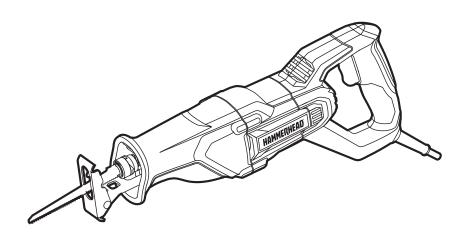
# HAMMERHEAD



# 6.0 AMP RECIPROCATING SAW

MODEL HARSO60



Serial Number \_\_\_\_\_ Purchase Date \_\_\_\_\_



**Questions, problems, missing parts?** Before returning to your retailer, call our customer service department at 1-877-888-1880, 8:30 a.m. – 8:00 p.m. EST (Monday – Friday) & 10:00 a.m. – 6:00 p.m. EST (Saturday and Sunday).

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# **WARNING**

- Some dust created by power sanding, sawing, grinding, drilling and other construction activities contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:
- Lead from lead-based paints.
- Crystalline silica from bricks, cement, and other masonry products.
- Arsenic and chromium from chemically-treated lumber.
- Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemical: 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.



#### PRODUCT SPECIFICATIONS

COMPONENT	SPECIFICATIONS
Motor	120V~, 60Hz, 6A
No-Load Speed	0-3,100 /min
Stroke Length	13/16" (20mm)
Cutting capacity:	
Wood	4-1/2" (115mm)
Aluminium	3/8" (10mm)
Plastic	3-5/32"(80mm)

Please read and understand this entire manual before attempting to assemble or operate this product. If you have any questions regarding the product, please call Hammerhead customer service at 1-877-888-1880, 8:30 a.m. – 8:00 p.m. EST (Monday – Friday) & 10:00 a.m. – 6:00 p.m. EST (Saturday and Sunday).



# **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 a full-face shield, when needed. We recommend using a wide vision safety mask over eyeglasses or standard safety glasses with shields. Always use eye protection marked to comply with ANSI Z87.1.



## DANGER

People with electronic devices, such as pacemakers, should consult their physician(s) before using this product. Operation of electrical equipment in close proximity to a heart pacemaker could cause interference or failure of the pacemaker.

#### **Know the Tool**

To operate this tool, carefully read this manual and all labels affixed to the reciprocating saw before using it. Keep this manual available for future reference.

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



SYMBOL	DEFINITION	SYMBOL	DEFINITION
V	Volts	$n_0$	No-load Speed
А	Amps	/min	Revolutions, Strokes, Beats or Impacts per Minute
Hz	Hertz		Class II Construction
W	Watts	~	Alternating Current
A	A danger, warning or caution. It means 'ATTENTION! Your safety is involved.'		Always wear safety goggles or safety glasses with side shields and a full face shield when operating this product.
	Alerts user to read manual	LISTED	This symbol designates that this tool is listed by Underwriters Laboratories, to United States Standards.

**IMPORTANT:** This tool should only be serviced only by a qualified service technician.

#### IMPORANT SAFETY INSTRUCTIONS

**SAVE THESE INSTRUCTIONS-**This manual contains important safety and operating instructions for reciprocating saw Model HARSO60.



#### DANGER

To reduce the risk of fire or electric shock, carefully follow these operating instructions.

#### **GENERAL POWER TOOL SAFETY WARNINGS**



## WARNING

Read all safety warnings, instructions, illustrations and specifications provided with this power tool. Failure to follow all instructions listed below may result in electric shock, fire and/or serious injury.

#### SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE.

The term "power tool" in the warnings refers to your mains-operated (corded) power tool or battery-operated (cordless) power tool.

#### 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.
- Do not abuse the cord. Never use the cord for carrying, pulling or unplugging the power tool. Keep cord away from heat, oil, sharp edges or moving parts. Damaged or entangled cords 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.
- If operating a power tool in a damp location is unavoidable, use a ground fault circuit interrupter (GFCI) protected supply. Use of a GFCI reduces 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 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 personal protective equipment. Always wear eye protection. Protective
  equipment such as a dust mask, non-skid safety shoes, hard hat or hearing protection
  used for appropriate conditions will reduce personal injuries.
- Prevent unintentional starting. Ensure the switch is in the off-position before
  connecting to power source and/or battery pack, picking up or carrying the tool.
  Carrying power tools with your finger on the switch or energising power tools that have
  the switch on invites accidents.

# **A** SAFETY INFORMATION

- 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 jewellery. Keep your hair and clothing away from moving parts. Loose clothes, jewellery 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 dust collection can reduce dustrelated hazards.
- Do not let familiarity gained from frequent use of tools allow you to become complacent and ignore tool safety principles. A careless action can cause severe injury within a fraction of a second.

#### **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 remove the battery pack, if detachable, 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 and accessories. 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, 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.



Keep handles and grasping surfaces dry, clean and free from oil and grease.
 Slippery handles and grasping surfaces do not allow for safe handling and control of the tool in unexpected situations.

#### Service

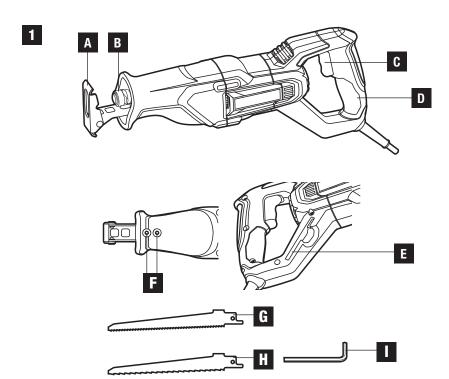
 Have your power tool serviced by a qualified repair person using only identical replacement parts. This will ensure that the safety of the power tool is maintained.

#### SPECIFIC SAFETY RULES FOR RECIPROCATING SAW

- Hold the power tool by insulated gripping surfaces, when performing an operation
  where the cutting accessory may contact hidden wiring. Cutting accessory
  contacting a "live" wire may make exposed metal parts of the power tool "live" and
  could give the operator an electric shock.
- Use clamps or another practical way to secure and support the workpiece to a stable platform. Holding the workpiece by hand or against your body leaves it unstable and may lead to loss of control.

#### PREPARATION

Before attempting to use the reciprocating saw, familiarize yourself with all of its operating features and safety requirements.



PARTS	DESCRIPTION
А	Pivot shoe
В	Tool-less Blade Clamp Sleeve
С	Variable-Speed Trigger Switch
D	Handle
Е	Hey Key Storage Compartment
F	Shoe-Release Screws
G	Metal Cutting Blade 1pc
Н	Wood Cutting Blade 2pc
	Hex key 1pc

#### 1. Blade Selection

To obtain the best performance from the saw, it is important to select the correct blade for the particular application and type of material to be cut.

Blades with fewer teeth, e.g., 7 teeth per inch (TPI), are typically used for cutting wood; blades with more teeth per inch are better for cutting metal or plastic.

We recommend 14 TPI blades for plastics and soft metals and 18 TPI blades for hard metals.

# $\ \, \textbf{2. Installing and Removing the Saw Blade} \\$

#### To install the saw blade:

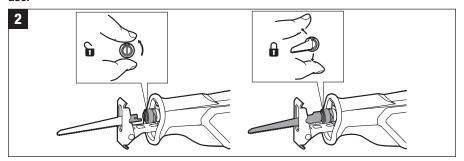
- a. Unplug the reciprocating saw from the power source.
- Use one hand to rotate the tool-less blade clamp sleeve in the direction of the arrow and then hold it in place.
- c. Use the other hand to insert the saw blade into the blade clamp as far as possible.
- d. Release the tool-less blade clamp sleeve, and the blade should be locked in place automatically.
- e. Try to push in and pull out blade to check whether it is locked correctly.

**NOTICE:** The blade may be installed with the teeth pointing up or down, according to the needs of the cutting operation.

#### To remove the saw blade:

- a. Unplug the reciprocating saw from the power source.
- Use one hand to rotate the tool-less blade clamp sleeve in the direction of the arrow and hold it.
- c. Remove the saw blade from the blade clamp.
- d. Release the tool-less blade clamp sleeve.

WARNING: Use protective gloves when removing the saw blade from the tool, or first allow the saw blade to cool down. The saw blade may be hot after prolonged use.

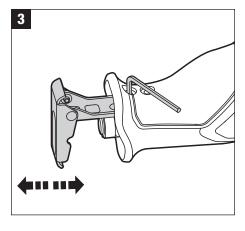


#### 3.Pivot Shoe Adjustment

Your tool is equipped with a pivot shoe that can slide in and out to adjust the effective stroke length for maximum control and longer blade life.

- a. Unplug the reciprocating saw from the power source.
- b. Loosen the shoe-release screws by turning them counterclockwise with the hex key (supplied) and slide the shoe to the desired position.
- c. Tighten the shoe-release screws by turning them clockwise with the hex

key (supplied) to lock the shoe in the desired position.



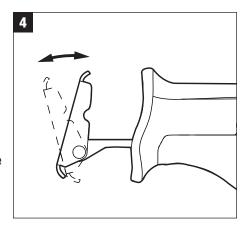
WARNING: To avoid injury and damage, do not operate the saw without the pivot shoe in place. The blade clamp may strike against the workpiece and damage the reciprocating mechanism.

WARNING: Make sure that the front end of the blade extends through the shoe for the entire stroke length. Do not use specialty blades that are very short or those with significant tilt. The blade must not contact the shoe. A blade that is too short or is tilted could jam inside the shoe and then snap.

## 4. Pivoting the Shoe

The shoe pivots to provide maximum control when it is aligned against the surface being cut.

- a. Unplug the reciprocating saw from the power source.
- Firmly hold the saw and then pivot the shoe to the desired angle, while taking care to avoid contact with the blade.



#### 5. Variable-Speed Trigger Switch

Your tool is equipped with a variable-speed trigger switch. The tool can be turned "ON" or "OFF" by depressing or releasing the variable-speed trigger switch.

**NOTICE:** The variable-speed trigger switch delivers higher speed with increased trigger pressure and lower speed with decreased trigger pressure.

#### 6.General Cutting

**WARNING:** Never use the wood- cutting blade for cutting metals. Failure to do so could result in serious personal injury.

**WARNING:** Before plug the tool into the power source, always check to determine that the switch performs properly and returns to the "OFF" position when released.

**WARNING:** Hold the tool only by the plastic handle and the insulated grip area to help prevent electrical shock. When sawing into walls or floors you may encounter electrical wiring. Sawing into a "live" wire will conduct electricity into the tool.

- a. Make sure the workpiece is firmly anchored. Clamp the workpiece to prevent slipping or moving while cutting.
- b. Intall the appropriate type and size of blade for the workpiece material and size.
- c. Adjust the pivot shoe as necessary to make sure that the blade will extend beyond the shoe and through the workpiece at all times.
- d. Adjust the pivot shoe as necessary to expose unworn blade teeth for longer blade life.
- e. Check for clearance behind the workpiece so that the blade will not contact another surface.
- f. Mark the line of cut clearly. If cutting metal, apply cutting oil to the line.
- g. Plug the reciprocating saw into the power source.
- h. Hold the saw firmly with both hands. Make sure to keep your hands on the insulated gripping areas only.
- i. Squeeze the variable-speed trigger switch to start the saw and bring it to the maximum desired cutting speed before applying the blade to the workpiece.
- j. Place the shoe firmly on the workpiece while cutting. Use only enough steady pressure on the blade to keep the saw cutting. Do not force the tool.
- k. Reduce pressure as the blade comes to the end of the cut.
- I. Allow the saw to come to a complete stop before removing the blade from the workpiece.

NOTICE: When sawing fiberglass, plaster, wallboard, or spackling compound, clean the motor vents frequently with a vacuum or with compressed air. These materials are highly abrasive and may accelerate the wear on motor bearings and brushes.

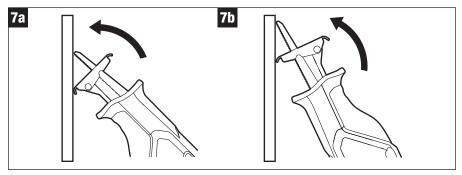
**WARNING:** Always wear safety goggles or safety glasses with side shields during power tool operation or when blowing dust. If operation is dusty, also wear a dust mask.

**WARNING:** Do not allow familiarity with the saw to make you careless. One careless fraction of a second is enough to inflict serious injury.

### 7.Plunge Cutting

Your reciprocating saw is ideal for plunge cutting directly into surfaces that cannot be cut from an edge, such as in walls or floors. Plunge cutting may be done two ways, depending on how the blade is inserted.

Figure 7a shows how to plunge cut with the teeth of the blade facing down. Figure 7b shows how to plunge cut with the teeth of the blade facing up.



- a. Mark the line to be cut clearly on the work.
- b. Set the tool with one edge of the footplate firmly against the material.
- c. Place the tip of the blade (not running) on the line to be cut.
- d. Tilt the saw so that the blade clears the work.
- e. Squeeze the variable-speed trigger switch and carefully engage the moving saw blade into the material.
- After the blade penetrates through the work, continue sawing along the marked outline.

**WARNING:** Do not plunge cut into metal surfaces. In thick materials and in harder materials, such as metal, plunge cutting should not be attempted. Such materials can be cut with the reciprocating saw only by starting the cut from the edge of the material or from a hole drilled all the way through the material that is large enough to fit the saw blade.

#### 8.Metal Cutting

WARNING: Never use the wood-cutting blade for cutting metals. Failure to do so could result in serious personal injury.

The saw can be used to cut metals, such as sheet steel, pipe, steel rods, aluminum, brass, and copper. Be careful not to twist or bend the saw blade. Do not force the tool.

The use of cutting oil is recommended when cutting soft metals and steel. Cutting oil will keep the blade cool, increase the cutting action, and prolong blade life.



**WARNING:** To avoid possible serious injury:

- Never use gasoline as cutting lubricant, because normal sparking could ignite the fumes.
- Securely clamp the workpiece in position, and make the cut close to the clamping point to minimize vibration.
- When cutting conduit pipe or angle iron, clamp the work in a vise, if possible, and cut close to the vise.
- To cut thin sheet material, "sandwich" the material between pieces of hardboard or plywood, and clamp the layers together to reduce vibration and tearing of the material.

#### CARE AND MAINTENANCE

#### Cleaning

Before cleaning or performing any maintenance, unplug the tool from the power source. For safe and proper operation, always keep the tool and its ventilation slots clean.

Always use only a soft, dry cloth to clean your tool; never use detergent or alcohol.

#### Carbon brushes

The brushes and commutator in your tool have been engineered for many hours of dependable service. To maintain peak efficiency of the motor, we recommend every two to six months the brushes be examined. Only genuine HAMMERHEAD replacement brushes specially designed for your tool should be used.

#### Tool lubrication

Your tool has been properly lubricated and is ready to use. It is recommended that tools with gears be regreased with a special gear lubricant at every brush change.

#### Storage

Store the tool indoors in a place that is inaccessible to children. Keep away from corrosive agents.

#### **EXTENSION CORDS**

**WARNING:** If an extension cord is necessary, a cord with adequate size conductors that is capable of carrying the current necessary for your tool must be used. This will prevent excessive voltage drop, loss of power or overheating. Grounded tools must use 3-wire extension cords that have 3-prong plugs and receptacles.

NOTICE: The smaller the gauge number, the heavier the cord.

# RECOMMENDED SIZES OF EXTENSION CORDS 120 VOLT ALTERNATING CURRENT TOOLS

Tool's Ampere Rating	Cord Size in A.W.G	Wire sizes in mm <sup>2</sup>
	Cord length in feet	Cord length in meters
	25 50 100 150	15 30 60 120
3-6	18 16 16 14	0.75 0.75 1.5 2.5
6-8	18 16 14 12	0.75 1.0 2.5 4.0
8-10	18 16 14 12	0.75 1.0 2.5 4.0
10-12	16 16 14 12	1.0 2.5 4.0 -
12-16	14 12	

# **TROUBLESHOOTING**

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
	Power cord is not plugged in.	Plug saw in.
	Power source fuse or circuit breaker tripped.	Replace fuse or reset tripped circuit breaker.
Saw will not start	Cord damaged.	Inspect cord for damage. If damaged, have cord replaced by an Authorized Hammerhead Service Center or Service Station.
	Burned out switch.	Have switch replaced by an Authorized Hammerhead Service Center or Service Station.
Blade does not come up	Extension cord too light or too long.	Replace with adequate cord.
to speed	Low house voltage.	Contact your electric company.
	Blade is bent.	Discard blade and use different blade.
Excessive vibration	Blade not secure in blade holder.	See the section of "Installing and Removing the Saw Blade"
	Dull blade with improper tooth set.	Discard blade and use a different blade.
Cut binds, stalls motor or kicks back when cutting	Tip of blade strikes workpiece or inside of pipe.	Do not strike tip of blade while cutting and make sure that blade is long enough to cut through a pipe.

#### WARRANTY

This reciprocating saw is warranted to the original purchaser from the original purchase date for 24 Months, Hammerhead consumer portable power tool models will be free from defects in material or workmanship for a period of ninety days if the tool is used for professional use. Please retain your receipt.

This reciprocating saw is warranted to the original user to be free from defects in material and workmanship. If you believe that the reciprocating saw is defective at any time during the specified warranty period, call HAMMERHEAD support at 1-877-888-1880 to speak with a customer service agent. This warranty does not cover: (1) Part failure due to normal wear or tool abuse; (2) any parts have been altered or modified by anyone other than an authorized HAMMERHEAD personnel.

This warranty excludes bits, bulbs and accessories. This warranty gives you specific legal rights, and you may also have other rights that vary from state.

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