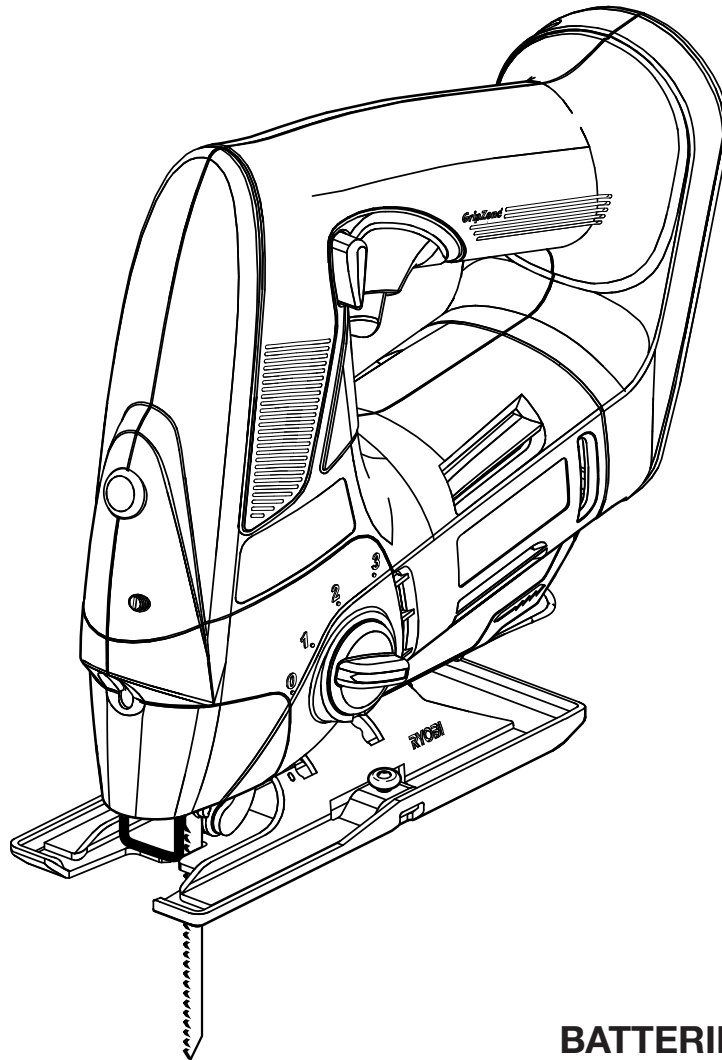




# OPERATOR'S MANUAL

## 18 VOLT JIG SAW WITH LASER

### P521



**BATTERIES AND CHARGERS  
SOLD SEPARATELY**

Your jig saw has been engineered and manufactured to our high standard for dependability, ease of operation, and operator safety. When properly cared for, it will give you years of rugged, trouble-free performance.

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

Thank you for your purchase.

**SAVE THIS MANUAL FOR FUTURE REFERENCE**

# TABLE OF CONTENTS

■ Introduction .....	2
■ Warranty .....	2
■ General Safety Rules .....	3-4
■ Specific Safety Rules.....	5
■ Safety Rules for Charger .....	6
■ Symbols.....	7-8
■ Features.....	9
■ Assembly .....	10
■ Operation.....	11-15
■ Adjustments.....	16
■ Maintenance.....	16-17
■ Accessories .....	17
■ Parts Ordering / Service .....	18

## INTRODUCTION

This tool has many features for making its use more pleasant and enjoyable. Safety, performance, and dependability have been given top priority in the design of this product making it easy to maintain and operate.

## WARRANTY

### **RYOBI® POWER TOOL - LIMITED TWO YEAR WARRANTY AND 30 DAY EXCHANGE POLICY**

One World Technologies, Inc., warrants its RYOBI® power tools with the following conditions:

**30-DAY EXCHANGE POLICY:** During the first 30 days after date of purchase, you may either request service under this warranty or you may exchange any RYOBI® power tool which does not work properly due to defective workmanship or materials by returning the power tool to the dealer from which it was purchased. To receive a replacement power tool or requested warranty service, you must present proof of purchase and return all original equipment packaged with the original product. The replacement power tool will be covered by the limited warranty for the balance of the two year period from the date of the original purchase.

**WHAT THIS WARRANTY COVERS:** This warranty covers all defects in workmanship or materials in your RYOBI® power tool for a period of two years from the date of purchase. With the exception of batteries, power tool accessories are warranted for ninety (90) days. Batteries are warranted for two years.

**HOW TO GET SERVICE:** Just return the power tool, properly packaged and postage prepaid, to an Authorized Service Center. You can obtain the location of the Service Center nearest you by contacting a service representative at One World Technologies, Inc., P.O. Box 1207, Anderson, SC 29622-1207, by calling 1-800-525-2579 or by logging on to [www.ryobitools.com](http://www.ryobitools.com). When you request warranty service, you must also present proof of purchase documentation, which includes the date of purchase (for example, a bill of sale). We will repair any faulty workmanship, and either repair or replace any defective part, at our option. We will do so without any charge to you. We will complete the work in a reasonable time, but, in any case, within ninety (90) days or less.

**WHAT'S NOT COVERED:** This warranty applies only to the original purchaser at retail and may not be transferred. This warranty only covers defects arising under normal usage and does not cover any malfunction, failure or defects resulting from misuse, abuse, neglect, alteration, modification or repairs by other than Authorized Service Centers. One World Technologies, Inc. makes no warranties, representations or promises as to the quality or performance of its power tools other than those specifically stated in this warranty.

**ADDITIONAL LIMITATIONS:** Any implied warranties granted under state law, including warranties of merchantability or fitness for a particular purpose, are limited to two years from the date of purchase. One World Technologies, Inc. is not responsible for direct, indirect, or incidental damages, so the above limitations and exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

# GENERAL SAFETY RULES

## WARNING!

Read all instructions. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury. The term “power tool” in all of the warnings listed below refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

## SAVE THESE INSTRUCTIONS

### WORK AREA SAFETY

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

### ELECTRICAL SAFETY

- **Power tool plugs must match the outlet. Never modify the plug in any way. Do not use any adapter plugs with earthed (grounded) power tools.** Unmodified plugs and matching outlets will reduce risk of electric shock.
- **Avoid body contact with earthed or grounded surfaces such as pipes, radiators, ranges and refrigerators.** There is an increased risk of electric shock if your body is earthed or grounded.
- **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
- **When operating a power tool outdoors, use an extension cord suitable for outdoor use. Use of a cord suitable for outdoor use reduces the risk of electric shock.**
- **Use battery only with charger listed.**

MODEL	BATTERY PACK (P100)	CHARGER (P110)
P521	130255004 or 130224028	1423701, 140237021, or 140237023

### PERSONAL SAFETY

- **Stay alert, watch what you are doing and use common sense when operating a power tool. Do not use a power tool while you are tired or under the influence of drugs, alcohol or medication.** A moment of inattention while operating power tools may result in serious personal injury.
- **Use safety equipment. Always wear eye protection.** Safety equipment such as dust mask, non-skid safety shoes, hard hat, or hearing protection used for appropriate conditions will reduce personal injuries.
- **Avoid accidental starting. Ensure the switch is in the off-position before plugging in.** Carrying power tools with your finger on the switch or plugging in power tools that have the switch on invites accidents.
- **Remove any adjusting key or wrench before turning the power tool on.** A wrench or a key left attached to a rotating part of the power tool may result in personal injury.
- **Do not overreach. Keep proper footing and balance at all times.** This enables better control of the power tool in unexpected situations.
- **Dress properly. Do not wear loose clothing or jewelry. Keep your hair, clothing and gloves away from moving parts.** Loose clothes, jewelry or long hair can be caught in moving parts.
- **If devices are provided for the connection of dust extraction and collection facilities, ensure these are connected and properly used.** Use of these devices can reduce dust-related hazards.
- **Do not wear loose clothing or jewelry. Contain long hair.** Loose clothes, jewelry, or long hair can be drawn into air vents.
- **Do not use on a ladder or unstable support.** Stable footing on a solid surface enables better control of the power tool in unexpected situations.

# GENERAL SAFETY RULES

## POWER TOOL USE AND CARE

- **Do not force the power tool. Use the correct power tool for your application.** The correct power tool will do the job better and safer at the rate for which it was designed.
- **Do not use the power tool if the switch does not turn it on and off.** Any power tool that cannot be controlled with the switch is dangerous and must be repaired.
- **Disconnect the plug from the power source and/or the battery pack from the power tool before making any adjustments, changing accessories, or storing power tools.** Such preventive safety measures reduce the risk of starting the power tool accidentally.
- **Store idle power tools out of the reach of children and do not allow persons unfamiliar with the power tool or these instructions to operate the power tool.** Power tools are dangerous in the hands of untrained users.
- **Maintain power tools. Check for misalignment or binding of moving parts, breakage of parts and any other condition that may affect the power tool's operation. If damaged, have the power tool repaired before use.** Many accidents are caused by poorly maintained power tools.
- **Keep cutting tools sharp and clean.** Properly maintained cutting tools with sharp cutting edges are less likely to bind and are easier to control.
- **Use the power tool, accessories and tool bits etc., in accordance with these instructions and in the manner intended for the particular type of power tool, taking into account the working conditions and the work to be performed.** Use of the power tool for operations different from those intended could result in a hazardous situation.

## BATTERY TOOL USE AND CARE

- **Ensure the switch is in the off position before inserting battery pack.** Inserting the battery pack into power tools that have the switch on invites accidents.
- **Recharge only with the charger specified by the manufacturer.** A charger that is suitable for one type of battery pack may create a risk of fire when used with another battery pack.
- **Use power tools only with specifically designated battery packs.** Use of any other battery packs may create a risk of injury and fire.
- **When battery pack is not in use, keep it away from other metal objects like paper clips, coins, keys, nails, screws, or other small metal objects that can make a connection from one terminal to another.** Shorting the battery terminals together may cause burns or a fire.
- **Under abusive conditions, liquid may be ejected from the battery, avoid contact. If contact accidentally occurs, flush with water. If liquid contacts eyes, additionally seek medical help.** Liquid ejected from the battery may cause irritation or burns.

## SERVICE

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



### WARNING!

To reduce the risk of injury, user must read instruction manual.

- **When servicing a power 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 shock or injury.

# SPECIFIC SAFETY RULES

- **Hold power tools 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 also make exposed metal parts of the tool “live” and shock the operator.
- **Know your power tool. Read operator’s manual carefully. Learn its applications and limitations, as well as the specific potential hazards related to this power tool.** Following this rule will reduce the risk of electric shock, fire, or serious injury.
- **Always wear safety glasses with side shields.** Everyday glasses have only impact resistant lenses. They are NOT safety glasses. Following this rule will reduce the risk of eye injury.
- **Protect your lungs. Wear a face or dust mask if the operation is dusty.** Following this rule will reduce the risk of serious personal injury.
- **Protect your hearing. Wear hearing protection during extended periods of operation.** Following this rule will reduce the risk of serious personal injury.
- **Battery tools do not have to be plugged into an electrical outlet; therefore, they are always in operating condition. Be aware of possible hazards when not using your battery tool or when changing accessories.** Following this rule will reduce the risk of electric shock, fire, or serious personal injury.
- **Do not place battery tools or their batteries near fire or heat.** This will reduce the risk of explosion and possibly injury.
- **Do not crush, drop or damage battery pack. Do not use a battery pack or charger that has been dropped or received a sharp blow.** A damaged battery is subject to explosion. Properly dispose of a dropped or damaged battery immediately.
- **Batteries vent hydrogen gas and can explode in the presence of a source of ignition, such as a pilot light.** To reduce the risk of serious personal injury, never use any cordless product in the presence of open flame. An exploded battery can propel debris and chemicals. If exposed, flush with water immediately.
- **Do not charge battery tool in a damp or wet location.** Following this rule will reduce the risk of electric shock.
- **For best results, your battery tool should be charged in a location where the temperature is more than 50°F but less than 100°F. Do not store outside or in vehicles.**
- **Under extreme usage or temperature conditions, battery leakage may occur. If liquid comes in contact with your skin, wash immediately with soap and water, then neutralize with lemon juice or vinegar. If liquid gets into your eyes, flush them with clean water for at least 10 minutes, then seek immediate medical attention.** Following this rule will reduce the risk of serious personal injury.
- **If the power supply cord is damaged, it must be replaced only by the manufacturer or by an authorized service center to avoid risk.**

## LASER GUIDE WARNINGS:

The laser guide radiation used in this tool is Class IIIa with maximum <5mW and 650nm wavelengths. These lasers do not normally present an optical hazard although staring at the beam may cause flash blindness.

- **Avoid** direct eye exposure when using the laser guide.
- The laser shall be used and maintained in accordance with the manufacturer’s instructions.
- Never aim the beam at a person or object other than the workpiece.
- Always ensure the laser beam is aimed at a sturdy workpiece without reflective surfaces. Shiny reflective sheet metal or similar shiny materials are not suitable for laser use.
- All repairs should be made by an authorized service representative or the laser manufacturer.
- **Save these instructions.** Refer to them frequently and use them to instruct others who may use this power tool. If you loan someone this power tool, loan them these instructions also.



# SAFETY RULES FOR CHARGER

## **WARNING!**

### **READ AND UNDERSTAND ALL INSTRUCTIONS.**

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

- **Before using battery charger**, read all instructions and cautionary markings in this manual, on battery charger, battery, and product using battery to prevent misuse of the products and possible injury or damage.

## **CAUTION:**

To reduce the risk of electric shock or damage to the charger and battery, charge only nickel-cadmium rechargeable batteries as specifically designated on your charger. Other types of batteries may burst, causing personal injury or damage.

- **Do not use charger outdoors or expose to wet or damp conditions.** Water entering charger will increase the risk of electric shock.
- **Use of an attachment not recommended or sold by the battery charger manufacturer may result in a risk of fire, electric shock, or injury to persons.** Following this rule will reduce the risk of electric shock, fire, or serious personal injury.
- **Do not abuse cord or charger.** Never use the cord to carry the charger. Do not pull the charger cord rather than the plug when disconnecting from receptacle. Damage to the cord or charger could occur and create an electric shock hazard. Replace damaged cords immediately.
- **Make sure cord is located so that it will not be stepped on, tripped over, come in contact with sharp edges or moving parts or otherwise subjected to damage or stress.** This will reduce the risk of accidental falls, which could cause injury, and damage to the cord, which could result in electric shock.
- **Keep cord and charger from heat to prevent damage to housing or internal parts.**
- **Do not let gasoline, oils, petroleum-based products, etc. come in contact with plastic parts.** They contain chemicals that can damage, weaken, or destroy plastic.

- **An extension cord should not be used unless absolutely necessary.** Use of improper extension cord could result in a risk of fire and electric shock. If extension cord must be used, make sure:

- a. That pins on plug of extension cord are the same number, size and shape as those of plug on charger.
- b. That extension cord is properly wired and in good electrical condition; and
- c. That wire size is large enough for AC ampere rating of charger as specified below:

Cord Length (Feet)	25'	50'	100'
Cord Size (AWG)	16	16	16

**NOTE:** AWG = American Wire Gauge

- **Do not operate charger with a damaged cord or plug**, which could cause shorting and electric shock. If damaged, have the charger replaced by an authorized serviceman.
- **Do not operate charger if it has received a sharp blow, been dropped, or otherwise damaged in any way.** Take it to an authorized serviceman for electrical check to determine if the charger is in good working order.
- **Do not disassemble charger.** Take it to an authorized serviceman when service or repair is required. Incorrect reassembly may result in a risk of electric shock or fire.
- **Unplug charger from outlet before attempting any maintenance or cleaning to reduce the risk of electric shock.**
- **Disconnect charger from the power supply when not in use.** This will reduce the risk of electric shock or damage to the charger if metal items should fall into the opening. It also will help prevent damage to the charger during a power surge.
- **Risk of electric shock.** Do not touch uninsulated portion of output connector or uninsulated battery terminal.
- **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 to prevent misuse of the product and possible injury.

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## IMPORTANT SAFETY INSTRUCTIONS











### 1. SAVE THESE INSTRUCTIONS

This manual contains important safety and operating instructions for battery charger 1423701, 140237021 or 140237023.

2. **Before using battery charger**, read all instructions and cautionary markings on battery charger, battery, and product using battery.
3. **CAUTION:** To reduce the risk of injury, charge only nickel-cadmium rechargeable batteries. Other types of batteries may burst, causing personal injury or damage.




# SYMBOLS

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

SYMBOL	NAME	DESIGNATION/EXPLANATION
V	Volts	Voltage
A	Amperes	Current
Hz	Hertz	Frequency (cycles per second)
W	Watt	Power
min	Minutes	Time
~	Alternating Current	Type of current
≡	Direct Current	Type or a characteristic of current
$n_0$	No Load Speed	Rotational speed, at no load
	Class II Tool	Double-insulated construction
.../min	Per Minute	Revolutions, strokes, surface speed, orbits etc., per minute
	Wet Conditions Alert	Do not expose to rain or use in damp locations.
	Read The Operator's Manual	To reduce the risk of injury, user must read and understand operator's manual before using this product.
	Eye Protection	Always wear safety goggles or safety glasses with side shields and, as necessary, a full face shield when operating this product.
	Safety Alert	Precautions that involve your safety.
	No Hands Symbol	Failure to keep your hands away from the blade will result in serious personal injury.
	No Hands Symbol	Failure to keep your hands away from the blade will result in serious personal injury.
	No Hands Symbol	Failure to keep your hands away from the blade will result in serious personal injury.
	No Hands Symbol	Failure to keep your hands away from the blade will result in serious personal injury.
	Hot Surface	To reduce the risk of injury or damage, avoid contact with any hot surface.

# SYMBOLS

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

SYMBOL	SIGNAL	MEANING
	<b>DANGER:</b>	Indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury.
	<b>WARNING:</b>	Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.
	<b>CAUTION</b>	Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury.
	<b>CAUTION</b>	(Without Safety Alert Symbol) Indicates a situation that may result in property damage.

## SERVICE

Servicing requires extreme care and knowledge and should be performed only by a qualified service technician. For service we suggest you return the product to the nearest **AUTHORIZED SERVICE CENTER** for repair. When servicing, use only identical replacement parts.

### **WARNING:**

To avoid serious personal injury, do not attempt to use this product until you read thoroughly and understand completely the operator's manual. If you do not understand the warnings and instructions in the operator's manual, do not use this product. Call Ryobi customer service for assistance.

### **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 power tool operation, always wear safety goggles or safety glasses with side shields and, when needed, a full face shield. We recommend Wide Vision Safety Mask for use over eyeglasses or standard safety glasses with side shields. Always use eye protection which is marked to comply with ANSI Z87.1.

## SAVE THESE INSTRUCTIONS



# FEATURES

## PRODUCT SPECIFICATIONS

Length of Stroke..... 3/4 in.  
Strokes Per Minute..... 0-2,100 r/min. (RPM)  
Switch..... Variable Speed  
Cutting Angle..... 0° to 45° (Left and Right)  
Orbital Motion..... 4 Settings

Charger Input ..... 120 Volts, 60 Hz, AC only  
Charger Voltage..... 18 Volt  
Charge Rate ..... 1 Hour  
Laser Guide ..... Class IIIa, <5mW, 650nm

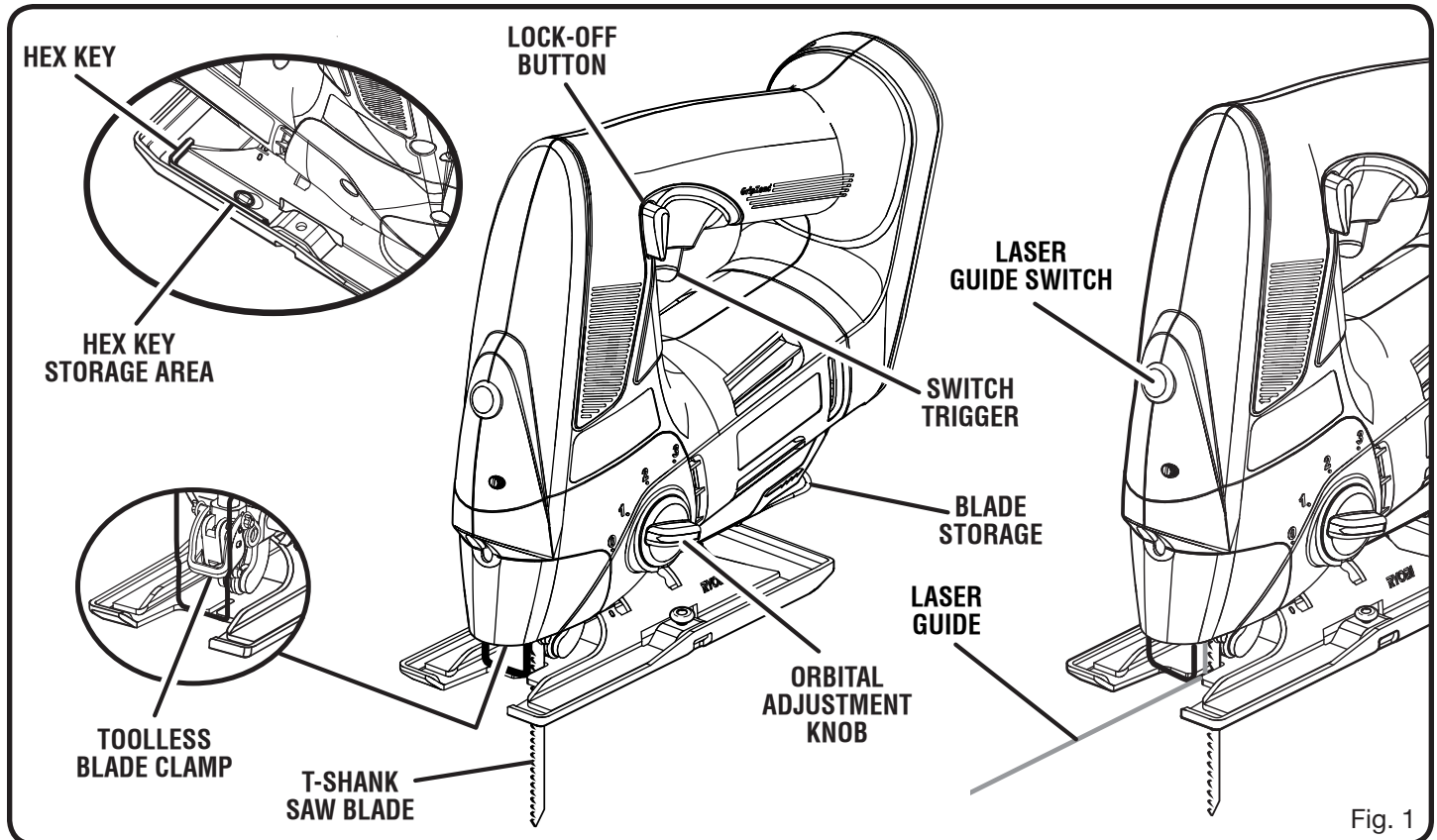


Fig. 1

## KNOW YOUR JIG SAW

See Figure 1.

The safe use of this product requires an understanding of the information on the tool and in this operator's manual as well as a knowledge of the project you are attempting. Before use of this product, familiarize yourself with all operating features and safety rules.

### BLADE STORAGE

When not in use, you can place the blades provided with your orbital jig saw in the storage compartment located on the back of the saw.

### HEX KEY STORAGE

When not using the hex key included with your jig saw, you may place it in the convenient storage area on the base.

### LASER GUIDE SWITCH

The laser guide will generate a red laser beam on the work surface in front of the saw when the switch is turned on.

### LOCK-OFF BUTTON

Your saw is equipped with a lock-off button which reduces the possibility of accidental starting.

### ORBITAL ADJUSTMENT KNOB

Choose from four orbital adjustment positions for fine to aggressive cutting.

### TOOLLESS BLADE CLAMP

Your saw has a blade clamp design that does not require the use of a blade wrench when installing or removing the blade.

### VARIABLE SPEED

This tool has a variable speed switch that delivers higher speed with increased trigger pressure.

# ASSEMBLY

## UNPACKING

This product has been shipped completely assembled.

- Carefully remove the tool and any accessories from the box. Make sure that all items listed in the packing list are included.
- Inspect the tool carefully to make sure no breakage or damage occurred during shipping.
- Do not discard the packing material until you have carefully inspected and satisfactorily operated the tool.
- If any parts are damaged or missing, please call 1-800-525-2579 for assistance.

## PACKING LIST

Orbital Jig Saw

Hex Key (2)

T- Shank Saw Blades (2)

Lanyard

Operator's Manual

### **WARNING:**

If any parts are damaged or missing do not operate this tool until the parts are replaced. Failure to heed this warning could result in serious personal injury.

### **WARNING:**

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 personal injury.

### **WARNING:**

To prevent accidental starting that could cause serious personal injury, always remove the battery pack from the tool when assembling parts.

# OPERATION

### **WARNING:**

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

### **WARNING:**

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

### **WARNING:**

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

### **CAUTION:**

If at any point during the charging process none of the LEDs are lit, remove the battery pack from the charger to avoid damaging the product. DO NOT insert another battery. Return the charger and battery to your nearest service center for service or replacement.

## LED FUNCTIONS OF CHARGER LED WILL BE ON TO INDICATE STATUS OF CHARGER AND BATTERY PACK:

- Red LED on = Fast charging mode.
- Green LED on = Fully charged and in maintenance charge mode.
- Green LED on = When battery pack is inserted into charger, indicates hot battery pack or that battery pack is out of normal temperature range.
- Yellow and Green LEDs on = Deeply discharged or defective battery pack.
- No LED on = Defective charger or battery pack.

## CHARGING THE BATTERY PACK

Battery packs for this tool are shipped in a low charge condition to prevent possible problems. Therefore, you should charge it until the green LED on the front of the charger comes on.

**NOTE:** Batteries will not reach full charge the first time they are charged. Allow several cycles (operation followed by recharging) for them to become fully charged.

## APPLICATIONS

You may use this tool for the purposes listed below:

- Cutting wood surfaces
- Cutting thin sheet metal
- Cutting plastics and laminates

# OPERATION

## CHARGING A COOL BATTERY PACK

If battery pack is within normal temperature range, the red LED on charger will come on.

**NOTE:** If the charger does not charge the battery pack under normal circumstances, return both the battery pack and charger to your nearest Authorized Service Center for electrical check.

- Charge the battery pack only with the charger provided.
- Make sure the power supply is normal household voltage, **120 volts, 60 Hz, AC only.**
- Connect the charger to the power supply.
- Place the battery pack in the charger aligning raised rib on the battery pack with the groove in the charger. See *Figure 2*.
- Press down on the battery pack to be sure contacts on the battery pack engage properly with contacts in the charger.
- Normally the red LED on charger will come on. This indicates the charger is in fast charging mode.
- Red LED should remain on for approximately 1 hour then the green LED will come on. Green LED on indicates battery pack is fully charged and charger is in maintenance charge mode.

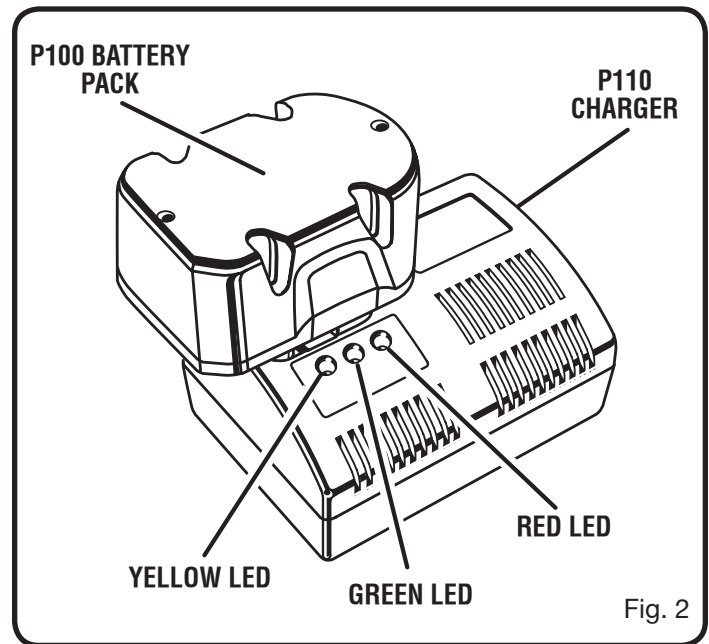
**NOTE:** The green LED will remain on until the battery pack is removed from the charger or charger is disconnected from the power supply.

- If both yellow and green LEDs come on, this indicates a deeply discharged or defective battery pack. Allow the battery pack to remain in the charger for 15 to 30 minutes. When the battery pack reaches normal voltage range, the red LED should come on. If the red LED does not come on after 30 minutes, this may indicate a defective battery pack that should be replaced.
  - After normal usage, a minimum of 1 hour of charging time is required to fully recharge battery pack.
  - The battery pack will become slightly warm to the touch while charging. This is normal and does not indicate a problem.
  - Do not place the charger and battery pack in an area of extreme heat or cold. They will work best at normal room temperature.
- NOTE:** The charger and battery pack should be placed in a location where the temperature is more than 50°F but less than 100°F.
- When batteries become fully charged, unplug the charger from power supply and remove the battery pack.

## CHARGING A HOT BATTERY PACK

When using the tool continuously, the batteries in the battery pack will become hot. You should let a hot battery pack cool down for approximately 30 minutes before attempting to recharge. When the battery pack becomes discharged and is hot, this will cause the green LED to come on instead of the red LED. After 30 minutes, reinsert the battery pack in the charger. If the green LED continues to remain on, return battery pack to your nearest Authorized Service Center for checking or replacing.

**NOTE:** This situation only occurs when continuous use of the tool causes the batteries to become hot. It does not occur under normal circumstances. Refer to **CHARGING A COOL BATTERY PACK** for normal recharging of batteries. If the charger does not charge your battery pack under normal circumstances, return both the battery pack and charger to your nearest Authorized Service Center for electrical check.



# OPERATION

## TO INSERT BATTERY PACK

See Figure 3.

- Lock the switch trigger by releasing it all the way.
- Place the battery pack on the tool.
- Make sure the latches on each side of the battery pack snap into place and the battery pack is secured on the tool before beginning operation.

### CAUTION:

When placing battery pack in the tool, be sure raised rib on battery pack aligns with the grooves in the saw and latches into place properly. Improper installation of the battery pack can cause damage to internal components.

## TO REMOVE BATTERY PACK

See Figure 3.

- Lock the switch trigger by releasing it all the way.
- Depress the latches on the side of battery pack.
- Remove the battery pack from the tool.

## BLADE STORAGE

See Figure 4.

The blade storage compartment is located on the back of the saw. It is convenient for storing extra blades and storing blades when not in use.

- **To open:** Push the door down with your thumb or finger. Place blades in blade storage compartment.
- **To close:** Push the door up with your thumb or finger.

### WARNING:

Battery tools are always in operating condition. Therefore, switch should always be locked when not in use or carrying at your side.

## LASER GUIDE

See Figure 5.

Depress the laser guide switch to generate a red laser beam on the work surface in front of the saw. Use the laser to guide the saw along the line of cut.

## LOCK-OFF BUTTON

See Figure 5.

The lock-off button is located on the handle above the switch trigger. You must depress the lock-off button in order to pull the switch trigger. The lock resets each time the trigger is released.

**NOTE:** You can depress the lock-off button from either the left or right side.

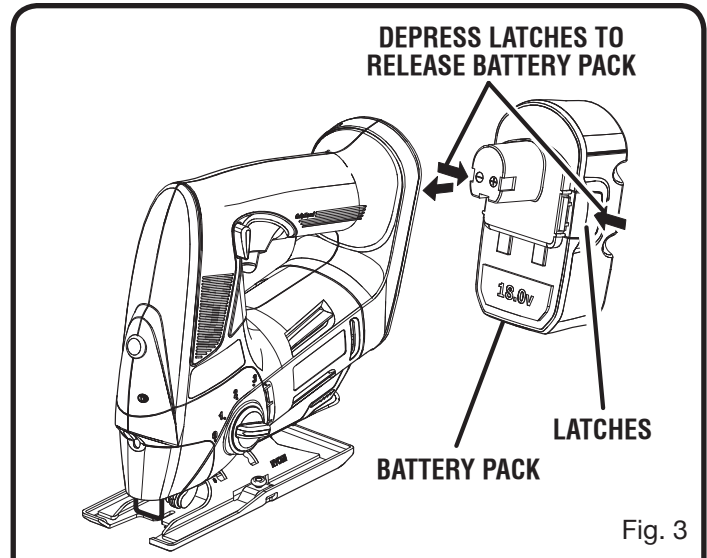


Fig. 3

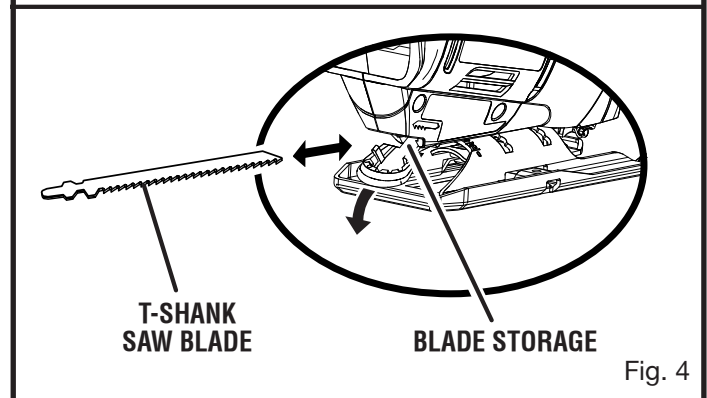


Fig. 4

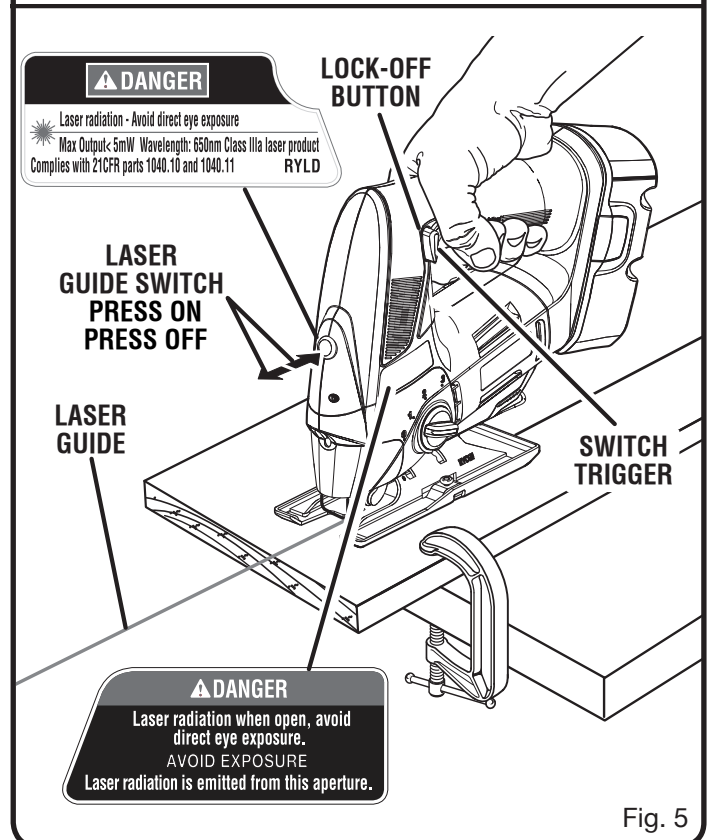


Fig. 5



# OPERATION

## SWITCH TRIGGER

See Figure 5.

To turn the saw **ON**, depress and hold lock-off button, then depress the switch trigger. To turn it **OFF**, release the switch trigger.

### **WARNING:**

This tool is designed to work with T-shank blades. Use with non-T-shank blades may result in blades coming loose from tool, resulting in personal injury or property damage.

## BLADE SELECTION

To obtain the best performance from the 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.

**NOTE:** This tool is designed to work with T-shank blades. Other types of saw blades are not guaranteed to work properly and may come loose from the tool.

## INSTALLING BLADES

See Figure 6.

- Remove battery pack.
- Lift blade clamp lock located on front of saw.
- Insert saw blade between blade clamp and saw bar.
- Close blade clamp lock.
- Replace battery pack.

## GENERAL CUTTING

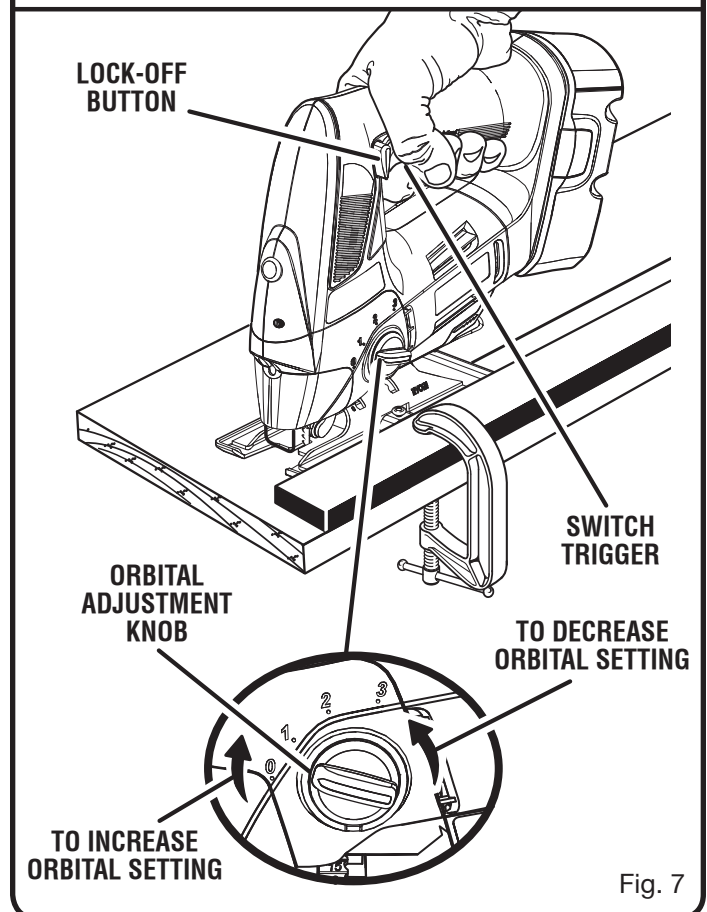
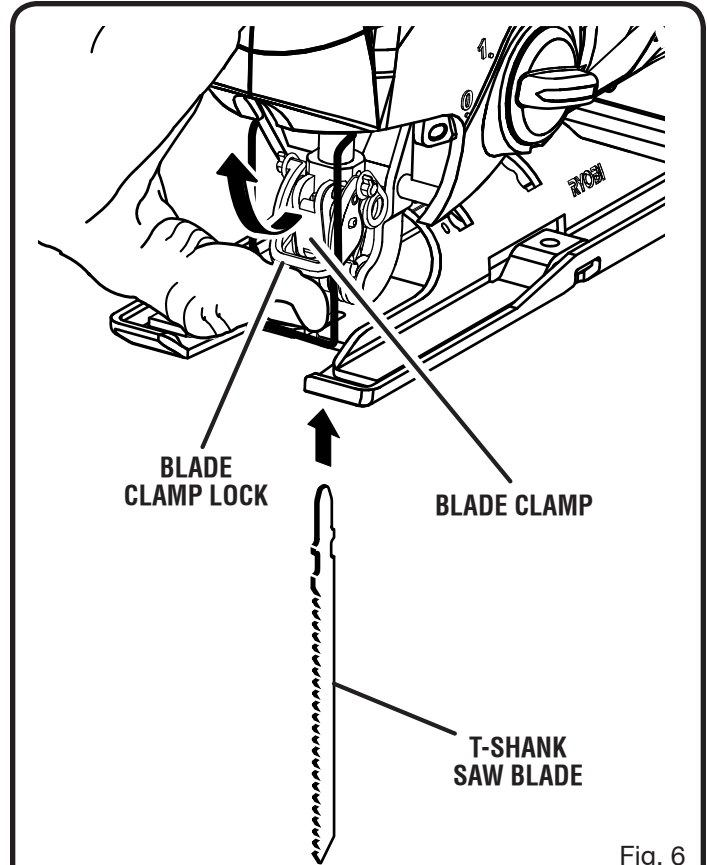
See Figure 7.

Rest the front of the saw base on the workpiece and align cutting edge of the blade with the line on your workpiece. Start the saw and move it forward on the work surface. Apply downward pressure to keep the saw steady and only enough forward pressure to keep the blade cutting. Do not force the saw. Forcing the saw may overheat the motor and break saw blades. Broken saw blades must be replaced with new saw blades.

## ORBITAL MOTION

See Figure 7.

The blade of the saw cuts in orbital motion. This feature is adjustable and provides faster, more efficient cutting. With orbital motion, the blade cuts through your work in the upstroke but does not drag across your work in the downstroke. The higher settings should be used when fast cutting in soft material is desired. The lower settings should be used when cutting materials with more resistance.



# OPERATION

## STRAIGHT CUTTING

See Figure 7.

A straight cut can be made by clamping a piece of wood or straightedge to the workpiece and guiding the edge of the saw against it. Make the cut from one direction only; don't cut halfway and complete the cut from the opposite end.

## SPLINTER-FREE CUTTING

See Figure 8.

The base of the jig saw has a narrow slot to permit splinter-free cutting. It is especially useful when cutting plywood. This feature should only be used when making straight cuts or circle cuts. It is not for bevel cutting or plunge cutting.

**NOTE:** The non-orbital setting also helps reduce splintering when cutting plywood.

## POSITIONING THE BASE IN THE SPLINTER-FREE CUTTING POSITION

- Remove battery pack
  - Using the 1/8 in. hex key provided, loosen base pivot screws and slide base forward.
  - Always set the cutting angle at 0° for splinter-free cutting. To set cutting angle at 0°, align the 0° mark on the scale with the edge of the motor housing.
- NOTE:** When setting angle at 0° for splinter-free cutting, the positive stop notches on the rear of the base are not used.
- Tighten base pivot screws securely.
  - Remove hex key and return it to the storage area.
  - Replace battery pack.

## OPTIONAL EDGE GUIDE

See Figure 9.

An optional edge guide is available for use with the saw. It can be used for making crosscuts and rip cuts.

- Remove battery pack.
- Insert the arm through the two slots in the base of the saw as shown.
- Adjust edge guide to the desired width and lock in place with the edge guide screw.
- Replace battery pack.

## SCROLL CUTTING

See Figure 10.

Scroll cuts can be made with the jig saw by guiding the direction of the cut with applied pressure on the handle as shown.

### **WARNING:**

Excessive side pressure to the blade could result in broken blades or damage to the material being cut.

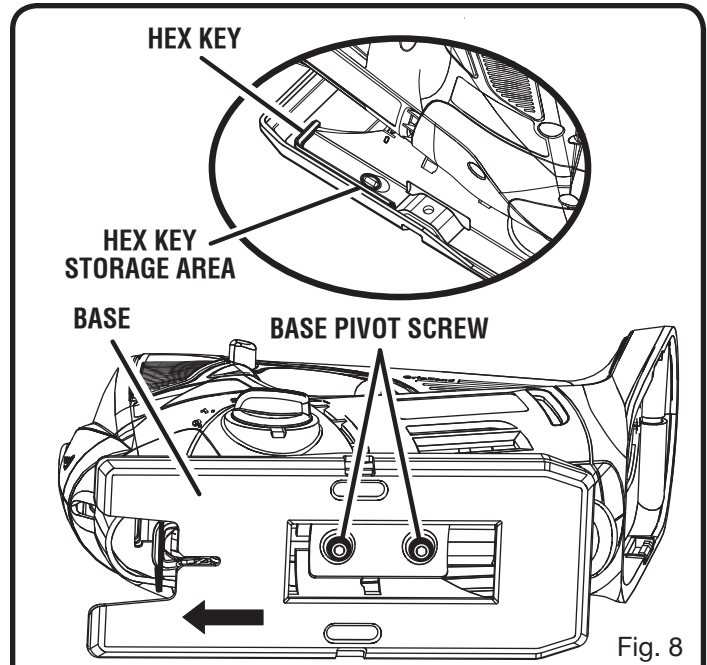


Fig. 8

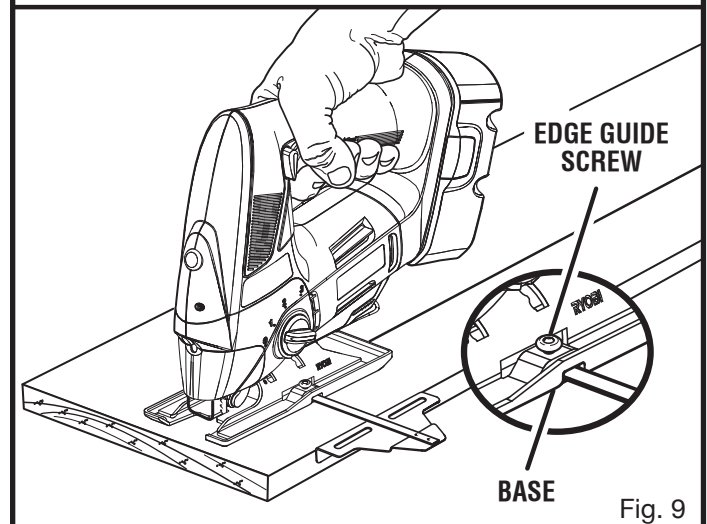


Fig. 9

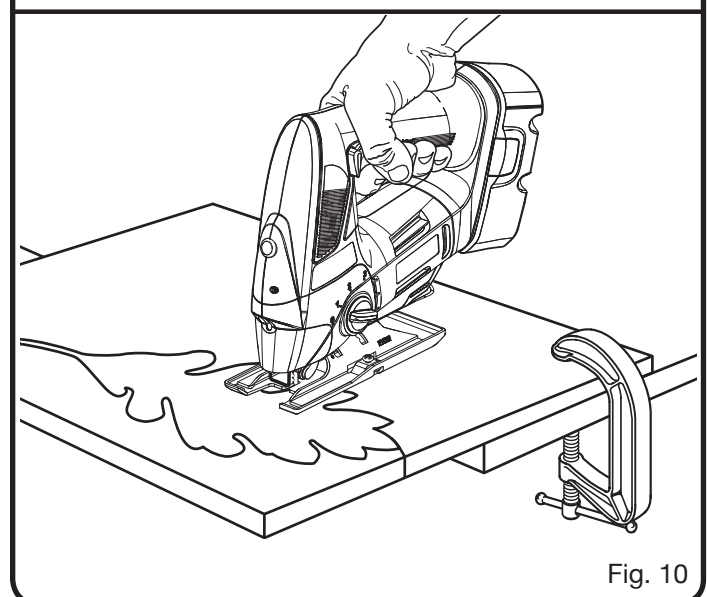


Fig. 10



# OPERATION

## ANGLE CUTTING (BEVEL CUTTING)

See Figures 11 - 12.

Bevel cutting angles may be adjusted from 0° to 45° right or left. Angles for cuts from 0° to 45° in 15° increments are marked on a scale on both the left and right side of the base. Notches on the rear of the base provide positive stops at each of the above mentioned 15° increments. A protractor is recommended when accurate cuts are required.

- Remove battery pack.
- Using the 1/8 in. hex key provided, loosen the base pivot screws until the base can be moved.
- Slide base backward until base pivot screws can move freely in slots in base.
- Align the mark, on the base, of the desired angle with the edge of the motor housing.
- Once the desired angle is reached, slide base forward until tab on motor housing aligns with the appropriate notch on rear of base.

**NOTE:** When making a set-up for accurate cuts with a protractor, or for angles other than the preset 15° increments, the positive stop notches on the rear of the base are not used.

- Tighten the base pivot screws securely.
- Return hex key to storage compartment.
- Replace battery pack.

**NOTE:** The wide slot in the base must be used when making bevel cuts, scroll cuts, plunge cuts, and when cutting metal.

## PLUNGE CUTTING

See Figure 13.

### **⚠ WARNING:**

To avoid loss of control, broken blades, or damage to the material being cut, always use extreme caution when making plunge cuts. We do not recommend plunge cutting on materials other than wood.

- Mark the line of cut clearly on the workpiece.
- Set the cutting angle at 0°.
- Tilt the saw forward so that it rests on the front edge of the base and blade will not come in contact with the workpiece when the saw is turned on.
- Make sure the blade is inside the area to be cut.
- Using high speed, start the saw and slowly lower the blade into the workpiece until the blade cuts through the wood.
- Continue lowering the blade into the workpiece until the base rests flat on the work surface, then move the saw forward to complete the opening.
- Use only the 7 teeth per inch blade for this type of cut.

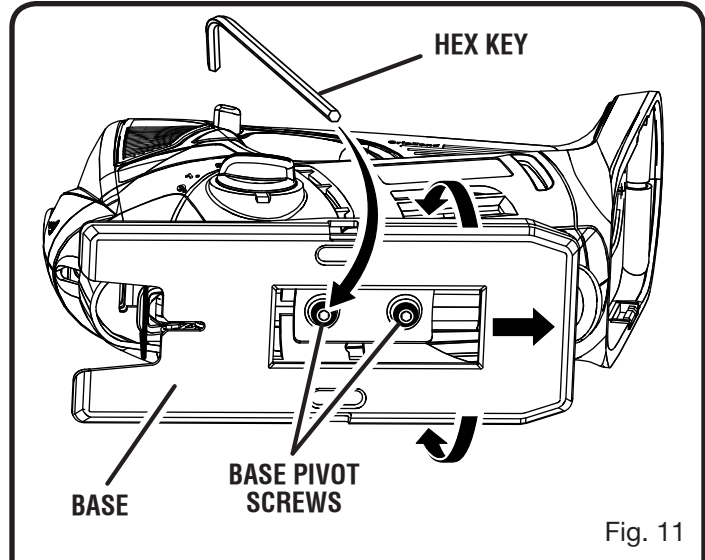


Fig. 11

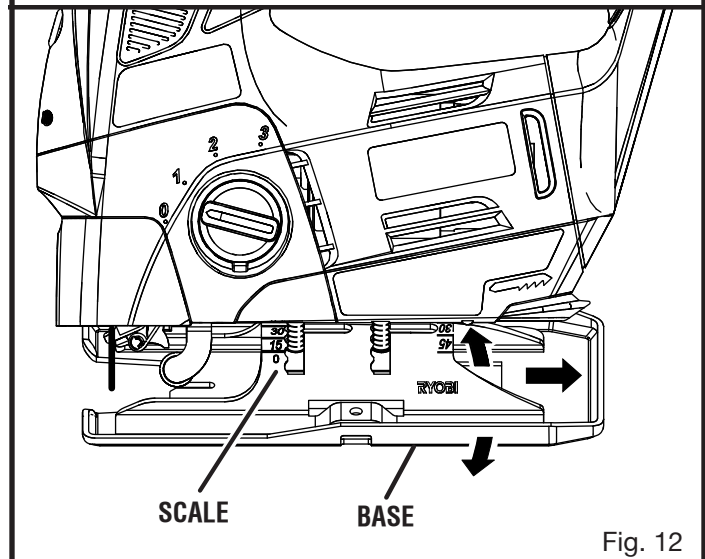


Fig. 12

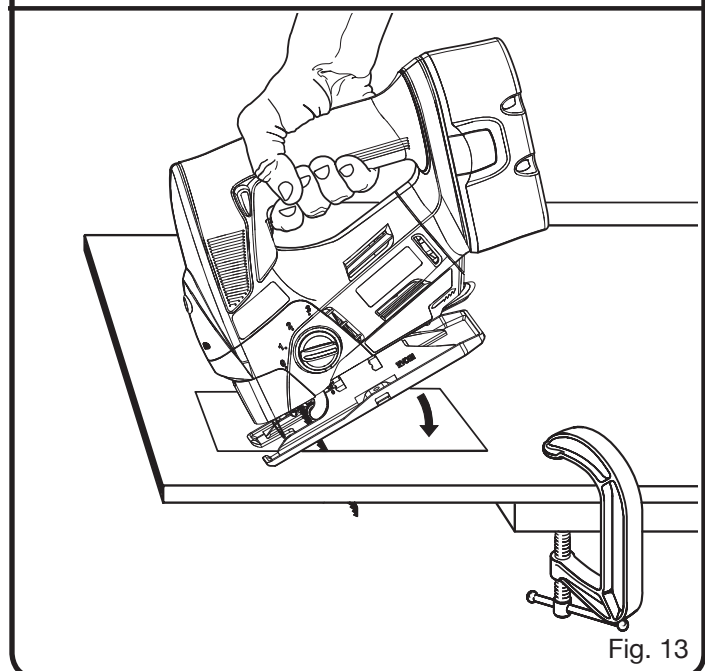


Fig. 13

## ADJUSTMENTS

### **⚠ WARNING:**

Use of controls or adjustments or performance of procedures other than those specified herein could result in hazardous radiation exposure.

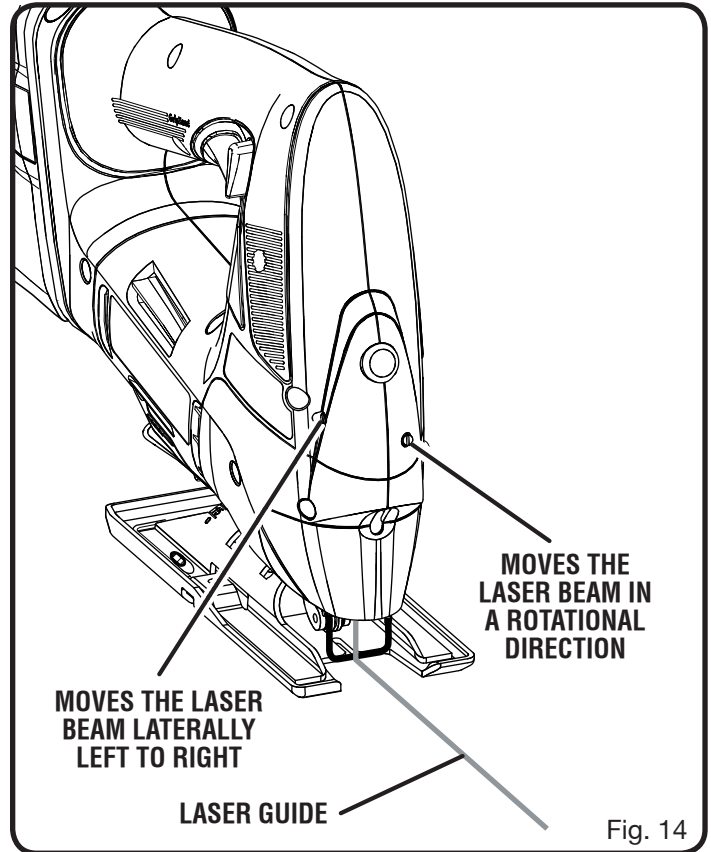
### ADJUSTING THE LASER

See Figure 14.

The laser can be realigned by adjusting the two screws located in the front of the saw. The top screw moves the laser beam laterally from left to right. The bottom screw moves the laser beam in a rotational direction.

**NOTE:** Draw a pencil line on scrap workpiece parallel to the long edge of the base as a straight line guide to aid in the adjusting process.

- Remove the blade from the saw.
- Turn laser on.
- Rest base of saw on scrap workpiece.
- Adjust screws as necessary.
- Since blade thicknesses vary, always make a trial cut in scrap workpiece to ensure an accurate cut.
- Check for proper alignment.
- Repeat as necessary until laser is aligned.



## MAINTENANCE

### **⚠ WARNING:**

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

### **⚠ 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.

### **⚠ WARNING:**

To avoid serious personal injury, always remove the battery pack from the tool when cleaning or performing any maintenance.

### GENERAL MAINTENANCE

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

### **⚠ WARNING:**

Do not at any time let brake fluids, gasoline, petroleum-based products, penetrating oils, etc., come in contact with plastic parts. Chemicals can damage, weaken or destroy plastic which may result in serious personal injury.

Only the parts shown on the parts list are intended to be repaired or replaced by the customer. All other parts should be replaced at an Authorized Service Center.

# MAINTENANCE

## BATTERIES

The battery pack for this tool is equipped with nickel-cadmium rechargeable batteries. Length of service from each charging will depend on the type of work you are doing.

The batteries in this tool have been designed to provide maximum trouble-free life. However, like all batteries, they will eventually wear out. **Do not** disassemble battery pack and attempt to replace the batteries. Handling of these batteries, especially when wearing rings and jewelry, could result in a serious burn.

To obtain the longest possible battery life, we suggest the following:

- Remove the battery pack from the charger once it is fully charged and ready for use.

For battery storage longer than 30 days:

- Store the battery pack where the temperature is below 80°F.
- Store battery packs in a “discharged” condition.

## BATTERY PACK REMOVAL AND PREPARATION FOR RECYCLING



To preserve natural resources, please recycle or dispose of batteries properly.

This product contains nickel-cadmium batteries. Local, state or federal laws may prohibit disposal of nickel-cadmium batteries in ordinary trash.

Consult your local waste authority for information regarding available recycling and/or disposal options.

### **WARNING:**

Upon removal, cover the battery pack’s terminals with heavy-duty adhesive tape. Do not attempt to destroy or disassemble battery pack or remove any of its components. Nickel-cadmium batteries must be recycled or disposed of properly. Also, never touch both terminals with metal objects and/or body parts as short circuit may result. Keep away from children. Failure to comply with these warnings could result in fire and/or serious injury.

# ACCESSORIES

Look for these accessories where you purchased this product:

- Edge Guide.....4640051

### **WARNING:**

Current attachments and accessories available for use with this tool are listed above. Do not use any attachments or accessories not recommended by the manufacturer of this tool. The use of attachments or accessories not recommended can result in serious personal injury.

