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

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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:

<table>
<thead>
<tr>
<th>Brand</th>
<th>ICS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Product Type</td>
<td>Hydraulic Cut-off machine equipped with diamond saw chain</td>
</tr>
<tr>
<td>Model</td>
<td>890F4, 890F4-FL</td>
</tr>
</tbody>
</table>

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

TECHNICAL DOCUMENTATION FILE, LOCATION AND CONTACT:

Blount International, Inc.
4909 SE International Way
Portland, Oregon 97222, USA

For product compliance inquiries, send request to productcompliance@blount.com

Authorized Representative: Christopher Seward PE

Authorized Signature: Director: Product Safety & Compliance

Place Issued: Portland, Oregon USA

Date Originally Issued: 26 November, 2013

Date Revised: 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 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

⚠️ WARNING

• Do not exceed 8 GPM (30 LPM) hydraulic flow or 2500 psi (172.5 bar) hydraulic pressure
• Do NOT insert tool into slot narrower than chain.
• Do NOT run the power cutter backwards. The chain should travel away from the operator on the top of the bar and return on the bottom of the bar.
• Do NOT operate tool without solid footing and firm hand grip.
• Failure to observe these precautions can result in serious injury. Fluids escaping under pressure can penetrate the skin.

12 GPM POWER CUTTER

⚠️ WARNING

• Do not exceed 12 GPM (45 LPM) hydraulic flow or 2500 psi (172.5 bar) hydraulic pressure
• Do NOT insert tool into slot narrower than chain.
• Do NOT run the power cutter backwards. The chain should travel away from the operator on the top of the bar and return on the bottom of the bar.
• Do NOT operate tool without solid footing and firm hand grip.
• Failure to observe these precautions can result in serious injury. Fluids escaping under pressure can penetrate the skin.

⚠️ WARNING

• Do NOT operate power cutter without side cover.
• Do NOT operate power cutter without baffle drain.
• Do NOT use this power cutter cover on any other power cutter model.
• Failure to observe these precautions can result in serious injury.

NAMEPLATE LABEL

XX = Year of Manufacture (ie. 15) YY = Month of Manufacture (ie. 07) ZZZZ = Saw number within production batch in sequential order beginning with 00001

Model 890 F4
Serial# XXYYZZZZZ

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# 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.

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

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

Bar slot
The slot feature on the guidebar that fits over the bar studs.

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

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”.

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.

Mud flap
A barrier to deflect slurry, cutting debris and other projectiles from operator.
ICS890 NAMES AND TERMS

Powerhead
A power cutter without the chain or guidebar.

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 of the rear handle to protect the operator in case the chain breaks or derails. Does not meet ISO 14982 Requirements.

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

Side cover nuts:
The components on the side cover that secure the side cover, bar retaining plate and guidebar.

Trigger lock-out
A device that prevents the unintentional operation of the throttle trigger until manually released.

Trigger
A mechanism that controls motor operation.

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

- Chain tensioning screw
- Front handle
- Rear handle
- Water shut off valve
- Guidebar
- Powerhead
- Trigger
- Trigger lock-out
- Rear hand guard
- Bar slot
- Bar studs
- Bar retaining plate
- Mud flap
- Chain catcher
- WallWalker®
- Side cover
- Side cover nuts
- Baffle drain
- Product Identification
Product Identification

- Hydraulic Supply Quick-Disconnect
- Hydraulic Return Quick-Disconnect
- Direction of hydraulic flow
- Water hose
 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.
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.
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.
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.

**CORRECT CHAIN TENSION**

**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 scrench (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.
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 (1gpm).

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.

⚠️ WARNING

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.
**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.

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.

WARNING

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.
PIE 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**

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.

2. With pipe drained, cut from the top of pipe and continue through bottom of the pipe.

3. To assure straightness of cut, guidebar should extend completely through the pipe during the cut.

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.
MAINTENANCE

**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**

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 dressercan 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.
## 890F4 CHAIN SELECTION GUIDE & CONSUMABLES

### 890 F4 Chain Selection Guide

<table>
<thead>
<tr>
<th>Chain &amp; Applications</th>
<th>Soft Stone/ Abrasive/Brick</th>
<th>Natural Stone</th>
<th>Medium Concrete/Light Reinforcement</th>
<th>Hard Concrete/ Heavy Reinforcement</th>
<th>Ductile Iron/Cast Iron/PVC/HDPE</th>
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<tbody>
<tr>
<td><strong>FORCE4® General Purpose</strong></td>
<td>◊</td>
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<td><strong>FORCE4® Premium L Longer Cutting Life</strong></td>
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<td><strong>FORCE4® Premium S Faster Cutting Speed</strong></td>
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<tr>
<td><strong>FORCE4® Abrasive Ideal for brick &amp; block</strong></td>
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<tr>
<td><strong>PowerGrit® For Utility Pipe</strong></td>
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</table>

### 890F4 Consumables

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

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

<table>
<thead>
<tr>
<th></th>
<th>890 Series 8 gpm (30 lpm)</th>
<th>890 Series 12 gpm (45 lpm)</th>
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<tbody>
<tr>
<td>Weight w/out bar and chain (1’ hose whips)</td>
<td>23.5 lbs (10.6 kg)</td>
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</tr>
<tr>
<td>Length</td>
<td>23 inches (58.5 cm)</td>
<td></td>
</tr>
<tr>
<td>Height</td>
<td>10.5 inches (26.5 cm)</td>
<td></td>
</tr>
<tr>
<td>Width</td>
<td>9.5 inches (24 cm)</td>
<td></td>
</tr>
<tr>
<td>Hydraulic Supply</td>
<td>8 gpm (30 lpm) @ 2,500 psi (172.5 bar)</td>
<td>12 gpm (45 lpm) @ 2,500 psi (172.5 bar)</td>
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<tr>
<td>Hydraulic Fluid</td>
<td>PC HYDREX MV32 or equivalent</td>
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<tr>
<td>Water Pressure</td>
<td>Minimum: 20 psi (1.4 bar)</td>
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<tr>
<td>Water Flow</td>
<td>2 gpm (8 lpm) minimum</td>
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</tr>
<tr>
<td>Operating Speed</td>
<td>6,100 rpm (avg. free running) 5,500 sfm (avg. free running chain)</td>
<td>6,500 rpm (avg. free running) 5,800 sfm (avg. free running chain)</td>
</tr>
<tr>
<td>Torque (1)</td>
<td>7.0 ft-lbs (9.6 Nm)</td>
<td>10.0 ft-lbs (13.5 Nm)</td>
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<tr>
<td>Horsepower (1)</td>
<td>6 hp (4.5 kW)</td>
<td>8 hp (6.0 kW)</td>
</tr>
<tr>
<td>Guaranteed Sound Power Level $L_{107}$ (2)</td>
<td>107 dB(A) (K=0.2 dB(A))</td>
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<tr>
<td>Equivalent Sound Pressure at the Operator’s Ear $L_{98}$ (2)</td>
<td>98 dB(A) (K=0.7 dB(A))</td>
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<td>Vibration $a_{h_{v, eq}}$ Concrete Cutting (3)</td>
<td>2.0 m/s² (K=0.1 m/s²) Front Handle 6.0 m/s² (K=1.4 m/s²) Rear Handle</td>
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<tr>
<td>Vibration $a_{h_{v, eq}}$ PowerGrit Cutting (3)</td>
<td>4.6 m/s² (K=0.1 m/s²) Front Handle 4.8 m/s² (K=0.3 m/s²) Rear Handle</td>
<td></td>
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</tbody>
</table>

(1) Measured using 18HP hydraulic power pack (8 gpm/30 lpm) and 23HP hydraulic power pack (12 gpm/45 lpm) at 2000 psi/138 bar.
(2) Measured in accordance with ISO3744:2010
(3) Measured in accordance with ISO5349-1:2001
## AUTHORIZED SERVICE CENTERS

<table>
<thead>
<tr>
<th>DEALER</th>
<th>PHONE</th>
<th>ADDRESS</th>
<th>CITY</th>
<th>STATE</th>
<th>POSTAL CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>KENNEDY EQUIPMENT CO INC</td>
<td>714.771.7324</td>
<td>748 N. LEMON ST</td>
<td>ORANGE</td>
<td>CA</td>
<td>92867</td>
</tr>
<tr>
<td>ABLE TOOL EQUIPMENT</td>
<td>860.289.2020</td>
<td>410 BURNHAM STREET</td>
<td>SOUTH WINDSOR</td>
<td>CT</td>
<td>06074</td>
</tr>
<tr>
<td>EQUIPSERV LLC</td>
<td>770.709.5101</td>
<td>6225 MABELTON PARKWAY SW</td>
<td>MABELTON</td>
<td>GA</td>
<td>30126</td>
</tr>
<tr>
<td>STAR EQUIPMENT</td>
<td>515.283.2215</td>
<td>1401 2nd AVE</td>
<td>DES MOINES</td>
<td>IA</td>
<td>50314</td>
</tr>
<tr>
<td>MCCANN INDUSTRIES, INC.</td>
<td>630.627.8700</td>
<td>543 SOUTH ROHLWING RD</td>
<td>ADDISON</td>
<td>IL</td>
<td>60101</td>
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<tr>
<td>CLEAN RITE TECH</td>
<td>504.468.7997</td>
<td>1332 FULTON ST</td>
<td>KENNER</td>
<td>LA</td>
<td>70062</td>
</tr>
<tr>
<td>ACE CUTTING EQUIPMENT</td>
<td>248.449.4944</td>
<td>25806 NOVI RD.</td>
<td>NOVI</td>
<td>MI</td>
<td>48375</td>
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<tr>
<td>CONCRETE CUTTING &amp; CORING</td>
<td>952.882.0980</td>
<td>12690 CREEK VIEW AVE</td>
<td>SAVAGE</td>
<td>MN</td>
<td>55378</td>
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<tr>
<td>ACME ELECTRIC</td>
<td>218.628.3523</td>
<td>4332 GRAND AVE</td>
<td>DULUTH</td>
<td>MN</td>
<td>55807</td>
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<tr>
<td>MERLIN STELZER SALES CO, INC.</td>
<td>314.535.7540</td>
<td>4109 PAPIN ST</td>
<td>ST. LOUIS</td>
<td>MO</td>
<td>63110</td>
</tr>
<tr>
<td>ACME ELECTRIC</td>
<td>701.258.1267</td>
<td>3840 E. ROSSER AVE</td>
<td>BISMARCK</td>
<td>ND</td>
<td>58501</td>
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<tr>
<td>ACME ELECTRIC</td>
<td>701.746.6481</td>
<td>1705 12TH AVE NORTH</td>
<td>GRAND FORKS</td>
<td>ND</td>
<td>58203</td>
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<tr>
<td>ACME ELECTRIC</td>
<td>701.476.4600</td>
<td>920 36TH STREET S.W.</td>
<td>FARGO</td>
<td>ND</td>
<td>58103</td>
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<tr>
<td>ACME ELECTRIC</td>
<td>701.839.2263</td>
<td>700 20TH AVE S.E.</td>
<td>MINOT</td>
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<tr>
<td>ADMAR SUPPLY</td>
<td>585.272.9390</td>
<td>1950 BRIGHTON-HENRIETTA TL RD</td>
<td>ROCHESTER</td>
<td>NY</td>
<td>14623</td>
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<tr>
<td>ADMAR SUPPLY</td>
<td>315.433.5000</td>
<td>6014 DROTT DR</td>
<td>EAST SYRACUSE</td>
<td>NY</td>
<td>13057</td>
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<tr>
<td>ADMAR SUPPLY</td>
<td>518.690.0750</td>
<td>878 ALBANY SHAKER RD</td>
<td>LATHAM</td>
<td>NY</td>
<td>12110</td>
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<tr>
<td>ADMAR SUPPLY</td>
<td>607.754.4700</td>
<td>2305 OLD VESTAL RD</td>
<td>VESTAL</td>
<td>NY</td>
<td>13850</td>
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<tr>
<td>ADMAR SUPPLY</td>
<td>716.873.8000</td>
<td>1394 MILITARY RD</td>
<td>BUFFALO</td>
<td>NY</td>
<td>14217</td>
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<tr>
<td>CESSCO, INC.</td>
<td>503.288.1242</td>
<td>4222 N.E. COLUMBIA BLVD.</td>
<td>PORTLAND</td>
<td>OR</td>
<td>97218</td>
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<tr>
<td>TRI-BORO CONST. SUPPLIES</td>
<td>800.632.9018</td>
<td>435 LOCUST ST</td>
<td>DALLASTOWN</td>
<td>PA</td>
<td>17313</td>
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<tr>
<td>LEE HIGH CONSTRUCTION SUPPLIES CO</td>
<td>570.654.3981</td>
<td>295 Schooley Ave</td>
<td>EXETER</td>
<td>PA</td>
<td>18643</td>
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<tr>
<td>DRIVEKORE, INC.</td>
<td>717.766.7636</td>
<td>101 WESLEY DRIVE</td>
<td>MECHANICSBURG</td>
<td>PA</td>
<td>17055</td>
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<tr>
<td>ECKHART CONSTRUCTION</td>
<td>803.802.6635</td>
<td>1019 SOCIETY LANE</td>
<td>FORT MILL</td>
<td>SC</td>
<td>29707</td>
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<tr>
<td>STAN HOUSTON EQUIPMENT</td>
<td>605.336.3727</td>
<td>501 SOUTH MARION ROAD</td>
<td>SIOUX FALLS</td>
<td>SD</td>
<td>57106</td>
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<tr>
<td>STAN HOUSTON EQUIPMENT</td>
<td>605.348.1155</td>
<td>1210 DEADWOOD AVENUE</td>
<td>RAPID CITY</td>
<td>SD</td>
<td>57702</td>
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<td>LINCOLN CONTRACTORS SUPPLY</td>
<td>414.541.1327</td>
<td>11111 WEST HAYES AVE</td>
<td>MILWAUKEE</td>
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<td>LINCOLN CONTRACTORS SUPPLY</td>
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<td>901 WALSH RD</td>
<td>MADISON</td>
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<td>LINCOLN CONTRACTORS SUPPLY</td>
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<td>SCHOFIELD</td>
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<td>LINCOLN CONTRACTORS SUPPLY</td>
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<td>APPLETON</td>
<td>WI</td>
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<td>LINCOLN CONTRACTORS SUPPLY</td>
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<td>LEE JENSEN SALES CO, INC.</td>
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<td>CRYSTAL LAKE</td>
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<td>604.464-1448</td>
<td>50 BURBIDGE STREET</td>
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<td>BC</td>
<td>V3K 6B1</td>
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<td>CONCUT DIAMOND PRODUCTS</td>
<td>561-989-8895</td>
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<td>BOCA RATON</td>
<td>FL</td>
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<td>AUSTECH SUPPLIES PTY LTD</td>
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<td>NSW</td>
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<td>HATCH BUILDING SUPPLY COMPANY</td>
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<td>5601 MANUFACTURERS DRIVE</td>
<td>MADISON</td>
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<td>AMERICAN TOOL AND FASTENER</td>
<td>972-801-9909</td>
<td>1331 E PLANO PKWY STE #B</td>
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<td>TX</td>
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<tr>
<td>HENARD UTILITY PRODUCTS, INC</td>
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