



President's Message

**Your Supplier has an obligation to sell you things that work.**

## Saw Tip Quality

If you can't make them work they have an obligation to you to tell you how to use them.

We had an executive shot from a carbide supplier come visit a while back. He said that carbide brazing problems were always the customer's fault. He honestly thought that was true until we showed him several thousand of his tips that didn't work.

If you get tips that don't work we can help you try to fix them (and happy to help you) but we wouldn't do that if we had bought them.

We would return them to the supplier for refund or replacement.

Personally we don't screw around with tips any more. If they work we use them and pay for them. If they don't work then we send them back. We do the same thing on tips we sell as well.

**See "Industry Standard Practices" P.3**



# Carbide Processors, Inc.

Northwest Research Institute, Inc.

**Newsletter January, 2009**

**3847 S. Union Ave. Tacoma, WA. 98409 (800) 346-8274**

sales@carbideprocessors.com [www.carbideprocessors.com](http://www.carbideprocessors.com)

## Do You Want an Edger Saw or an Expensive Edger Saw?

This is Cliff's question. Lately a lot of folks are sure that they want a good edger saw that does the job but they don't want to spend anymore than they have to. Cliff has saved folks some pretty good money several ways.

**Call him at (800) 707-5802**

**Cell (503) 580 -3253**

## We Sell Three Kinds of Plate

### Saw Plate - Standard

We proudly sell Peerless saw plate as our standard plate. Peerless offers saw plate that is very flat. It has a high nickel content which makes it tougher especially in severe side loading. The quality is very high and very consistent. The technical information available from Peerless is unequalled and their customer service is excellent.

### Saw Plate - Super Flat

These are from a smaller plate company that specializes in high performance steel that is super flat. They produce plate that does not require further smithing. This plate is typically only a few dollars more than Peerless.

### Saw Plate - Economy Plate

Typically about 20 to 25% less than Peerless. This plate is typically 42 - 44 Rc and is easier to stress relieve and to flatten. It is a different steel than the other two. We sell a lot of this because of the price and because it works very, very well in many applications.

This gets complicated and we strongly suggest you contact our plate expert, Cliff Gordon

## Great Service on Grinder Parts

Cliff Gordon, from Carbide Processors, went out to repair a Grinder. Cliff decided to get the parts from Burl



Swiger because that was the best price for the customer. It turned out to be one of those jobs, like most of them, where things looked a little different once you got the machine open. There were parts needed that hadn't been anticipated.

Burl did an incredible job. He was right there with answers, knew what the parts were and got them right away. All at good prices.

The customer was really happy. Cliff was so happy that he bought Burl lunch besides giving him several thousand dollars for the parts.

I don't suppose even Burl can work miracles every time but it wouldn't hurt to call him for parts and rebuilt equipment.

**Burl Swiger - Triple S**

**Cell: 503 803-6838**

**Home: 503 648-6297**

**Email [triple-s@comcast.net](mailto:triple-s@comcast.net)**

Grinder parts and service  
Loaner programs for: Cast spindle housings, infeed, spindles, CSA?XL@ and Truesizer parts and Service  
Accu-Lube parts and service, Heavy Duty Weld circuit for Model 85 tipper

### Questions on grinders and grinder repair call:

**Cliff Gordon (800) 707-5802**

**Cell (503) 580 -3253**

**Fax 503 838-0490**

**[cliffjanisg@hotmail.com](mailto:cliffjanisg@hotmail.com)**

## We Are Buying Saw Tips Sell your old inventory

We are buying saw tips for a nickel each. They need to be in good shape, in the original box and at least 100 of them. We might be a little flexible but we want tips someone else can use.

We will buy them for a nickel and resell them to someone else for a dime.

That sounds like a good deal until you see just how many we have on a shelf.

We are doing this because our \$0.10 saw tip sale is popular. Also it is time when you would probably rather have cash than old inventory.

## We Are Buying Scrap Carbide

The prices are getting better. Call Emily for a quote at 800 346-8274

We are a consolidator. We buy small batches and put them together in amounts the big boys will buy.

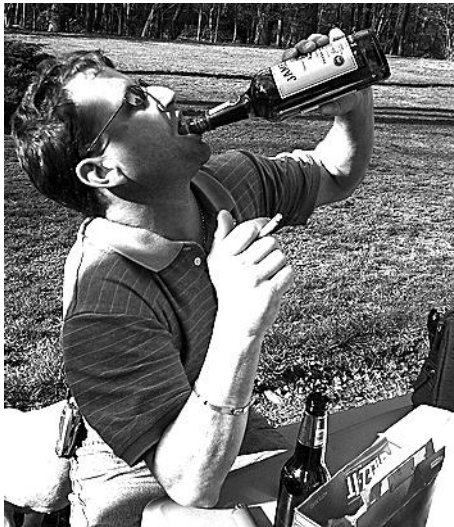
One of the big boys (actually a very nice lady) told me that she didn't have any orders but they had just been sitting for months. They were o.k. financially but it looked bad to the banks. (Banks don't like it when you owe them money and are running off your savings even if you are paying your bills on time. For that matter, business owners don't like it either.)

If you are reading this you probably think of carbide in terms of its use. It is also something that speculators can play with. A lot of wheeler / dealers made big money jacking up the price of scrap. If it makes you feel any better, a lot of those who made your life a little harder with their shenanigans got caught with a huge amount of scrap they can't sell. There are shiploads of steel scrap off shore in China that no body wants. The original buyer reneged on his contract, no one else wants it and the seller sure doesn't want it back in the US.

## Big Arguments in the Saw Filing World

Irish Whisky vs. single malt Scotch

Obviously there are a great many kinds of both. Fortunately there seem to be many filers willing to devote their time and efforts to this project.



I went online to get answers. When I searched for Irish Whisky I found these pictures.



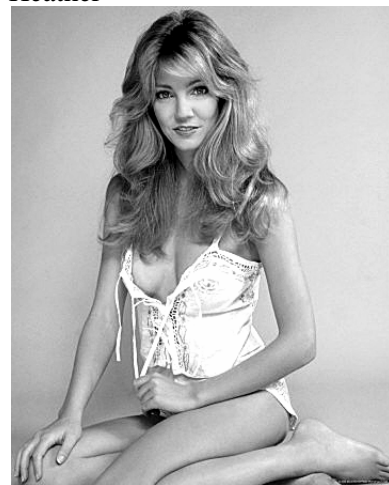
Tania and Nadine do marketing for Hopscotch - Vancouver's Premium Scotch, Whisky and Premium Beer Festival

When I searched for Scotch I found this.



## Controversy # 2

Heather Locklear vs. Kellie Pickler  
Heather



Kellie



I suggest we meet in Vancouver, BC this year for Hopscotch and discuss this. When the girls with cigars start looking like the rest they can pour us in a taxi and send us home.

## Don't You Be the One to Shut It Down

My introduction to manufacturing came when I got a job on the midnight shift at Swanson Foods in Omaha. I got signed in and had the usual orientation about safety and benefits. The real message came when they took me up to the cook ramp. My new boss explained that a couple hundred people worked there and it cost \$1,000 a minute for every minute the line was shut down. Then he looked me straight in the eye and said "Don't you be the one to shut it down." That is actually a pretty good introduction to manufacturing.

## Industry Standard Practices

It has become standard practice with carbide saw tips and other shapes to reject any shipment that doesn't work.

The parts should be clean, chip free, all the same size, they should braze well and the counts should be minus nothing to plus 2.

You may not do it this way and your supplier may tell you that no one does it this way. If that is the case then there is some misunderstanding. It used to be that suppliers sold carbide and you took what you got. If you couldn't make it work that was your fault. Short counts and mixed tips were part of the deal.

This came up because we had someone contact us to help make bad tips work. That hadn't happened in a couple years.

**Saw tips may need to be treated to braze well.** Why and how this is so are subjects for discussion. Personally I think it is oxide and carbon removal. If you sand or grind the top of saw tips they braze well.

If you need more information we have a bunch of it online including our brazing video. We can also sell you a copy of the brazing video for about \$10 as VHS, CD or DVD.

## Show Cancellations

1. We have heard that several filers groups are cancelling their 2009 meetings or trying to.
2. There are notices on the Internet that Stiles Machinery, Biesse and Weinig are cancelling their participation in AWFS in Las Vegas for this next year.
3. Eagle Carbide has announced that is has cancelled.

Of course we quit doing shows about ten years ago. We liked saying hello to old friends but we could never see how we got our dollars back. It is no secret that shows have been declining for years and I think this may be both a good move and possibly a permanent move on the part of some.

### Email disclaimer

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Thank you. Mike Jaksha, Author

## How to Load a Boat onto a Pickup

From Mike West

1. Load up beer, 2-3 ice chests full
2. Relax, have beer.
3. Hook boat trailer up to truck
4. Drink lots of beer
5. Drive real fast
6. Hit light pole (needs to be a solid one)
7. Boat will load itself onto truck.
8. Relax, have another beer.



### Religious tolerance

I was walking across a bridge one day, and I saw a man standing on the edge, about to jump. I ran over and said:

"Stop. Don't do it."

"Why shouldn't I?" he asked.

"Well, there's so much to live for!"

"Like what?"

"Are you religious?"

He said: "Yes."

I said: "Me too. Are you Christian or Buddhist?"

"Christian."

"Me too. Are you Catholic or Protestant?"

"Protestant."

"Me too. Are you Episcopalian or Baptist?"

"Baptist."

"Wow. Me too. Are you Baptist Church of God or Baptist Church of the Lord?"

"Baptist Church of God."

"Me too. Are you original Baptist Church of God, or are you Reformed Baptist Church of God?"

"Reformed Baptist Church of God."

"Me too. Are you Reformed Baptist Church of God, Reformation of 1879, or Reformed Baptist Church of God, Reformation of 1915?"

He said: "Reformed Baptist Church of God, Reformation of 1915."

I said: "Die, heretic scum," and pushed him off.



# Cracked Tips on Finished Saw Blades

(Email from client)

"May we wonder you esteemed company offer analysis for saw tips? Now we have got a problem. One of our clients informed us that our tips cracked after brazing onto the saw blade. But the tips have no quality problem before welding. So is it possible that you kindly help us to figure where the problem lies in. We thank you for your kind support in advance.

Enclosed please kindly find an analysis report for the tips before brazing, we hope that might be of help to your analysis. And below also the brazing skill offered by our client,

Brazing temp. 740 Celsius (1364F)  
Brazing time: 10 seconds.  
Automatic brazing.

Grade of carbide:

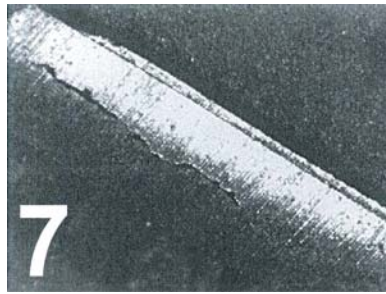
3.2% Co

15.03 g/cc

Hardness 94.5

By means of a metallurgical hardmetal analysis it should be determined if the crack has already been in the raw, unsoldered parts or if they are caused by soldering or grinding.

On the saw blade with flat teeth we have seen eight defect teeth. On all those teeth you can see cracks (picture 1 - 8) but the cracks are only on one side of the hardmetal tooth.



The back side doesn't show any cracks on the determined teeth (picture 9). As the crack propagation is not parallel to the brazing surface the evidence of a brazing stress related failure of the teeth seems to be very low.



Due to the macro structure of the crack it seems more obviously that a pressing problem has created this kind of defects. The saw plate with the negative crown shows a scratch on the tooth surface."

My Comment: Because the cracks are extremely similar in size and shape it is obviously a pressing problem.

Here is what cracks look like when it is a grinding problem. In this case the wheel was dull or clogged, maybe too much force was used. In any case the tooth got way too hot and cracked.

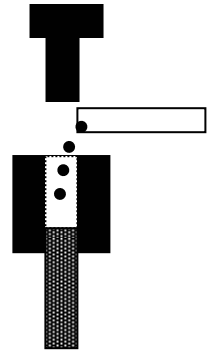


## How Carbide is Pressed

Tungsten carbide shapes are made from a powder which is typically tungsten, carbon, cobalt and wax to bind it all together.

Carbide shapes are made three ways; pressing in a die, "whittling" a shape from a green piece of carbide or grinding a shape from a finished piece of carbide.

This is a carbide press. At top is a ram. The powder is poured into the press cavity (the die) then the ram comes down and compresses the powder. Once the powder is fully pressed the top ram withdraws. There is a second ram at the bottom of the cavity that comes up and pushes the part out of the cavity.



Below are two different dies (seen from the top) to press a diamond shape and a trapezoid respectively. Next to them is a saw tip seen from the side. Saw tips are pressed from the side. This means you can use one die to produce many different widths of the same shape.



The pressed parts are then presintered. In this step the wax is melted out. This leaves a piece of "green carbide" or "green state carbide". Since the wax has been melted out it is just powder pressed together. It is actually weaker than side walk chalk. It can be machined easily in this state although great care is required.

It is at this step that carbide parts get chipped edges. Some parts, such as saw tips, are made in large and very large batches. They are moved by conveyors and often poured into trays for final sintering. If this not done carefully one square edge impinging on



another can cause chipped edges in the carbide parts. By contrast you can use a .410 shotgun to fire fully sintered saw tips at a concrete block wall without damaging the saw tips.

The final step is sintering in which the carbon is forced into a relaxed tungsten matrix creating tungsten carbide grains and those grains are enveloped in a binder or matrix of cobalt of similar.

During the final sintering the parts shrink dramatically. Exactly how much shrinkage will occur is difficult to predict exactly. Parts are usually designed to be produced a bit oversize.

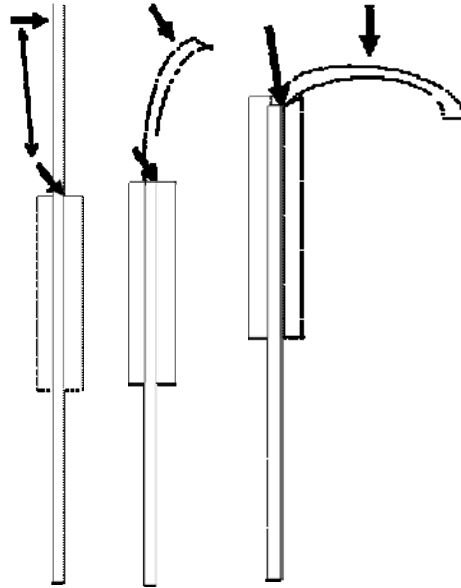
### Various Pressing Defects



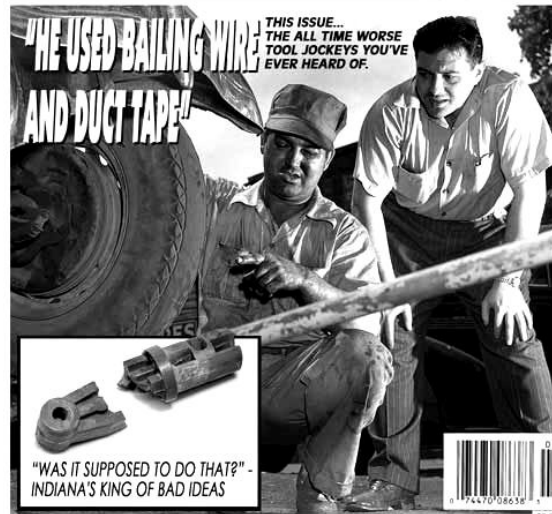
### Hard and Soft Saw Collars and Plate Layover

Soft saw collars are cheaper. However soft collars pit, scratch and bend.

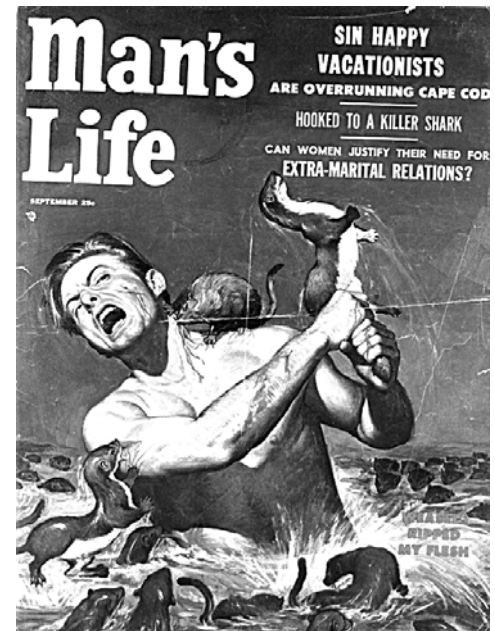
If you lay a saw over with a soft collar then you deform the collar. Next time you put a saw on and tighten the collar the saw will bend over. If it doesn't bend over it will be under stress to do so as soon as enough pressure is applied. These drawings will give you an idea.



We sell hard collars



THE LEGEND OF CRANKY GEORGE MAGEE - SPECIAL SUPPLEMENT



# Suppression Systems

For straight oil grinding



## Smotherers fires fast

### Prevents machine Damage

#### Fully automatic - manual override

You mount the cylinder outside the machine (with supplied hardware), Stick the hose inside and seal the hole with the supplied grommet. That's it.

The unique, High tech sensor bulb on the end of the hoses is preset for a certain temperature of your choosing. When it senses that temperature it releases Halon (or another gas of your choosing) and smotherers the fire FAST.

It smotherers the fire so fast and so well that typically there is no damage to the machine or the coolant. You can correct the problem and just turn the machine back on. No machine damage as there is with water. No messy clean up as there is with powder.

- 24/7 "lights out" protection
- Ultra-fast thermal detection
- Quick suppression of fires within the machine enclosure
- N.O. / N.C. electronics
- Automatic activation of Emergency Stop function and alarm
- Manual override by a direct Push Knob at the cylinder

The secret is the selectable, ultra-fast, thermo-bulb glass element and the effectiveness of the clean, gaseous extinguishing agent. The detection temperature is tailored to the operating conditions for the specific machine tool. There are a host of discrete settings ranging from 135 to 500 deg. F. A

typical CNC, operating up to 130 deg. might have a 155 +/- 5 deg. element.



Once an oil mist fire starts it activates in less than two seconds, shuts down the machine, floods the enclosure and the fire is out within a few seconds. The fire is out, the machine shuts down, and there is a high of smothering agent to prevent any re-flash.

These agents are very effective, there is no clean-up, no toxicity issues and the machine (after problem correction) can be running again in 5 minutes.

- Save your machine
- Save your tooling
- Save your fixturing
- Even save your work in progress

### Simple installation



All you need is a single hole through the cabinet for the detector element and combined extinguisher nozzle which is sealed with a 1 inch rubber grommet. The cylinder/valve is held in a surface mounted bracket, just outside the enclosure. An electrical 3-wire harness is routed to the E-Stop, main power shutdown and other components as desired. If a Pull cable is used, it is typically routed to a suitable handle location near the control panel. The whole installation can be as short as 20 minutes.

The reliability is in the simple and robust design. The glass element has been on 1500 NASCAR fuel cell systems for over 3 years without a single failure. There are only (3) O-ring seals giving an estimated maintenance free life of 10 years. There are no plastic tubes, multiple joints and connections, penetrations, separate plumbing and nozzle(s) that are all susceptible to leakage of the smothering agent and pressurization failures.



Small and very powerful

FAA approved for all aircraft  
Race approved by the SCCA, NHRA and NASCAR

### Available in dozens of models.

The Basic Model is an automatic thermal extinguisher used in a variety of applications. It discharges automatically when a specified temperature is reached. It is typically used in enclosed engine and machinery compartments. The Model AT can also have an electrical circuit interruption switch to shut down other systems if the unit is activated.

### Halon or Other Gases

Halon is the most effective, cheapest and safest in many ways. It is legal to use Halon. However it is illegal to manufacture Halon because Halon is believed to have an environmental impact. If you wish we can supply units with 'greener' gases as fire suppressants.

The units sell in the \$2,000 to \$3,000 range which puts them about half or a quarter the price of competing units.

Cliff Gordon (800) 707-5802  
For more information



# Super "C" Carbide Grade

Tougher than C1 - Better wear than C3

## What Makes Super C Tips Truly Superior

1. Superior Abrasion Resistance - Abrasion or straight wear is countered by smaller, better grain size.
- 2 & 3. Superior Adhesion and Diffusion Resistance (corrosion and chemical attack) Super C grade of carbide has an extremely fine structure so there is very little binder presented to the material being cut. This, combined with the special metallurgical formulation the Super C binder (hint - it's not just plain Cobalt) creates an extremely wear and corrosion material for use in wood, plastic or non-ferrous metals.
4. Superior Fatigue Resistance

**And People Really Like Them - Call Today To Try Them - Most Sizes Readily Available**

Super C	Hardness (HRA)	T.R.S. (psi)
	92.2 - 92.4	530,000 +

### Typical C2 values

	Hardness (HRA)	T.R.S. (psi)
C2	92.1	334,000
C2	91.8	334,000
C2	91.5	377,000
C2	90.4	435,000

### Typical C Values

	Hardness	T.R.S. (psi)
C1	89 - 92.4	350,000 - 360,000
C2	91.2 - 92.9	250,000 - 400,000
C3	91.4 - 93.6	270,000 - 350,000
C4	89.6 - 93	260,000 - 450,000

### Sawmill Grade Tips

- Transverse rupture strength well above 500,000 psi.
- Rockwell A hardness above 92
- Alloy binder for corrosion resistance
- Grain structure to inhibit both crack initiation and crack propagation
- Micro grain or mixed grain for superior wear

**Carbide Processors, Inc.**  
**800 346-8274**



**Cermet II®**  
**8 days**  
**instead of 5**  
**in MDF**

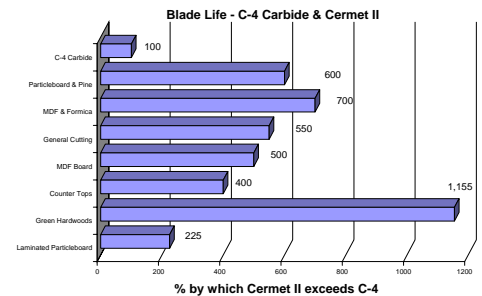
**Three weeks and three full loads of double side melamine laminate instead of 1 week and 1 load with carbide**

1. 5 blades with standard C-4 carbide cutting 45 lb. single and double sided vinyl-laminated particle board  
\* Cermet II - 15,088 meters / old grade - 6706 meters for **225% as much run life**
2. KM-16 industrial saw cutting 101.6 mm x 152.4 mm (4" x 6") Green hardwoods, oak, hickory, maple and walnut using 11 blades with standard C-4 carbide  
\* Cermet II / 462 hrs / old grade - 40 hrs  
**1,155% as much run life**
3. 406 mm (16") 100 teeth cutting countertops  
\* Cermet II - 4 weeks / old grade - 1 week (4 times) **400% as much run life**
4. 406 mm (16") 80 teeth cutting MDF Board  
\* Cermet II - 10 days / old grade - 2 days (5 times) **500% as much run life**

5. 305 mm (12") 100 teeth TCG Miter cutting oak, Compressed Fiber Board, Plastic  
\* Cermet II - 154 hrs / old grade - 28 hrs (5.5 times) **550% as much run life**
6. 305 mm (12") 60 teeth cutting MDF, High Pressure Laminate (Formica)  
\* Cermet II - 56 hrs / old grade - 8 hrs (7 times) **700% as much run life**

7. G 1060A on Chop Saw cutting Particle Board and Pine Dowel Rods  
\* Cermet II - 48 hrs / old grade - 8 hrs (6 times) **600% as much run life**

**Use Cermet 2 instead of carbide and make your life much easier**



## Cermet II® Successes

Several times the life in a window and door plant.

3 times the life in Corian.

8 days instead of 5 in MDF and we have an even better grade coming.

Twice the life in beetle killed Lodge Pole pine.

### Benefits You Get

- \* Grinds like regular carbide
- \* Gives a better edge than carbide
- \* Stays sharper longer than carbide
- \* Great increase in fracture toughness.
- \* More corrosion-resistant
- \* Better at high temperatures
- \* Cuts faster
- \* Cuts faster & longer yet is tougher
- \* Longer runs and less downtime.

## Report from Marvin Windows

On the saw that we tried. How many times we sharpen a blade before we order new or have retipped we are not sure. Most blades get damaged by hitting something so we have the carbides retipped a lot. How often do regular blades have to be sharpened? We normally have our carbide tipped blades sharpened every week.

The new Cement II blade normally last twice as long before it gets damaged. The best so far is four weeks and one and a half million cuts before we changed it out which is four times longer.

Hope this helps and keep up the good work on those tips.

Nathan Hull, Grinderman  
Marvin Wood Products

## **Saw Tips \$0.10**

30,000 carbide tips more or less - about 100 sizes

We bought an old IKS inventory, sorted it out, cleaned it up, labeled it and now we want to turn it into cash. Different sizes and grades. Many are already pretinned.

If we were really bright we would sell these at full price as people ordered them but times are tight and you want low prices. Besides cash is better than old inventory.

## **We buy old tips**

We pay about a nickel a piece for old saw tips depending on what they are. More inside on P. 2

## **Save Money, Big Money on Saw Plate**

Three grades of saw plate P. 1

## **Get First Chance at Sales**

Just ask us to add you to our email sales list. Email Emily at [sales@carbideprocessors.com](mailto:sales@carbideprocessors.com). Our \$0.10 tip sale is popular and we seem to get more in all the time. If you want an early look at the list ask for an email. If you don't like email, call 800 346-8274 and asks for a faxed list.

## **We can Pretin Untreated Carbide**

We have our own, in-house treatments.

## **All Grinder Parts & Service at Good Prices**

See front page

## **Scrap Carbide prices are up**

We are buying scrap carbide again. The price is not what it was last summer but it is now worth a few dollars a pound and seems to be climbing. See P. 2

## **Web Site and Blog**

Great information at [www.carbideprocessors.com](http://www.carbideprocessors.com)

Great deals at <http://carbideprocessors.com/blog/>