

# 890F4

## OPERATOR MANUAL

**WARNING: READ AND UNDERSTAND ALL SAFETY WARNINGS AND ALL INSTRUCTIONS BEFORE YOU USE THIS EQUIPMENT.**

Failure to follow the warnings and instructions may result in fire, serious injury, or death.

**SAVE ALL WARNINGS AND INSTRUCTIONS FOR FUTURE REFERENCE**

## INTRODUCTION

The 890 power cutter is designed to cut concrete, stone, and masonry when used with the appropriate genuine ICS Diamond Chain. Ductile iron pipe may also be cut but **ONLY** if using PowerGrit® Utility Chain. This is a professional tool and is solely intended for use by trained and experienced operators. A first time operator should obtain practical instruction before using the power cutter, as well as reading and understanding this Operator's Manual.

Local legislation and/or workplace standards may regulate the use of this power cutter. Determine what regulations are applicable in the place you work before using the power cutter.

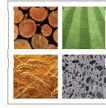
This instruction manual contains translations of a manual drafted in English and are provided to assist those who do not speak English as their first language. Being a technical writing, some terms may not have a like or equivalent meaning as translated. Therefore, you should not rely on this translation, and should cross-reference the English version, where relying on the translated instructions could result in harm to your person or property.

Specifications subject to change without notice. For most up-to-date version of this manual, please visit:

*<https://icsdiamondtools.com/customer-service-support/>*

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## EC - DECLARATION OF CONFORMITY

**BLOUNT INTERNATIONAL INC. DECLARES UNDER OUR SOLE RESPONSIBILITY THAT THE FOLLOWING PRODUCTS:**

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Brand:	ICS
Product Type:	Hydraulic Cut-off machine equipped with diamond saw chain
Model:	890F4, 890F4-FL

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**ARE COMPLIANT WITH THE FOLLOWING APPLICABLE EUROPEAN DIRECTIVES AND STANDARDS:**

Machinery Directive (MD) 2006/42/EC  
EN ISO 12100-1, -2:2009  
EN ISO 5349-1, -2:2001  
EN ISO 3744:2009  
ISO 10726:1992

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**TECHNICAL DOCUMENTATION FILE, LOCATION AND CONTACT:**

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Title:  
Place Issued:  
Date Originally Issued:  
Date Revised:

Director: Product Safety & Compliance  
Portland, Oregon USA  
26 November, 2013  
13 November, 2017

## SAFETY RULES

To get the maximum benefit from your power cutter, and assure maximum safety, be sure to read this manual thoroughly and follow the safety instructions provided.

### EXPLANATION OF WARNING LEVELS

#### **DANGER**

Indicates a hazard with a high level of risk which, if not avoided, will result in death or serious injury.

#### **WARNING**

Indicates a hazard with a medium level of risk which, if not avoided, could result in death or serious injury.

#### **CAUTION**

Indicates a hazard with a low level of risk which, if not avoided, could result in minor or moderate injury.

#### **IMPORTANT**

Indicates a potential situation exists which, if not avoided, may result in damage to your power cutter or property.

## HANDLING HYDRAULIC FLUID SAFELY

 **WARNING****Hydraulic fluid is combustible or can become combustible.**

Consult the SDS (Safety Data Sheet) for the hydraulic fluid being used for flash point and auto ignition temperature ranges. When these fluids discharge under pressure in a fine mist, they ignite easily, burn rapidly, and emit large quantities of heat. In fact, their heats of combustion, which are over 18,000 BTU/lb (2327 kJ/kg), are comparable to fuel oil.

 **CAUTION****Check for hydraulic leaks before starting the hydraulic power source.**

Visually check for leaks from the hydraulic fittings, and lines and do not use if any leaks are found.

**WORK AREA SAFETY**

Following are the basic instructions for work area safety.

 **WARNING****Drugs or alcohol can impair vision, dexterity, and judgment.**

Do not operate the power cutter when tired or under the influence of any substance.

**Do not operate this product during severe inclement weather.** **CAUTION****Remove or control slurry to prevent slippery conditions while cutting.**

This power cutter uses water and can cause slippery surfaces due to the slurry produced and/or freezing temperatures.

**Keep bystanders away from work area.**

Set up a well-marked safety zone with a roped boundary and clear signs to keep bystanders at least 6 m (20 ft) away.

**PERSONAL SAFETY**

Following are the basic instructions for personal safety.

**! WARNING**

**Fluids escaping under pressure can penetrate skin and cause severe personal injury.**

Do not use hands to search for leaks. Before disconnecting lines, be sure to relieve all pressure. Do not apply pressure to damaged lines, hoses or fittings. If any fluid is injected into the skin, seek medical attention immediately to prevent gangrene. Consult supplied hydraulic fluid SDS for additional information regarding proper handling and use instructions.

**Long-term exposure to noise can result in permanent hearing impairment.**

Always wear approved hearing protection.

**This power cutter can generate hazardous dust and vapors.**

Determine the nature of the material you are going to cut before proceeding with the job. Be especially aware of cutting materials containing silica and asbestos as inhaling dust can result in respiratory disease. Be sure to use appropriate respiratory protection designed to filter out microscopic particles. Be sure to use recommended water pressure to minimize dust generation.

**Over-exposure to vibration can lead to circulatory and/or nerve damage to the extremities, especially in cold temperatures (Reynaud's Disease).**

If you experience tingling, numbness, pain or changes in skin color, particularly in your fingers, hands or wrists, stop using the power cutter immediately. If the problem persists, seek medical attention.

**Always wear protective clothing.**

At a minimum always wear eye protection and/or face shield, hearing protection, long sleeve shirt, long pants, closed toe shoes with non-slip soles, and gloves. In many work situations, a hard hat and steel toed shoes may also be required. Avoid loose fitting clothing.

**TRANSPORTING & STORING****! WARNING**

**Hydraulic hoses are charged with fluid when the power cutter is shipped. See the [icsdiamondtools.com](http://icsdiamondtools.com) website for SDS information on the hydraulic fluid.**



## USING THE ICS POWER CUTTER SAFELY

Following are the basic instructions for safe use of the power cutter. Also read and understand additional safety precautions specific to the operation and maintenance of the power cutter throughout this manual.

### **DANGER**

**DO NOT operate the ICS power cutter with a saw chain or saw bar designed to cut wood.** Using wood cutting saw chain on the ICS power cutter could result in severe injuries to the operator or a bystander! Use **ONLY** the cutting attachments specified in this manual on this power cutter.

### **WARNING**

**DO NOT operate the power cutter with damaged, modified, broken, or missing components.**

Below safety features are designed to protect against contact with moving parts, ejected debris, broken chain, thrown water, and concrete slurry.

- Side cover
- Baffle drain
- Mud flap
- Mud flap bracket (Chain Catcher)
- Trigger interlock

*Use only Genuine ICS replacement parts. Use of unauthorized aftermarket parts may result in injury or damage to the power cutter.*

**DO NOT insert the guidebar into a slot narrower than the width of the chain.**

Rapid pushback, kickback and/or chain breakage could result.

**DO NOT operate the power cutter without an adequate water supply.**

The integral water supply channels in the guidebar act to cool and lubricate the cutting system as well as to suppress dust and debris generated during cutting. Assure that the water supply is capable of delivering 1.5 bar (20 psi) pressure to the power cutter at a minimum flow rate of 8 lpm (2 gpm).

**Never attempt to cut ductile iron pipe or similar pipe materials with the power cutter unless using PowerGrit® Utility Chain.**

Using concrete cutting chain in these applications can cause the chain to snag abruptly in the cut which may result in chain breakage, pushback and/or kickback.

## LABELS ON YOUR POWER CUTTER

### SAFETY LABELS

#### 8 GPM POWER CUTTER



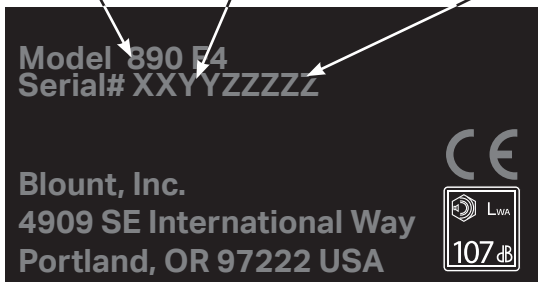
#### 12 GPM POWER CUTTER



### NAMEPLATE LABEL

XX = Year of Manufacture (ie. 15) YY = Month of Manufacture (ie. 07)

ZZZZ = Power cutter number within production batch in sequential order beginning with 00001





**SYMBOLS AND LABELS**

THE FOLLOWING SYMBOLS ARE FOUND THROUGHOUT THIS MANUAL AND/OR ON THE POWER CUTTER AND ARE DESIGNED TO MAKE YOU AWARE OF POTENTIAL HAZARDS OR UNSAFE PRACTICES.

				
<p><b>SAFETY ALERT</b> Indicates that the text that follows explains a danger, warning or caution.</p>	<p><b>READ INSTRUCTIONS</b> The original instruction manual contains important safety and operating information. Read and follow the instructions carefully.</p>	<p><b>WEAR PROTECTION</b> Wear eye, hearing and respiratory protection and a protective helmet when operating the power cutter.</p>	<p><b>BEWARE OF KICKBACK</b> Kickback can cause severe injuries.</p>	<p><b>TWO-HANDED HOLD</b> Operate the power cutter with two hands, securely gripping both handles</p>
				
<p><b>WEAR LONG PANTS</b> Wear long pants when operating the power cutter.</p>	<p><b>WEAR FOOT PROTECTION</b> Wear appropriate closed-toe boots when operating the power cutter.</p>	<p><b>WEAR HAND PROTECTION</b> Wear hand protection when operating the power cutter.</p>	<p><b>ONE-HANDED HOLD</b> Do not operate the power cutter with only one hand.</p>	<p><b>DO NOT USE A LADDER</b> Never stand on a ladder when using the power cutter.</p>
				
<p><b>KERF WIDTH</b> Do not insert tool into slot narrower than chain.</p>	<p><b>FLUIDS UNDER PRESSURE</b> Fluids escaping under pressure can penetrate skin and cause severe personal injury.</p>	<p><b>SOUND POWER</b> Sound power level is 107 dB(A).</p>	<p><b>FIRE DANGER</b> Risk of fire if warnings not followed.</p>	<p><b>SLIPPERY SURFACE</b> Unsure footing can lead to accidents.</p>

## 890F4 NAMES AND TERMS

### Baffle Drain

A device for controlling slurry and cutting debris in the side cover to reduce chain stretch and protect the operator from other projectiles.

### Bar clamp plate

The plate between the guidebar and side cover that clamps the guidebar to prevent movement during operation.

### Bar pad

The mounting pad on the powerhead that helps assure proper alignment of the guidebar.

### Bar slot

The slot feature on the guidebar that fits over the alignment block and bar stud.

### Bystander safety zone

A 6 m (20 ft) circle around the operator that must remain free from bystanders, children and pets.

### CFM

CFM stands for cubic feet per minute. This is the air flow or air volume that a compressor can supply – or its output.

### Chain catcher

A device for retaining the chain if it breaks or derails.

### Chain pitch

The distance between any three consecutive rivets on the chain divided by two.

### Chain tensioning screw

An adjustment screw used to set proper tension on the chain and compensate for chain stretch from normal use.

### Front handle

The support handle located at or toward the front of the power cutter intended to be gripped by the left hand.

### Guidebar

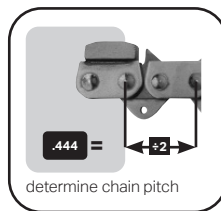
A railed structure that supports and guides the chain. Sometimes simply called the “bar”.

### GPM

GPM means Gallons Per Minute. Also known as “flow rate”, GPM is a measure of how many gallons of **water** flow out of your water hose each minute.

### Kickback

The rapid backward and/or upward motion of the guidebar, occurring when the chain near the top area of the nose of the guidebar contacts a foreign object or snags in the workpiece.



**LPM**

LPM means Liters Per Minute. Also known as “flow rate”, LPM is a measure of how many liters of **water** flow out of your water hose each minute.

**Mud flap**

A barrier to protect the operator from cutting debris and other projectiles.

**Powerhead**

A power cutter without the chain or guidebar.

**PSI**

PSI means pounds per square inch. It measures how much force is in a certain area – one pound-force applied to one square inch.

**Pushback**

The rapid backward motion of the guidebar, occurring when the chain on the top straight portion of the guidebar contacts a foreign object or snags in the workpiece.

**Rear handle**

The support handle located at or toward the rear of the power cutter intended to be gripped by the right hand.

**Rear hand guard:**

A structural barrier at the bottom right side of the rear handle to protect the operator in case the chain breaks or derails.

**Side cover:**

The component on the powerhead that covers the drive sprocket and directs debris away from the operator during use.

**Side cover nut:**

The component on the side cover that secures the side cover and guidebar.

**Throttle trigger lock-out**

A device that prevents the unintentional operation of the throttle trigger until manually released.

**Throttle trigger**

A mechanism that controls engine RPM.

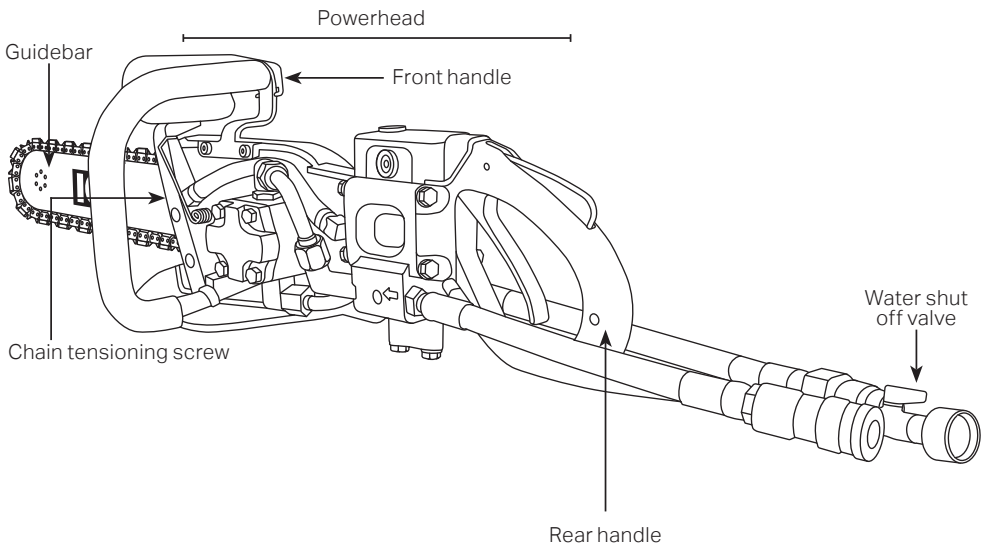
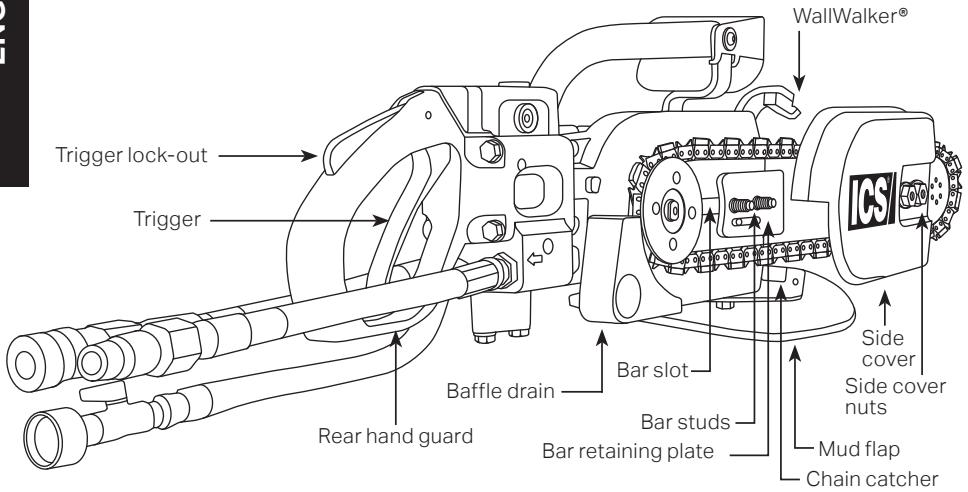
**WallWalker®**

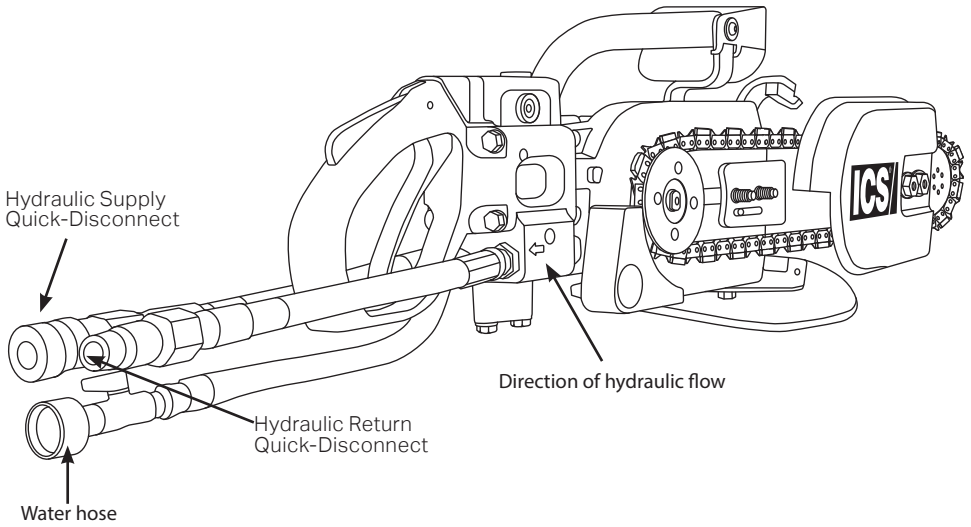
A device used as a fulcrum to provide mechanical advantage during cutting.

**Water shut-off valve**

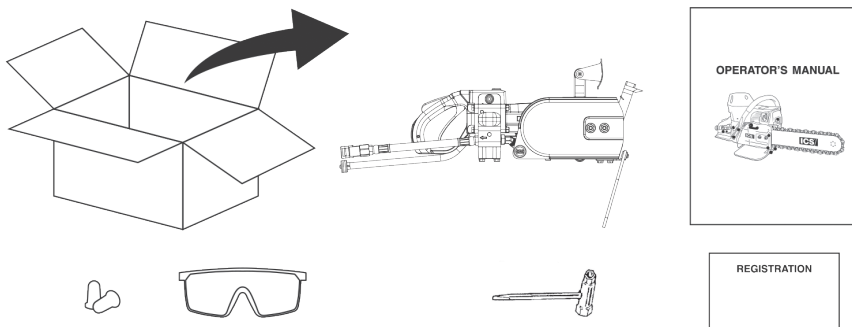
A mechanism that controls water delivery and flow to the guidebar and chain.

# PRODUCT IDENTIFICATION





## BOX CONTENTS



*Minimum contents for all packages shown. Some packages also contain guidebar and diamond chain.*

*See Z 34 for a list of compatible guidebars and diamond chain.*

## GUIDEBAR AND DIAMOND CHAIN INSTALLATION & TENSIONING



Following are the basic instructions for guidebar and diamond chain installation and tensioning.

### **WARNING**

**Never perform any maintenance or adjustments on the power cutter while the hydraulic power source is connected.**

**Improper chain tension can lead to failure of the chain or derailing of the chain off of the guidebar.**

Check tension frequently and adjust if drive links of chain hang 18 mm (3/4 in) or more below the guidebar groove

### **CAUTION**

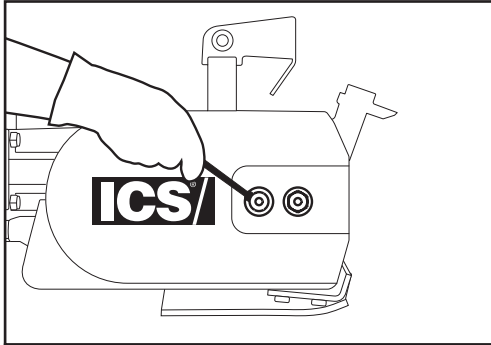
**Always wear gloves when handling the bar and chain.**

These components can develop sharp edges and cause cuts.

## GUIDEBAR AND DIAMOND CHAIN INSTALLATION & TENSIONING

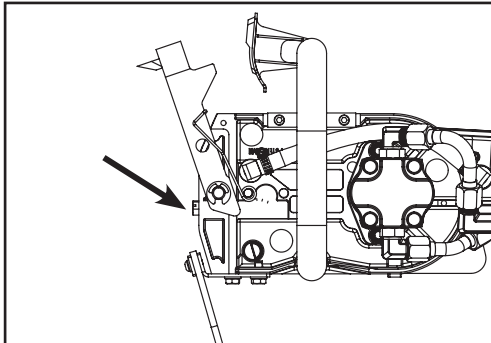
### STEP 1

Disconnect hydraulic power supply.



### STEP 2

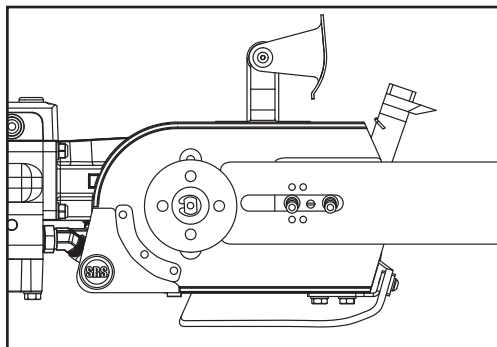
Loosen the side cover nuts and remove the side cover and bar retaining plate.



### STEP 3

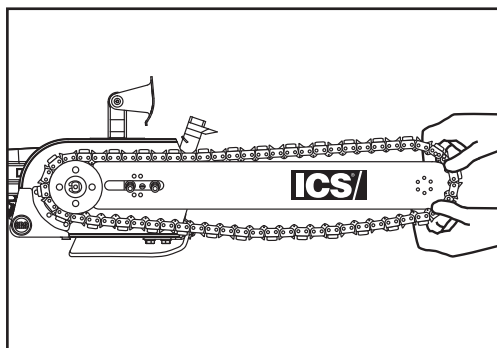
Turn the chain-tensioning screw counterclockwise until the pin comes to a stop.

## GUIDEBAR AND DIAMOND CHAIN INSTALLATION & TENSIONING



### STEP 4

Place the bar onto the studs without engaging tensioner pin. Assure bar is in contact with the drive sprocket.

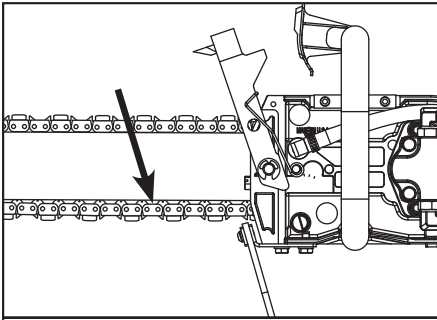


### STEP 5

Install the chain around the drive sprocket and then around the nose sprocket before inserting into the bar groove.

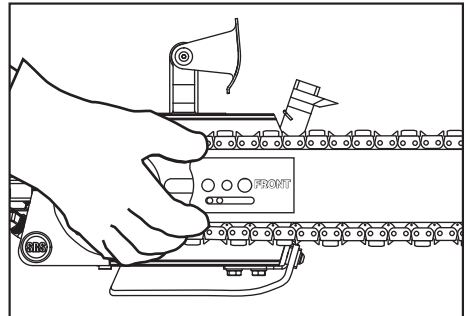


## GUIDEBAR AND DIAMOND CHAIN INSTALLATION & TENSIONING



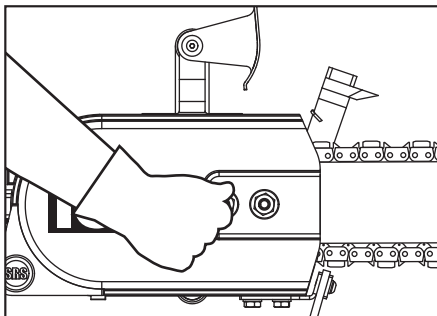
### STEP 6

Engage the tensioner pin into the bar. Make sure all of the drive links are inside the top and bottom bar grooves, then pre-tension the chain.



### STEP 7

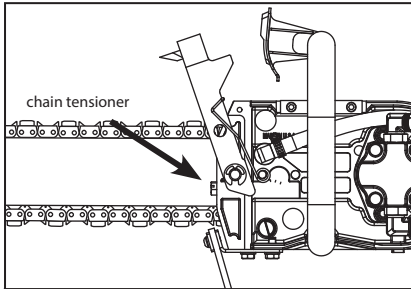
Install the bar retaining plate over the bar studs. Assure plate is properly oriented so "FRONT" is facing outward (as shown).



### STEP 8

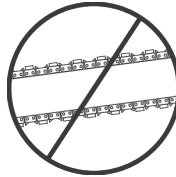
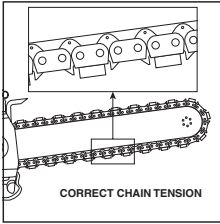
Install the side cover over the bar studs and finger tighten side cover nuts.

## GUIDEBAR AND DIAMOND CHAIN INSTALLATION & TENSIONING

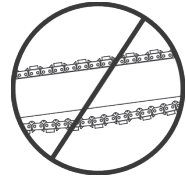


### STEP 9

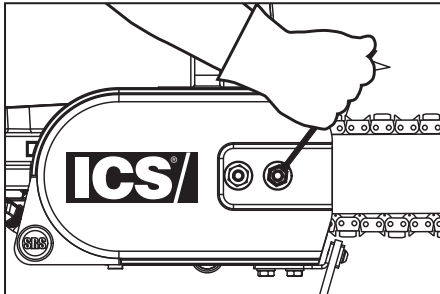
Lift up on the nose of the bar and tension the chain. Do not over tension the diamond chain. Loss of power will result.



CHAIN TOO TIGHT



CHAIN TOO LOOSE



### STEP 9

Continue to lift up on the nose of the bar and firmly tighten the side cover nuts using the screwdriver (approximately 20 -25 ft. lbs (27-33 Nm). Improper torque can cause the bar to slip.



## CHECKING & ADJUSTING CHAIN TENSION

All chains have a tendency to stretch when used. Diamond chains stretch more than wood cutting chains because of the abrasive materials they are cutting.

### WARNING

**Improper chain tension can lead to breakage of the chain or derailing of the chain off of the guidebar.**

Check chain tension frequently and adjust if drive links of chain hang 18 mm (3/4 in) or more below the guidebar.

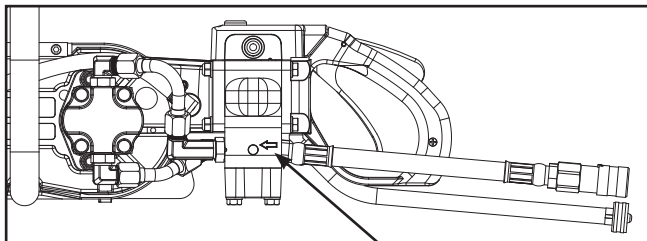
### IMPORTANT

When a chain stretches to a point where the drive links are hanging approximately 12 mm (1/2 in) to 18 mm (3/4 in) below the guidebar groove, it is time to tension the chain.

A tight chain may rob power reducing cutting performance and increasing chain friction, resulting in chain stretch. If the tension is set too loose the chain could be thrown off of the bar or allow the sprocket to turn without turning the chain which will damage the drive links.

## CONNECTING TO HYDRAULIC SUPPLY

Assure hydraulic hoses are connected to power cutter with the proper flow direction. The chain should travel away from the operator on the top of the bar and return on the bottom of the bar. If hydraulic motor does not turn when trigger is depressed, this may be an indication that the hydraulic flow direction is likely reversed. Refer to diagram on page 13 for more details.



hydraulic flow direction

## CONNECT TO WATER SUPPLY

Following are the basic instructions for correct water supply to the power cutter.

### CAUTION

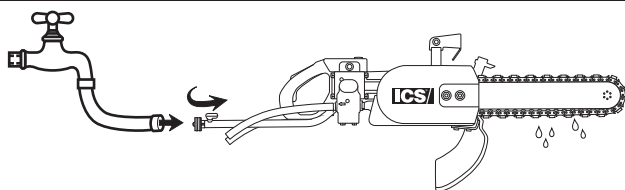
**Insufficient water supply will result in excessive chain stretch and may cause chain breakage, damage to the guidebar, nose sprocket and drive sprocket.**

Never operate the power cutter with insufficient water supply. In all cases, assure that the water supply is delivering 1.5 bar (20 psi) pressure to the power cutter at a minimum flow rate of 4 lpm (1 gpm).

**Inadequate water can result in increased potential for harmful airborne particulates.**

ICS® power cutters require a continuous water supply to the guidebar and chain for the key purposes of cooling, lubrication and dust suppression. The potential for airborne particulates depends on many factors including, but not limited to, the material being cut, application and cutting environment.

*NOTE: Local and/or regional regulation can vary widely. It is the responsibility of the operator to wear appropriate dust protection applicable in their area and suitable to the application.*



Attach to water supply capable of delivering 1.5 bar (20 psi) pressure to the power cutter at a minimum flow rate of 2 gpm/8 lpm. The single most important factor an operator can control to increase chain life is to use adequate water pressure.

## OPERATION

Following are the basic instructions for safe operation of the power cutter.



**Never start the power cutter without the bar, chain and side cover properly assembled.**

Unintentional contact with moving chain or components may occur.

**DO NOT operate the power cutter with loose, missing, damaged or improperly installed or repaired parts.**

Check that the components shown below are intact, undamaged, and installed correctly:

- Side cover nuts torqued down properly. Loose or improperly torqued side cover nuts can lead to chain tensioner breakage
- Side cover not damaged and baffle drain not plugged
- Handles not loose, gripping areas are clean and undamaged
- Mud flap is not ripped, torn or missing and is fully attached to the power cutter
- Guidebar not bent or otherwise damaged such as rails dished and uneven
- Nose sprocket not excessively worn or broken, and turns freely
- Diamond chain does not have loose rivets, chassis or drive link damage or missing diamond segments
- Chain tensioner mechanism functions properly and pin is not bent or broken
- Drive sprocket not excessively worn
- Check alignment of drive sprocket and guidebar
- Assure proper chain tension: The chain should be easily pulled around the guidebar by hand
- Assure all safety devices are properly mounted and functional and that all controls are in proper working order
- Adequate water supply and pressure  
Minimum flow: 2 gpm (8 lpm)  
Minimum water pressure: 20 psi (1.5 bar)
- Proper hydraulic supply to the power cutter:  
Maximum flow: 8 gpm (30 lpm) or 12 gpm (45 lpm), depending on power cutter model  
Maximum hydraulic pressure: 2,500 psi (172.5 bar)

## PRE-OPERATION SAFETY CHECKS

- Assure proper chain tension: The chain should be easily pulled around the guidebar by hand.
- Assure all safety devices are properly mounted and functional and that all controls are in proper working order.
- Be sure there are no obstructions (plumbing, electrical conduit, air ducts, etc.) and no unnecessary people present
- Always wear protective clothing, including hard hat, eye protection, hearing protection, non-slip safety boots, gloves. Avoid wearing loose fitting clothing.
- Adequate water supply and pressure  
Minimum flow: 2 gpm (8 lpm)  
Minimum water pressure: 20 psi (1.5 bar)
- Proper hydraulic supply to the power cutter:  
Maximum flow: 8 gpm (30 lpm) or 12 gpm (45 lpm),  
depending on power cutter model  
Maximum hydraulic pressure: 2,500 psi (172.5 bar)

## IMPORTANT

The single most important factor an operator can control to increase chain life is to use adequate water pressure. Insufficient water supply may result in excessive wear to the chain, which can lead to loss of strength and chain breakage, and/or damage to the guidebar nose sprocket.

**PRECUT CHECKLIST****WARNING**

**Be sure that no part of the cutting system is contacting a solid object when starting the power cutter.**

The power cutter may react unexpectedly if the chain contacts a solid object.

**WARNING**

**Sudden contact of the guidebar nose with a foreign object may generate kickback.**

Remove and/or avoid any obstructions (plumbing, water supply hoses, electrical conduit, air ducts, etc.) that may interfere with the cut.

**To avoid electrocution, check for live electrical wires.**

Wires may be hidden within or behind walls and/or laying around the workspace. Assure that any ancillary electrical equipment (fans, pumps, vacuums, etc.) are properly grounded and certified for use in the intended environment.

**Always operate the power cutter with solid footing and both hands on the power cutter.**

Keep your left hand on the front handle and your right hand on the rear handle. Wrap your thumbs around the handles to assure you maintain a secure grip on both handles.

**Always wear protective clothing.**

At a minimum always wear eye protection and/or face shield, hearing protection, long sleeve shirt, long pants, closed toe shoes with non-slip soles, and gloves. In many work situations, a hard hat, steel toed shoes and a respirator may also be required. Avoid loose fitting clothing. Follow all local regulations regarding PPE.

**Cutting with the power cutter may generate sparks, especially when cutting through metal (such as rebar), and may start a fire in combustible materials such as dry grass, wood and fuel.**

Be sure to use adequate water pressure and have fire fighting equipment readily available.

## CUTTING WITH THE POWER CUTTER



### **WARNING**

**DO NOT** insert the guidebar into a slot narrower than the width of the chain. Rapid pushback, kickback and/or chain breakage could result.

**Be sure cut concrete cannot fall and injure the operator or bystanders.**

Assure cut piece is controlled and does not fall unexpectedly.

*NOTE: Concrete is very heavy; one cubic foot = 30 cm x 30 cm x 30 cm = 68 kg (12 in x 12 in x 12 in = 150 lbs).*

### **CAUTION**

**Slippery or unstable surfaces such as ladders may cause a loss of balance or control of the power cutter.**

Always keep proper footing and operate the power cutter only when standing on fixed, secure and level surface.

**Unexpected loss of control of the power cutter and loss of balance can result in injury.**

Do not overreach and do not cut above shoulder height.

**Do not allow workpiece to pinch the guidebar and chain, or rapid pushback could result.**

Always cut bottom of opening first and assure workpiece is secure and does not shift during cutting operations.

**Do not operate power cutter upside down.**

Cutting debris can be directed back towards the operator.

**Take special precautions when cutting in horizontal orientation.**

Be aware that debris may be ejected differently than when cutting in a vertical position.

### **IMPORTANT**

**Always operate power cutter at full throttle.**

For best results, always operate the power cutter at full power.





## CUTTING WITH THE POWER CUTTER

To assure the best performance from your ICS power cutter, follow all safety precautions and recommended techniques. Additional helpful information can be obtained at [icsdiamondtools.com](http://icsdiamondtools.com).

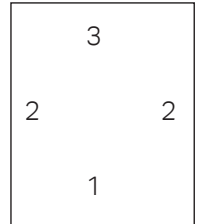
### CONCRETE/MASONRY CUTTING

#### Planning the Cut

1. Select the proper chain type for the material being cut. Refer to the chain selection guide in this manual (page 32).
2. Outline the cut with a permanent marker for a visual cutting guide.



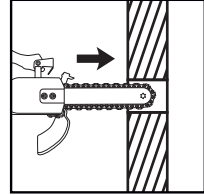
3. Avoid pinching the guidebar and chain by using shims or other anchoring devices to stabilize the workpiece. Always plan to cut the bottom of an opening first, then top or sides. Save the easiest cut for last. (see image at right)
4. Be sure cut concrete cannot fall and injure the operator or bystanders. As the cut is being completed, assure that appropriate bracing is in place to control the cut section of the workpiece. Concrete is very heavy, one cubic foot = 30 cm x 30 cm x 30 cm = 68 kg (12 in x 12 in x 12 in = 150 lbs)



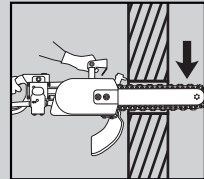
## CONCRETE/MASONRY CUTTING

### Recommended Concrete Cutting Techniques

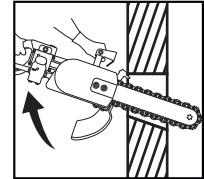
1. Plunge in



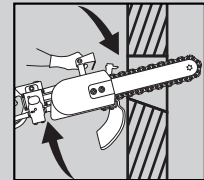
2. Cut down to open slot



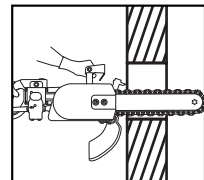
3. Insert WallWalker® rotate rear handle up, to rotate the nose down



4. Rotate rear handle down, to rotate the nose up.



5. Reengage WallWalker® and repeat Steps 3 and 4



## CUTTING TIPS

- For the straightest cuts use the “Step Cut” method:
  - First score the entire cut line approximately a half-inch deep using the nose of the guidebar.
  - Next, deepen the cut by about two inches
  - Then plunge all the way through and complete the cut using the WallWalker® as a pivot point and pull on the rear handle to rotate the bar into the cut.
- When the WallWalker is extended in the mechanical mode, the Wall Walker provides a 4:1 mechanical advantage.
- Always operate the concrete power cutter at full throttle. If too much force is applied, the power cutter will lug or stall. The chain will not have enough speed to cut effectively. If too little feed force is applied, the diamonds will skid and glaze over.
- Plunge cut instead of starting at the top surface of the wall. This will reduce chatter, extend diamond life, create a straighter cut and more quickly enable the use of the WallWalker.
- When cutting heavy rebar, slowly “rock” the power cutter so that you’re always cutting concrete as well as steel. This will help keep the diamonds exposed. Also, expect less chain life when cutting heavy rebar.
- Expect more chain stretch when making nose-buried cuts for extended periods of time, as the chain does not have a chance to “throw” the slurry away from the nose of the guidebar (use step cut method).
- If the power cutter begins to cut consistently crooked, stop the power cutter, remove the bar and chain and turn the bar over and use the other side. Dress worn rails with a belt sander, flat file or bar rail dresser.  
*Note: The normal life of a guidebar is two to three diamond chains (with rotation after every chain). Heavy rebar can shorten guidebar life.*
- The guidebar is solely a guide track for the chain. Never use the guidebar to lift, twist or pry concrete material.
- When using a new chain, you can increase the initial cutting speed by “opening up the diamonds”. This can be accomplished by first making a few cuts in an abrasive material such as a cinder block or brick.

**PIPE CUTTING USING POWERGRIT® UTILITY CHAIN**



To assure the best performance from your ICS® power cutter when cutting ductile iron pipe or similar pipe materials, follow all safety precautions and recommended cutting techniques.

**WARNING**

**Never attempt to cut ductile iron pipe or similar pipe materials with the power cutter unless using PowerGrit® Utility Chain.**

Using concrete diamond chain in these applications can cause the chain to snag abruptly in the cut which may result in chain breakage, pushback and/or kickback.

**Always assure that pipe is properly evacuated before cutting.**

Pipes may contain sewage, gas or other hazardous materials.

**Always support the pipe on both sides of the cut to assure the cut remains open throughout the cutting operation, including when the cut is finished.**

An improperly supported pipe can cause the cut to close, pinching the chain and guidebar which may result in chain breakage, pushback and/or kickback.

**Recommended Pipe Cutting Techniques**

<p>1. Make a small plunge cut into the lower quadrant of the pipe to relieve internal pressure and allow contents to drain from pipe in a controlled manner.</p>	
<p>2. With pipe drained, cut from the top of pipe and continue through bottom of the pipe.</p>	
<p>3. To assure straightness of cut, guidebar should extend completely through the pipe during the cut.</p>	
<p>4. To assist with cutting, engage the WallWalker® in the cut when possible to provide additional leverage and alternate cutting between the near and far side walls of the pipe.</p>	

**MAINTENANCE****IMPORTANT****SYSTEM CLEAN-UP**

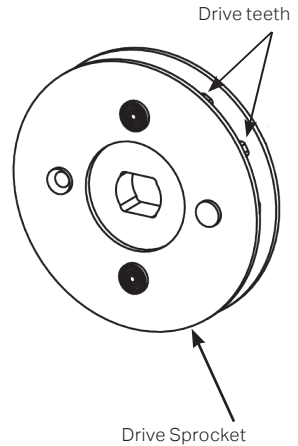
- After cutting, run the power cutter for at least 15 seconds with the water on to flush slurry and debris from diamond chain, guidebar and drive sprocket.
- Wash concrete slurry and debris from power cutter assembly.
- Remove guidebar and chain. Flush out the chain tensioner and side cover with water. Lubricate tensioner with waterproof grease.
- After cleaning the power cutter, spray the entire power cutter body, chain, guidebar, and drive sprocket with lightweight oil. Using lightweight oil on the power cutter will minimize rust and help reduce slurry build up.

**AFTER EACH USE**

- Inspect drive sprocket for wear
- Inspect and tighten all fasteners as necessary.
- Flush and rinse the power cutter, guidebar and chain with water
- Check trigger function assembly
- Check mud flap for tears or damage
- Check guidebar and chain for damage or missing segments
- Check trigger cover bubble levels
- With power cutter disconnected from power source, check hose whips for leaks or damage.
- Inspect drive sprocket for wear.
  - Replace when the drive teeth are worn more than half way through.

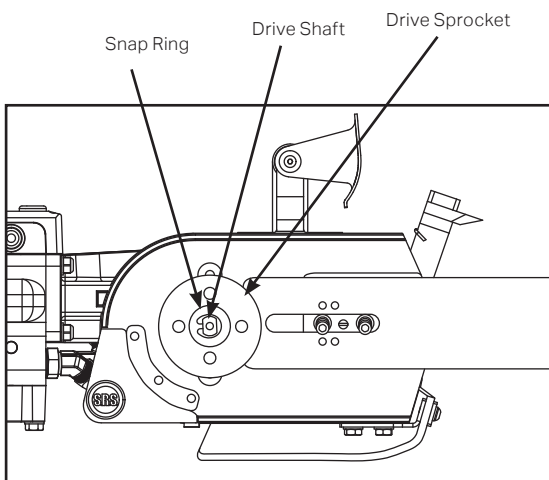
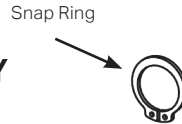
## DRIVE SPROCKET

- The drive sprocket is a wear item and should be replaced every two to three chains, or when the teeth become pointed or if a groove cuts through top of tooth.
- Inspect the sprocket for wear.
- Inspect drive shaft for wear.



## DRIVE SPROCKET ASSEMBLY REMOVAL/INSTALLATION

- Disconnect power cutter from the power source
- Remove the side cover, bar retainer plate, guidebar and diamond chain
- Remove snap ring from shaft
- Slide drive sprocket off shaft
- Slide new sprocket onto shaft
- Replace snap ring onto shaft and assure complete engagement in shaft groove
- Installation of new drive sprocket is complete.
- Reinstall guidebar, diamond chain, bar retainer plate and side cover.
- Assure diamond chain and guidebar are in good, useable condition. Worn or damaged guidebar and chain can damage the new drive sprocket.



**IMPORTANT****CHAINS & GUIDE BARS**

Inspect chain segments and drive links for damage or excessive wear. Chains with damage or excessive wear should not be used or repaired, they should be replaced.

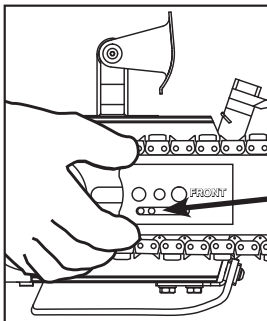
*NOTE: Guidebars are designed to be used on both sides. If the cut is consistently leading to one side, turn the guidebar over. It is recommended to turn the guidebar over with every new chain.*

- A table mounted belt, disc sander, flat file or bar rail dresser can be used to square the rails of a worn guidebar. A badly worn guidebar can quickly damage the chain. If the chain is touching the bottom of the guidebar groove, replace the guidebar.
- Check the guidebar for straightness.
- Proper chain tension will extend guidebar life.
- Under some circumstances, especially low water pressure, the sprocket nose can wear out before the guidebar body. Sprocket nose assemblies may be replaced by an Authorized Service Center.
- Periodically clean the water ports inside the groove of the guidebar using a small diameter piece of wire or pipe cleaner.
- The guidebar is solely a guide track for the chain. Never use the guidebar to lift, twist or pry concrete material.
- Prior to storage, spray the chain and guidebar with lightweight oil.

**CHAIN TENSIONER**

The chain tensioner can become clogged with concrete slurry during cutting.

- After each use thoroughly flush the chain tensioner with water and apply a liberal amount of waterproof grease covering the chain tensioner screw.



Chain Tensioner

## 890F4 CHAIN SELECTION GUIDE &amp; CONSUMABLES

890 F4 Chain Selection Guide					
Chain & Applications	Soft Stone/ Abrasive/Brick	Natural Stone	Medium Concrete/Light Reinforcement	Hard Concrete/ Heavy Reinforcement	Ductile Iron/Cast Iron/PVC/HDPE
FORCE4® <i>General Purpose</i>		♦	♦	♦	
FORCE4® Premium L <i>Longer Cutting Life</i>		♦	♦	♦	
FORCE4® Premium S <i>Faster Cutting Speed</i>			♦	♦	
FORCE4® Abrasive <i>Ideal for brick &amp; block</i>	♦				
PowerGrit® <i>For Utility Pipe</i>					♦

890F4 Consumables				
	10 in (25 cm)	15 in (38 cm)	20 in (50 cm)	25 in (63 cm)
FORCE4® Diamond Chain	p/n 531743	p/n 525342	p/n 531749	p/n 525345
FORCE4® Premium L Diamond Chain	p/n 531745	p/n 525343	p/n 531751	p/n 525346
FORCE4® Premium S Diamond Chain	p/n 531739	p/n 531735	p/n 531741	p/n 531737
FORCE4® Abrasive Diamond Chain	p/n 531747	p/n 525344	p/n 531753	p/n 525347
PowerGrit® Diamond Chain		p/n 537764	p/n 537765	p/n 545017
FORCE4® Guidebar	p/n 529829	p/n 523080	p/n 529767	p/n 525320
Drive Sprocket	565065			



## TROUBLESHOOTING

PROBLEM	Possible Cause
POWER CUTTER WON'T REACH FULL RPM	<p>Low hydraulic oil.</p> <p>Worn hydraulic power cutter motor</p> <p>Worn hydraulic valve assembly.</p> <p>Worn powerpack pump</p>
SLOW CHAIN SPEED	<p>All of the above, plus chain tension too tight. Chain should always be able to be pulled around the guidebar by hand. It is normal for the drive links of the chain to hang below the guidebar. See pages 15-19 for chain tensioning instructions.</p>
POOR CUTTING SPEED	<p>All of the above, plus diamonds may be glazed over. Make a few cuts in an abrasive material to expose the diamonds.</p> <p>Chain or diamonds may be worn out.</p> <p>Worn drive sprocket.</p>
PREMATURE CHAIN STRETCH	<p>Initial chain tension too tight.</p> <p>Bar nose buried in cut.</p> <p>Not enough water pressure. The minimum water pressure required is 1.5 bar (20 psi).</p> <p>Chain comes in contact with ground, dirt, gravel and/or sand.</p>
CHAIN TENSIONER BREAKAGE	<p>Side cover nuts are not tight enough. Torque to 27-33 Nm (20 -25 ft-lbs).</p> <p>Tensioning with side cover nuts already tight.</p> <p>Tensioner pin not aligned and side cover tightened.</p>
WATER NOT FLOWING	<p>Water hose is kinked or water supply not turned on.</p> <p>Water ports plugged with debris.</p> <p>Damaged or worn water valve in power cutter.</p>
MOTOR DOES NOT TURN	<p>Hydraulic lines connected backwards or power pack is set to reverse.</p> <p>Chain tension is too tight.</p>
CHAIN BREAKAGE	<p>Improper chain tension.</p> <p>Insufficient water pressure.</p> <p>Inserting power cutter into slot narrower than diamond chain segments.</p> <p>Using chain that is already stretched beyond ability to tension.</p> <p>Contact with exposed rebar or steel.</p>

TECHNICAL SPECIFICATIONS

	890 Series 8 gpm (30 lpm)	890 Series 12 gpm (45 lpm)
Weight w/out bar and chain (1' hose whips)	23.5 lbs (10.6 kg)	
Length	23 inches (58.5 cm)	
Height	10.5 inches (26.5 cm)	
Width	9.5 inches (24 cm)	
Hydraulic Supply	8 gpm (30 lpm) @ 2,500 psi (172.5 bar)	12 gpm (45 lpm) @ 2,500 psi (172.5 bar)
Hydraulic Fluid Requirements (Type)	PC HYDREX MV32 or equivalent	
Water Pressure	Minimum: 20 psi (1.4 bar)	
Water Flow	2 gpm (8 lpm) minimum	
Operating Speed	6,100 rpm (avg. free running) 5,500 sfm (avg. free running chain)	6,500 rpm (avg. free running) 5,800 sfm (avg. free running chain)
Torque(1)	7.0 ft-lbs (9.6 Nm)	10.0 ft-lbs (13.5 Nm)
Horsepower (1)	6 hp (4.5 kW)	8 hp (6.0 kW)
Guaranteed Sound Power Level $L_{wa}$ (2)	107 dB(A) (K=0.2 dB(A))	
Equivalent Sound Pressure at the Operator's Ear $L_{pA}$ (2)	98 dB(A) (K=0.7 dB(A))	
Vibration $a_{hv,eq}$ Concrete Cutting (3)	2.0 m/s <sup>2</sup> (K=0.1 m/s <sup>2</sup> ) Front Handle 6.0 m/s <sup>2</sup> (K=1.4 m/s <sup>2</sup> ) Rear Handle	
Vibration $a_{hv,eq}$ PowerGrit Cutting (3)	4.6 m/s <sup>2</sup> (K=0.1 m/s <sup>2</sup> ) Front Handle 4.8 m/s <sup>2</sup> (K=0.3 m/s <sup>2</sup> ) Rear Handle	

(1) Measured using 18HP hydraulic power pack (8 gpm/30 lpm) and 23HP hydraulic power pack (12 gpm/45 lpm) at 2000psi/138 bar.

(2) Measured in accordance with ISO3744:2010

(3) Measured in accordance with ISO5349-1:2001

## AUTHORIZED SERVICE CENTERS

DEALER	PHONE	ADDRESS	CITY	STATE	POSTAL CODE
KENNEDY EQUIPMENT CO INC	714.771.7324	748 N. LEMON ST	ORANGE	CA	92867
ABLE TOOL EQUIPMENT	860.289.2020	410 BURNHAM STREET	SOUTH WINDSOR	CT	06074
EQUIPSERV LLC	770.709.5101	6225 MABELTON PARKWAY SW	MABLETON	GA	30126
STAR EQUIPMENT	515.283.2215	1401 2nd AVE	DES MOINES	IA	50314
MCCANN INDUSTRIES, INC.	630.627.8700	543 SOUTH ROHLWING RD	ADDISON	IL	60101
CLEAN RITE TECH	504.468.7997	1332 FULTON ST	KENNER	LA	70062
ACE CUTTING EQUIPMENT	248.449.4944	25806 NOVI RD.	NOVI	MI	48375
CONCRETE CUTTING & CORING	952.882.0980	12690 CREEK VIEW AVE	SAVAGE	MN	55378
ACME ELECTRIC	218.628.3523	4332 GRAND AVE	DULUTH	MN	55807
MERLIN STELZER SALES CO., INC.	314.535.7540	4109 PAPIN ST	ST. LOUIS	MO	63110
ACME ELECTRIC	701.258.1267	3840 E. ROSSER AVE	BISMARCK	ND	58501
ACME ELECTRIC	701.746.6481	1705 12TH AVE NORTH	GRAND FORKS	ND	58203
ACME ELECTRIC	701.476.4600	920 36TH STREET S.W.	FARGO	ND	58103
ACME ELECTRIC	701.839.2263	700 20TH AVE S.E.	MINOT	ND	58701
ADMAR SUPPLY	585.272.9390	1950 BRIGHTON-HENRIETTA TL RD	ROCHESTER	NY	14623
ADMAR SUPPLY	315.433.5000	6014 DROTT DR	EAST SYRACUSE	NY	13057
ADMAR SUPPLY	518.690.0750	878 ALBANY SHAKER RD	LATHAM	NY	12110
ADMAR SUPPLY	607.754.4700	2305 OLD VESTAL RD	VESTAL	NY	13850
ADMAR SUPPLY	716.873.8000	1394 MILITARY RD	BUFFALO	NY	14217
CESSCO, INC.	503.288.1242	4222 N.E. COLUMBIA BLVD.	PORTLAND	OR	97218
TRI-BORO CONST. SUPPLIES	800.632.9018	435 LOCUST ST	DALLASTOWN	PA	17313
LEHIGH CONSTRUCTION SUPPLY CO.	570.654.3981	295 SCHOOLEY AVE	EXETER	PA	18643
DRIVEKORE, INC.	717.766.7636	101 WESLEY DRIVE	MECHANICSBURG	PA	17055
ECKHART CONSTRUCTION	803.802.6635	1019 SOCIETY LANE	FORT MILL	SC	29707
STAN HOUSTON EQUIPMENT	605.336.3727	501 SOUTH MARION ROAD	SIOUX FALLS	SD	57106
STAN HOUSTON EQUIPMENT	605.348.1155	1210 DEADWOOD AVENUE	RAPID CITY	SD	57702
LINCOLN CONTRACTORS SUPPLY	414.541.1327	11111 WEST HAYES AVE	MILWAUKEE	WI	53227
LINCOLN CONTRACTORS SUPPLY	608.249.6476	901 WALSH RD	MADISON	WI	53714
LINCOLN CONTRACTORS SUPPLY	715.359.6111	5207 WESTFAIR AVE	SCHOFIELD	WI	54476
LINCOLN CONTRACTORS SUPPLY	920.757.1901	5663 NUBERT RD	APPLETON	WI	54913
LINCOLN CONTRACTORS SUPPLY	920.432.8697	1654 MORROW ST	GREEN BAY	WI	54302
LINCOLN CONTRACTORS SUPPLY	715.874.4100	7840 PARTRIDGE AVE	EAU CLAIRE	WI	54703
LEE JENSEN SALES CO, INC	815 459-0929	101 WEST TERRA COTTA	CRYSTAL LAKE	IL	60014
ROCK-CRETE EQUIPMENT LTD.	604 464-1448	50 BURBIDGE STREET	COQUITLAM	BC	V3K 6B1
CONCUT DIAMOND PRODUCTS	561-989-8895	6500 W ROGERS CIRCLE SUITE 6000	BOCA RATON	FL	33487
AUSTECH SUPPLIES PTY LTD	61298541200	UNIT 12, 197 POWER STREET	GLENDENNING	NSW	2761
HATCH BUILDING SUPPLY COMPANY	608 222-0011	5601 MANUFACTURERS DRIVE	MADISON	WI	53704
AMERICAN TOOL AND FASTENER	972-801-9909	1331 E PLANO PKWY STE #B	PLANO	TX	75074
HENARD UTILITY PRODUCTS, INC	501 268-1987	1920 S. MAIN STREET	SEARCY	AR	72143

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