean.** Properly maintained tools with sharp cutting edges are less likely to bind and are easier to control.
- **Check for misalignment or binding of moving parts, breakage of parts, and any other condition that may affect the tool's operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.

GENERAL SAFETY RULES

- **Use only accessories that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool, may become hazardous when used on another tool.

Service

- **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury.
- **When servicing a tool, use only identical replacement parts. Follow instructions in the Maintenance section of this manual.** Use of unauthorized parts or failure to follow Maintenance Instructions may create a risk of electric shock or injury.

Specific Safety Rules for Reciprocating Saws

- **Hold tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord.** Contact with a “live” wire will make exposed metal parts of the tool “live” and shock the operator.

Additional Rules for Safe Operation

- **Know your power tool.** Read operator's manual carefully. Learn its applications and limitations as well as the specific potential hazards related to this tool. Following this rule will reduce the risk of electric shock, fire, or serious injury.
- **Always wear safety glasses with side shields.** Everyday eyeglasses have only impact resistant lenses; they are **NOT** safety glasses.
- **Protect your lungs.** Wear a face or dust mask if the operation is dusty.
- **Protect your hearing.** Wear hearing protection during extended periods of operation.
- **Inspect tool cords periodically** and if damaged, have repaired at your nearest authorized service center. Stay constantly aware of cord location.
- **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. Following this rule will reduce the risk of electric shock, fire, or serious injury.
- **Keep the tool and its handle dry, clean, and free from oil and grease.** Always use a clean cloth when cleaning. Never use brake fluids, gasoline, petroleum-based products, or any strong solvents to clean your tool.

- **Do not abuse cord. Never carry tool by cord or yank it to disconnect from receptacle. Keep cord from heat, oil and sharp edges.** Following this rule will reduce the risk of electric shock or fire.
- **Inspect for and remove all foreign objects from workpiece before cutting.** Following this rule will reduce the risk of serious personal injury.
- **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. A wire gage size (A.W.G.) of at least **12** is recommended for an extension cord 100 feet or less in length. A cord exceeding 100 feet is not recommended. If in doubt, use the next heavier gage. The smaller the gage number, the heavier the cord. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.
- **Drugs, Alcohol, Medication.** Do not operate tool while under the influence of drugs, alcohol, or any medication. Following this rule will reduce the risk of electric shock, fire, or serious injury.
- **Keep hands away from cutting area.** Following this rule will reduce the risk of serious personal injury.
- **Save these instructions.** Refer to them frequently and use them to instruct others who may use this tool. If you loan someone this tool, loan them these instructions also.

WARNING:

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:



- lead from lead-based paints,
- crystalline silica from bricks and cement and other masonry products, and
- arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

SAVE THESE INSTRUCTIONS

SYMBOLS

Important: Some of the following symbols may be used on your tool. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the tool better and safer.

SYMBOL	NAME	DESIGNATION/EXPLANATION
V	Volts	Voltage
A	Amperes	Current
Hz	Hertz	Frequency (cycles per second)
W	Watt	Power
min	Minutes	Time
~	Alternating Current	Type or a characteristic of current
n_0	No Load Speed	Strokes, at no load
	Class II Construction	Designates Double Insulated Construction tools
.../min	Revolutions or Reciprocation Per Minute	Revolutions, strokes, surface speed, orbits etc. per minute
	Safety Alert Symbol	Indicates danger, warning or caution. It means attention!!! Your safety is involved.

ELECTRICAL

EXTENSION CORDS

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

Length of Extension Cord	Wire Size (A.W.G.)
Up to 25	16
26 to 50	14
51 to 100	12

When working with the tool outdoors, use an extension cord that is designed for outside use. This is indicated by the letters **WA** on the cord's jacket.

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

ELECTRICAL CONNECTION

Your saw has a precision built electric motor. It should be connected to a **power supply that is 120 volts, 60Hz, AC only (normal household current)**. Do not operate this tool on direct current (DC). A substantial voltage drop will cause a loss of power and the motor will over heat. If your tool does not operate when plugged into an outlet, double-check the power supply.

CAUTION:

Keep the cord away from the work area and position the cord so that it may not get caught on materials or other objects during cutting.

UNPACKING

UNPACKING

Your saw has been shipped completely assembled, except for the blade, and is ready for use. Inspect it carefully to make sure no breakage or damage has occurred during shipping.

If any parts are damaged or missing, call 1-800-525-2579 to obtain replacement parts before attempting to operate saw. An operator's manual and warranty registration are also included.

FEATURES

KNOW YOUR RECIPROCATING SAW

Before attempting to use your saw, familiarize yourself with all operating features and safety requirements. See Figure 1.

Hex Key Holder

A convenient feature on your saw is a hex key holder. It is located on the bottom portion of your saw's handle. It is convenient for storing the hex key when not in use. See Figure 1.

Variable Speed Dial

Your reciprocating saw has a variable speed dial designed to allow operator control of speed and power limits. See Figure 1.

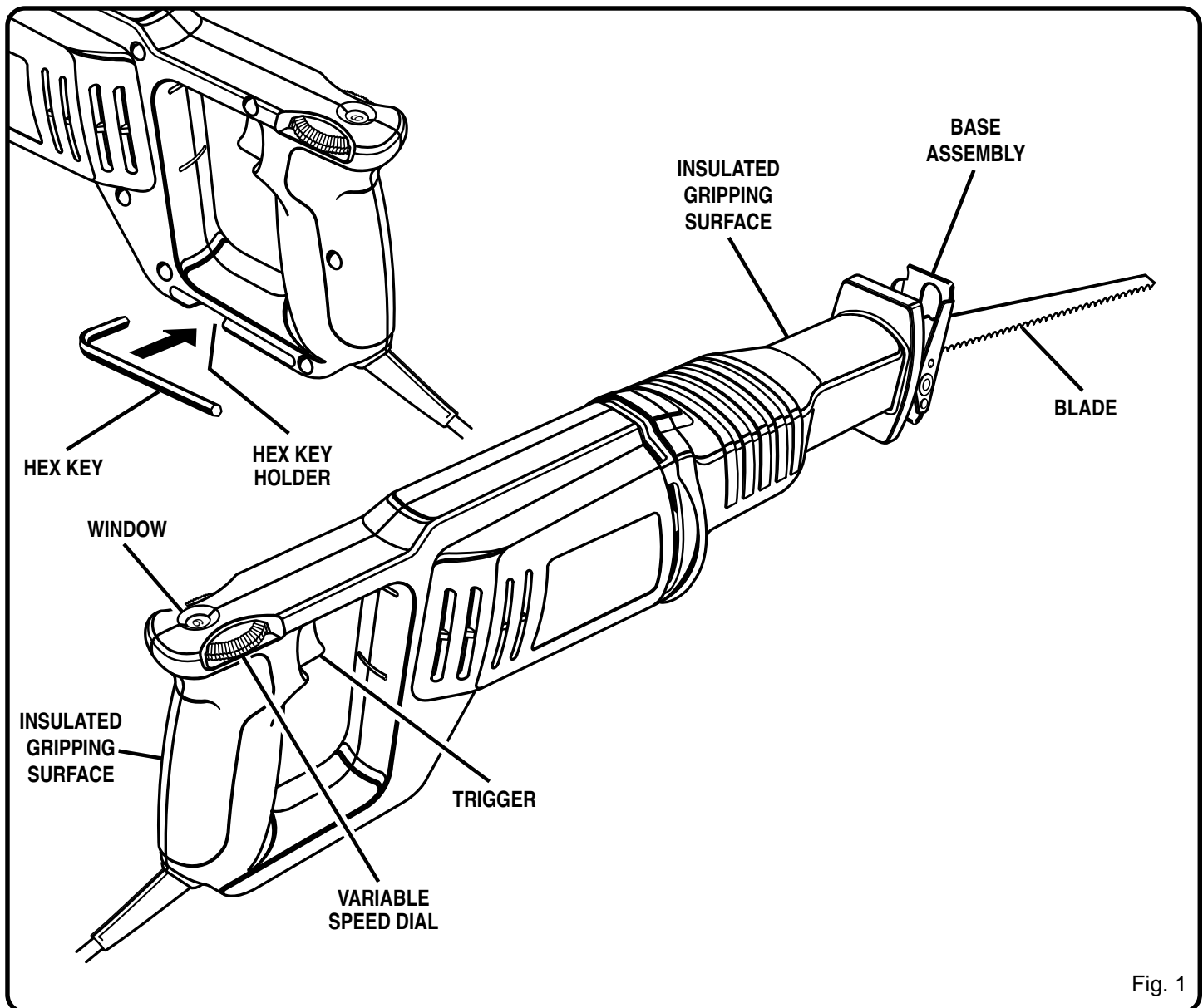


Fig. 1

OPERATION



WARNING:

Always wear safety goggles or safety glasses with side shields when operating your reciprocating saw. Failure to do so could result in foreign objects being thrown into your eyes resulting in possible serious injury.

SWITCH

See Figure 2.

To turn your reciprocating saw **ON**, depress trigger. Release trigger to turn your saw **OFF**.

VARIABLE SPEED DIAL

See Figure 2.

Your reciprocating saw has a variable speed dial designed to allow operator control of speed and power limits. The speed and power of your saw can be increased or decreased depending on the position of the variable speed dial.

Avoid running your saw at low speeds for extended periods of time. Running at low speeds under constant usage may cause the motor of your saw to become overheated. If this occurs, cool your saw by running it without a load and at full speed.



WARNING:

Your saw should never be connected to power supply when you are assembling parts, making adjustments, installing or removing blades, when cleaning, or when not in use. Disconnecting your saw will prevent accidental starting that could cause serious injury.

BLADE SELECTION

To obtain the best performance from your saw it is important to select a specific blade for the particular application and type of material you wish to cut. By doing this you will get a smoother, faster cut and prolong blade life. Replacement blades for this saw are available from your nearest Ryobi dealer.

TO INSTALL BLADES

See Figure 3.

■ UNPLUG YOUR SAW.



WARNING:

Failure to unplug your saw could result in accidental starting causing serious injury.

- Remove the 3 mm hex key provided with this saw from hex key holder.

Note: Hex key holder is located in the side of the saw handle. See Figure 1.

- Loosen the blade clamp screw enough to permit the saw blade to be inserted between blade clamp and pin.

Note: It is never necessary to remove the blade clamp from the tool or the blade clamp screw from the blade clamp to change the blade.

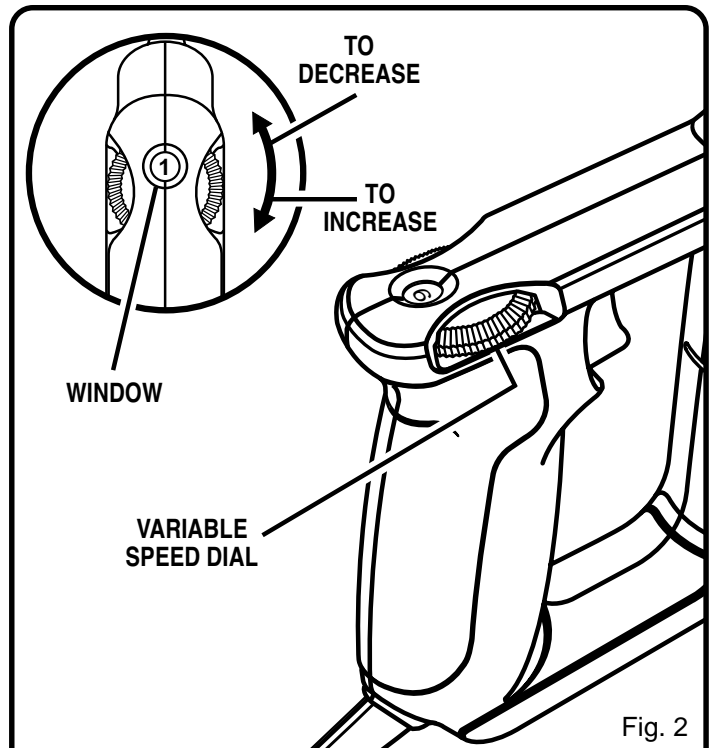


Fig. 2

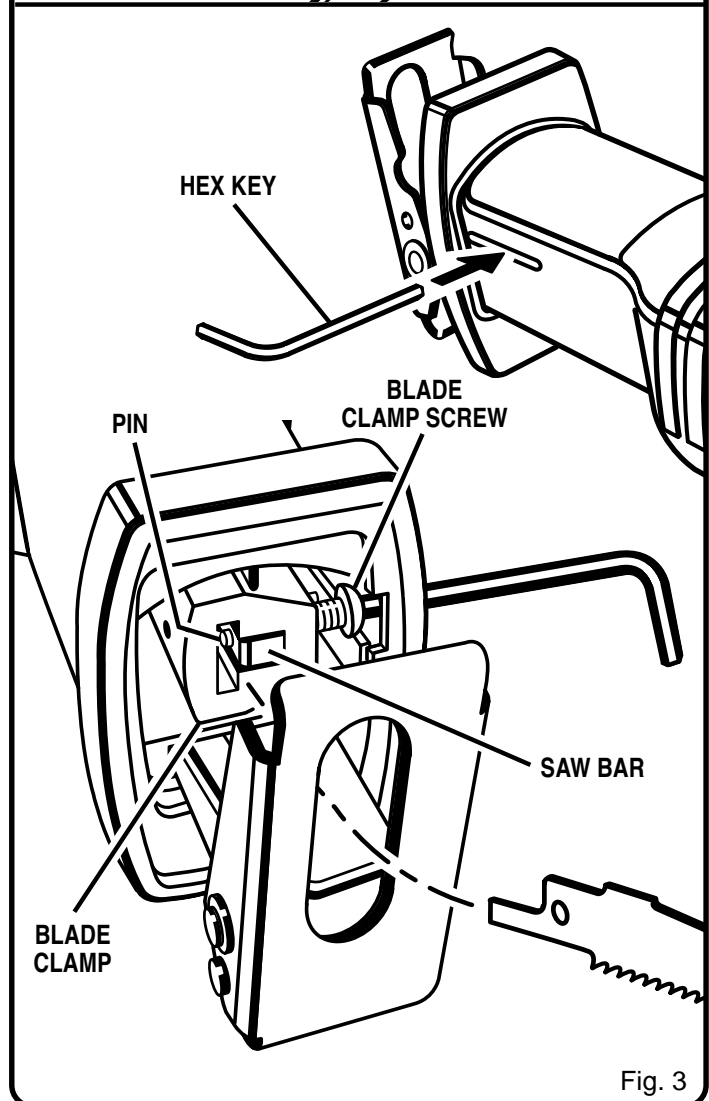


Fig. 3

OPERATION

- Align the hole in the shank of the blade and blade clamp with the pin in the saw bar, then seat both on the pin in the saw bar.
- Tighten blade clamp screw securely. **Do not** overtighten screw or use an aid with hex key.
- Remove hex key and store it in the hex key holder.

Note: There may be times when the blade clamp sticks to the saw bar and will not loosen enough to allow blades to be installed or removed. If this happens, loosen the blade clamp screw with the hex key, then tap lightly on the end of the hex key with a mallet. See Figure 4.

BASE ASSEMBLY

See Figure 5.

The base assembly of your reciprocating saw pivots up and down in both directions. The base is adjustable, allowing the use of the blade teeth at different positions on the blade.

TO CHANGE POSITIONS OF THE BASE ASSEMBLY:

See Figure 6.

■ UNPLUG YOUR SAW.



WARNING:

Failure to unplug your saw could result in accidental starting causing serious injury.

- Loosen the button head screws in the gear frame with the 3 mm hex key mentioned above.
- Reposition base assembly.
- Retighten button head screws securely. **Do not** overtighten screws or use an aid with hex key.
- Remove hex key and store it in hex key holder.



WARNING:

Cutting into electrical wiring in walls can cause blade, blade clamp, and saw bar assembly to become electrically live. Do not touch metal parts when cutting into a wall; grasp only the insulated gripping surface provided on the tool. Make sure hidden electrical wiring, water pipes, and mechanical hazards are not in the blade path when cutting into a wall.

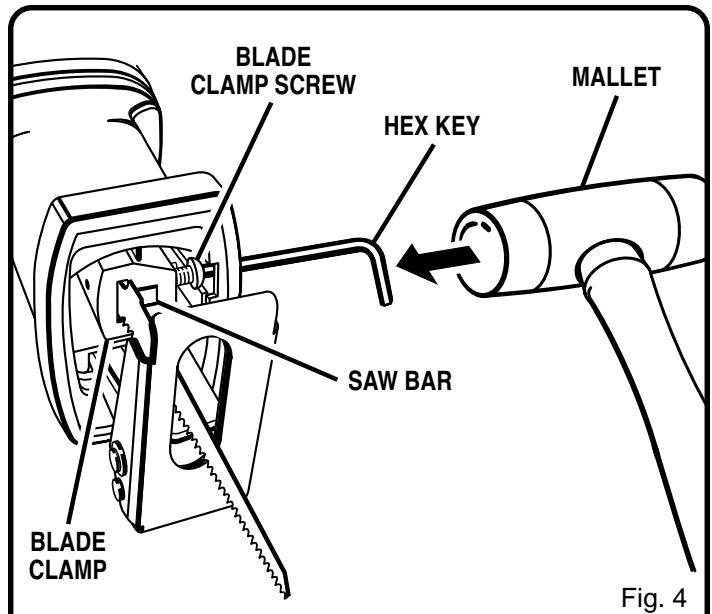


Fig. 4

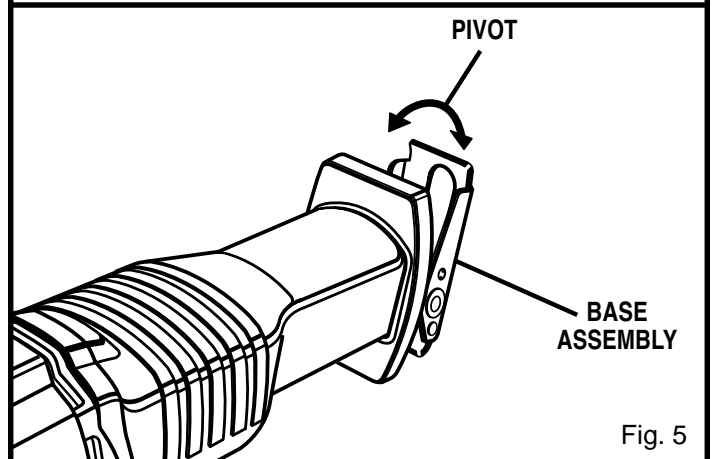


Fig. 5

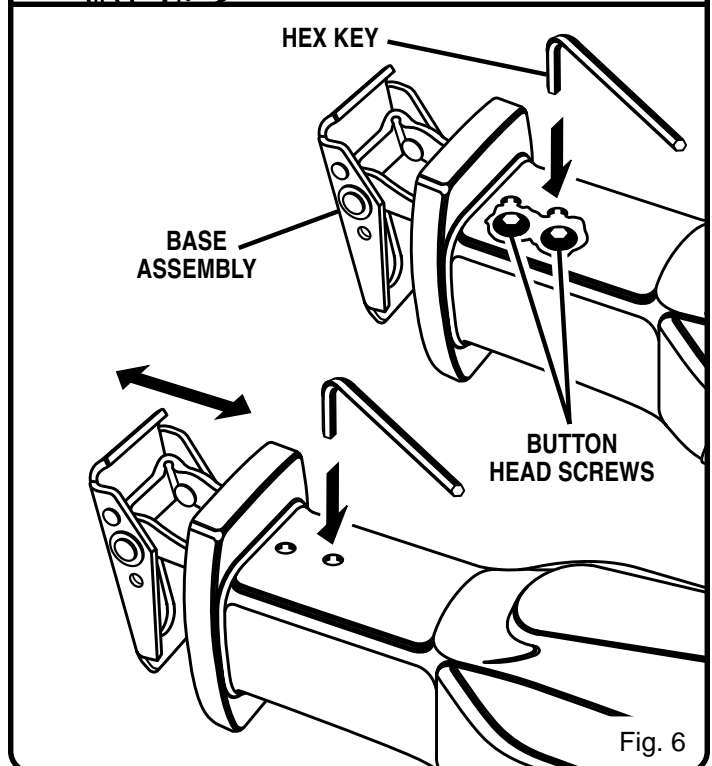


Fig. 6

OPERATION



WARNING:

Hold tool by insulated gripping surfaces when performing an operation where the cutting tool may contact hidden wiring or its own cord. Contact with a "live" wire will make exposed metal parts of the tool "live" and shock the operator.

GENERAL CUTTING

See Figure 7.

Hold your saw firmly in front of and clearly away from you. Make sure saw blade is clear of any foreign material and that power cord and extension cord are out of the blade path. Be sure material to be cut is held firmly. Small work pieces should be securely clamped in a vise or with clamps to the work bench or table. Mark the line of cut clearly. Depress the trigger switch starting the cutting action, set the base assembly against the work, then move the blade into the work. **DO NOT FORCE.** Use only enough pressure to keep the saw cutting. Let the blade and saw do the work.

PLUNGE CUTTING

See Figure 8.

Mark the line of cut clearly. Choose a convenient starting point inside the area to be cut out and place the tip of the blade over that point. Rest front edge of base assembly on work and hold firmly in position.



WARNING:

Make sure blade does not touch work until motor reaches full speed, since this can cause loss of control resulting in serious injury.

With saw blade at full cutting speed, slowly tilt saw downward until tip of blade starts cutting work. After blade penetrates work, tilt saw until blade is perpendicular to the work.

METAL CUTTING

See Figure 9.

Metals such as sheet steel, pipe, steel rods, aluminum, brass, and copper may be cut with your saw. Be careful not to twist or bend the saw blade. **DO NOT FORCE.** We recommend cutting oil when cutting most soft metals and steel. Cutting oil will also keep blades cool, increase cutting action, and prolong blade life.

Never use gasoline since normal sparking of motor could ignite fumes. Clamp the work firmly and cut close to the clamping point to eliminate any vibration of the work being cut. When cutting conduit pipe or angle iron, clamp work in a vise if possible and cut close to the vise. To cut thin sheet material, "sandwich" the material between hardboard or plywood and clamp the layers to eliminate vibration and material tearing.

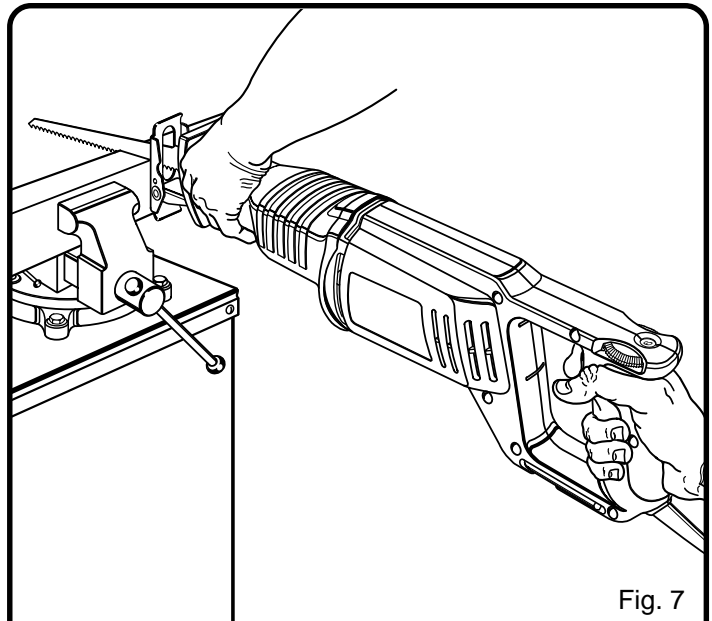


Fig. 7

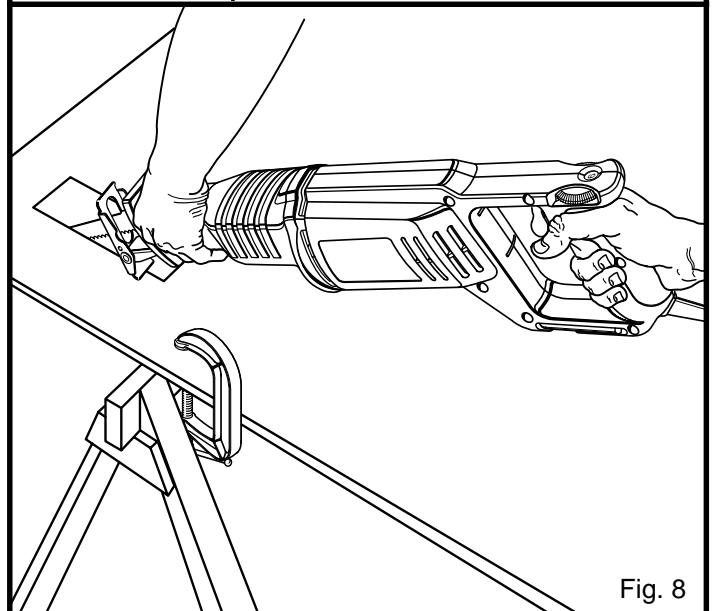


Fig. 8

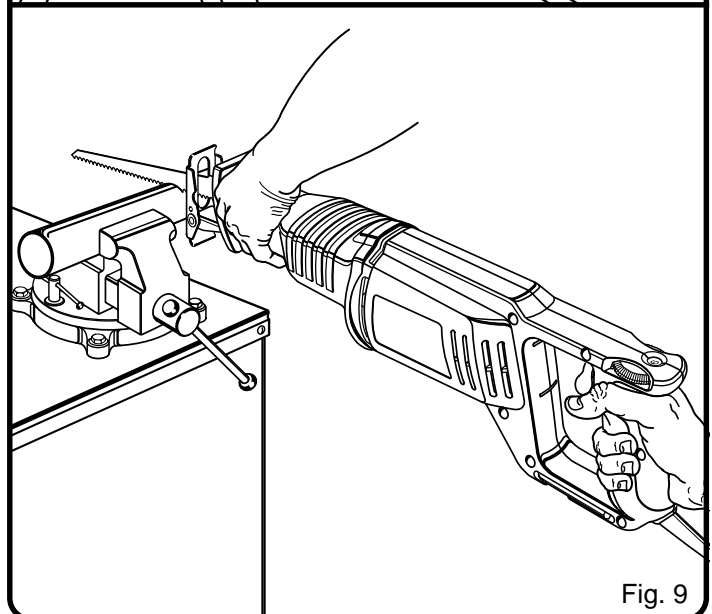


Fig. 9

MAINTENANCE



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

GENERAL

Avoid using solvents when cleaning plastic parts. Most plastics are susceptible to various types of commercial solvents and may be damaged by their use. Use clean cloths to remove dirt, carbon dust, etc.



WARNING:

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

LUBRICATION

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

It has been found that electric tools are subject to accelerated wear and possible premature failure when they are used on fiberglass boats, sports cars, wallboard, spackling compounds, or plaster. The chips and grindings from these materials are highly abrasive to electric tool parts such as bearings, brushes, commutators, etc. Consequently, it is not recommended that this tool be used for extended work on any fiberglass material, wallboard, spackling compounds, or plaster. During any use on these materials, it is extremely important that the tool is cleaned frequently by blowing with an air jet.



WARNING:

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

