



President's Message

One Me Being a Pain in the Ass

I had a carbide supplier explain to me that a lot of people in his company didn't like me because I was a real pain in the ass about quality. He went on to add that I was the only one he ever spoke to who cared about quality.

I also did a few saw analyses free and tested a few kinds of tips for different folks also free. In those tests they wanted me to be as fussy as possible.

This is why we are fussy. Here are two batches of tips that came in. Both batches would braze on a saw in an automatic system and bond well enough until the saw was in use. Then they would fail.



About our analyses and tests

1. We don't charge customers. We think that we have an obligation to teach you how to use whatever we sell.
2. Some we do free if we can publish the results with or without names, your call.
3. I just take pictures and comment on what I see. After 20 years of doing this I have helped a lot of folks but that doesn't make me perfect.

The Girls have taffy – call and have them send you some.

Carbide Processors, Inc.

Northwest Research Institute, Inc.

Newsletter April, 2008

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Report on the Portland Show



Emily and I made it down to the Portland show this year.

It was a great show

The show is much smaller than previous years but this gave everybody a lot of time to talk to exhibitors.



Vollmer

Williams and White

Ralf Kraemer, President of Vollmer came up to us. We told him who we were and suggested he talk to real customers. We got the impression that he was so excited by his machines he just had to talk to somebody. They really are impressive machines. There is a huge chunk of cast iron for stability and everything relates to that but somehow they end up being amazingly small machines. If the machines work half as hard as Mr. Kraemer does they are wonderful machines indeed.

The Famous Con Williams Williams and White Machine, Inc.

I finally got to meet him after hearing about him for many years. He had a really sweet machine running in his booth and he and his son were both there to answer questions. (I really do think he's famous but I don't think he thinks he is.) (Contact info & more inside)

We Have Carbide (800) 346-8274

A lot of folks are having trouble finding carbide. Kennametal bought Camco and Ceratizit moved its operation to Pennsylvania.

We are getting more calls all the time from people looking for carbide.

Besides the changes above

1. Our advanced grades are catching on nicely because they work so well.
2. There is a switch from Stellite® to advanced carbide. It is small but growing.

We do better supplying carbide than most other folks because we use the Wal*Mart / Costco method of multi-sourcing and tight inventory control. We shop a dozen vendors regularly and dozens more if we need to. We can cross reference grades really well.

We write tight specifications and are very fussy about what we sell so you always get good carbide from us.

O.K. We are human and sometimes make a mistake. You almost always (maybe 99.9%) get the right stuff from us. When we ship you something you don't like and you call we immediately accept your word for whatever is wrong, offer a full refund (including shipping) or a replacement including overnight shipping at our cost.



Jacquie & Emily here Duclos -Peerless

We do have a large Peerless carbide inventory here. We sell out of it and take orders for Peerless. If you like Peerless, then we will be happy to take an order for them. (My advice is to buy from whoever has the cutest reps)

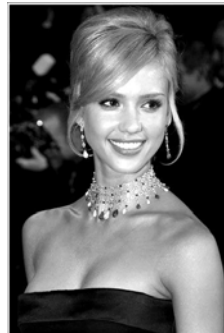


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Emily & I Rescue a Saw Filer



On the way to Portland Emily got a text message from a saw filer in trouble. Seems he had gone to an establishment to get a cool drink and a Portland girl, wearing a dress about like those above, had served him something alcoholic. When we got there he was just sitting and staring and drinking beer. We got him rescued but it took some work. That poor country boy was so mesmerized by the big city girl that he just plain didn't want to be rescued,

Humor from Jerome Adams – Adams Saw

Morris, an 82 year-old man, went to the doctor to get a physical. A few days later, the doctor saw Morris walking down the street with a gorgeous young woman on his arm. A couple of days later, the doctor spoke to Morris and said, "You're really doing great, aren't you?" Morris replied, "Just doing what you said, Doc: "Get a hot mamma and be cheerful." The doctor said, "I didn't say that. I said, "You've got a heart murmur; be careful."

Summer Is Coming

Take your loved one somewhere nice.



Multi Metals Bought by 3 Key Employees on Feb 11



Franc Koljaka (Production), Shawn Teague (Sales) and Lenny Wiseman (financial) are the new owners.

I am pretty happy when a company gets bought by good people who really know their industry. I have worked with Shawn Teague and Lenny Wiseman for many years. I like and admire both of them. I have never met Franc Koljaka but I have certainly seen what he has done for Multi Metals quality and delivery and that is very impressive.

The Louisville operation, with 70 employees, was one of 12 Robert Bosch Tool Corp. drill bit/industrial blade-manufacturing operations in the United States, said Multi-Metals' new owners. Bosch's other Kentucky operations -- plants in Elizabethtown and Leitchfield -- closed during the past five years after Bosch transferred its power tool and component business to China and Mexico, the partners said.

Shawn Teague adds "We are very excited to position the company to be more aggressive, flexible, responsive, and innovative than ever before. For the first time in the company's 52-year history, it is not under the direction of a large corporate entity, and we believe the industry and our customers will see a company that is much quicker on its feet."

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P.S. For those of you that do business with Multi Metals the really good news is that Sharon and Carla are staying.

BEATING A DEAD HORSE

How a big corporation deals with a dead horse.

1. What dead horse?
2. Buy a stronger whip and beat the dead horse.
3. Change riders.
4. Contact Personnel and demand an explanation.
5. Appoint a committee to study the dead horse.
6. Assemble a PowerPoint dead horse presentation.
7. Has the dead horse's warranty expired?
8. Visit subsidiaries to see how they ride dead horses.
9. Upgrade dead horse working conditions.
10. Have President Bush declare "the dead horse has already begun to awaken."
11. Increase standards to include dead horses.
12. Attend a Dead Horse Motivational Seminar
13. Assign the dead horse to Marketing.
14. Assign the dead horse to R&D.
15. Retrofit the horse with new tack.
16. Shorten the track.
17. Rotate the dead horse in inventory.
18. Discard the saddle; ride the dead horse bareback.
19. Point the dead horse in the opposite direction and note how well he maintains his position.
20. Reclassify the dead horse as living-impaired.
21. Change the form so it reads: "This horse is not dead."
22. Hire outside contractors to ride the dead horse.
23. Assign the dead horse to the graveyard shift.
24. Tighten the dead horse's cinch.
25. Factor in dead horse savings re food, water, and maintenance.
26. Harness several dead horses together for increased speed.
27. Relocate the dead horse.
28. Send the dead horse to a continuing education course.
29. Send the dead horse to a convention.
30. Send the dead horse on vacation.
31. Authorize the dead horse for behavioral counseling under the company HMO.
32. Donate the dead horse to a recognized charity, deducting its full original cost.
33. Compare your dead horse's performance to other companies' dead horses.
34. Provide additional funding to increase the dead horse's performance.
35. Threaten the dead horse with termination.
36. Downsize the dead horse.
37. Downsize the dead horse and retain it as a contract hire.
38. Downsize the dead horse and replace it with an entry-level dead horse at one-third the salary.
39. Discharge the dead horse for cause.
40. Do a time management study to see if lighter riders would improve productivity.
41. Purchase an after-market product to make dead horses run faster.
42. Declare that a dead horse has lower overhead and therefore runs faster.
43. List the dead horse as a new asset.
44. Survey the state of dead horses in today's business environment.
45. Repackage the dead horse.
46. Reassign fault to the dead horse's breeding.
47. Form a quality focus group to find profitable uses for dead horses.
48. Re-engineer riding styles.
49. Base manager productivity evaluations upon the dead horse's performance.
50. Award the dead horse to a retiree.
51. Rewrite the expected performance requirements for dead horses.
52. Apply standards and metrics to the riding of dead horses.
53. Is it time for the company picnic?
54. Declare the dead horse to be a trade secret.
55. Promote the dead horse to a supervisory position.
56. Call it a virtual horse dot com and spin off an e-business plus IPO.
57. Alert Homeland Security that your horse has been killed by Muslim terrorists and demand FEMA compensation.

Summer is Coming



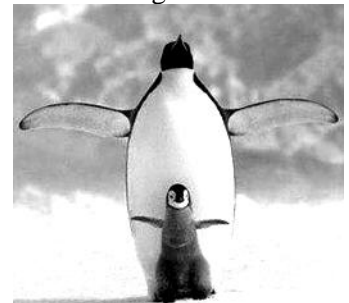
It is hard getting anything done at work



Forget about your problems



Go fishing with friends



Teach your kids something new



Watch the races



If you have to do something stupid make sure it involves lots of lumber

Analysis of Tips that Kept Breaking

Tip Analysis: - no background given, no reason given for analysis (I received the email on this after I did this analysis.)



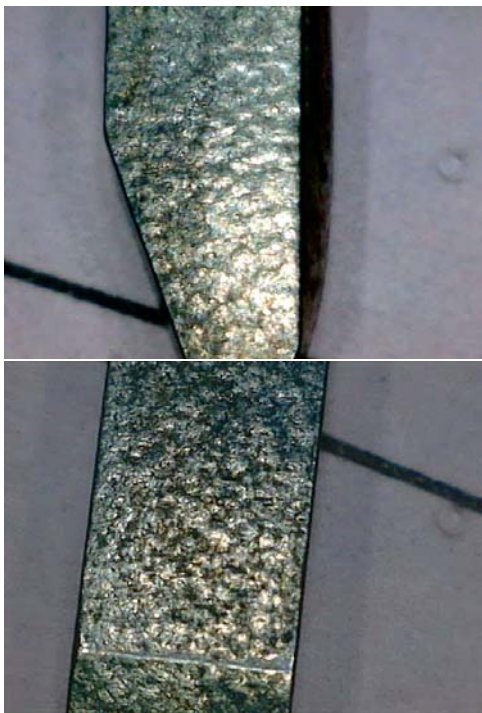
Problem

Good

Left is a problem tip with a really pebbly surface. I have seen these several times from several sources where they have caused problems.

These have a very pebbly surface that we have seen for years on cheap Chinese tips.

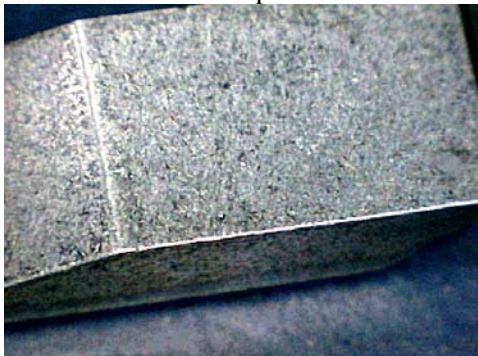
Below left at 30 x magnification



Below, for comparison, is a Multi Metals tip that works very well.

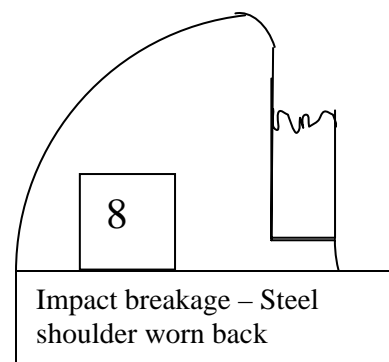
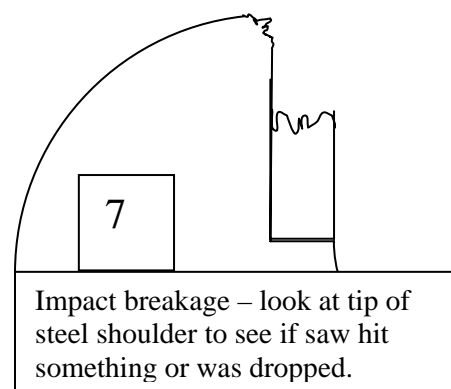
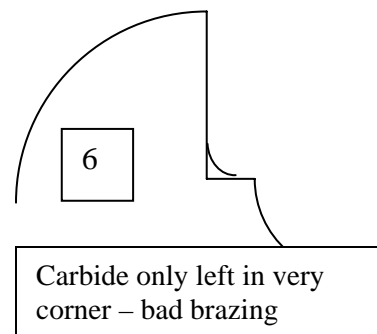
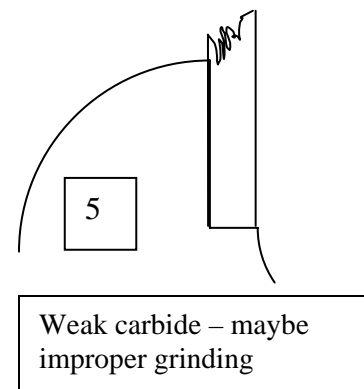
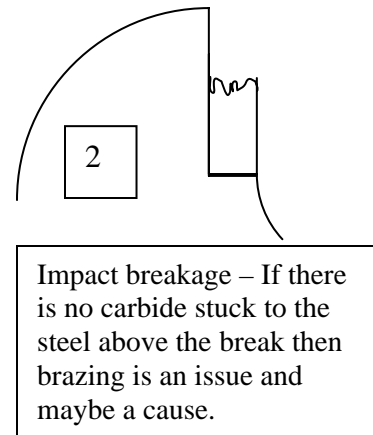
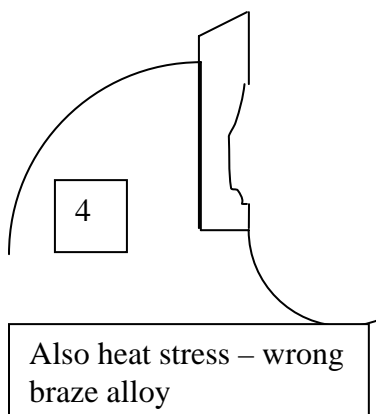
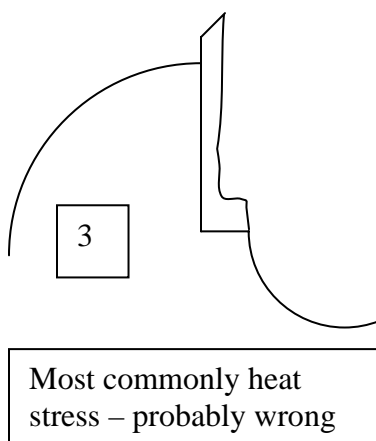
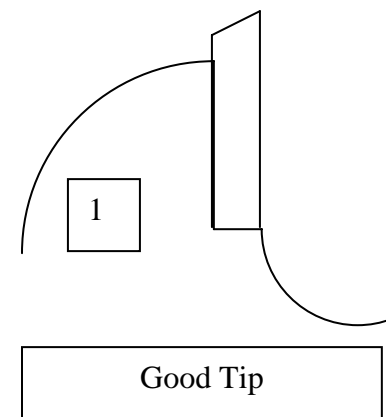


Good Multi Metals tip - bottom



Summation: We would reject these tips upon receipt. We consider tips with this surface condition to be unsuitable for sale or use. The pebbly surface has repeatedly been associated with poor quality tips. Proven good tips this side – smooth surface

Tip Breakage Drawings



Quality Specifications for Carbide Saw Tips

Counts

1. All counts will be – zero to +2 parts per 250.

Size

1. $-0 / +.007''$ is industry standard.
2. $-0 / +.004''$ is current practice.

Chips & cracks

1. Chips no more than one half the grinding tolerance.
2. Chips no more than $0.003''$ in any dimension.
3. No internal or external cracks.



We used 30x magnification for inspection with standard light. The gap on the right side of this tip is about $0.003''$. On the left side the gap goes up to about $0.007''$ with the largest chip about $0.003''$

Edge radius, chips and parallelism

When the part is held next to a straight edge the maximum gap will be no more than $0.007''$ to account for the total of edge radius, chips and parallelism.

Wettability -

1. A small piece of silver solder (app. 1/5 the length of the surface will flow completely and evenly out to all four corners.
2. A piece of silver solder 2/3 as long as the tip surface will flow out evenly to all four corners and will create a smooth, consistent hump.



Pretinning



Even flow to all four corners.

Average pretinned silver depth is $0.007''$ to $0.010''$ as the customer specifies.

Bond Strength

The tip will braze to the steel plate so that the carbide will break or the steel will rip but the tip will not come off.



These two pictures show tips where the surface treatment peeled off.



Internal cracks prohibited

Saw Steels & Their Chemical Composition

From Steve Hartshorn - Peerless

8670

Carbon - 0.695 % Average
Chromium - 0.4 % Average
Iron - 97.205
Manganese - 0.5 % Average
Molybdenum - 0.075 % Average
Nickel - 0.85 % Average
Phosphorus - 0.025 % Max
Silicon - 0.25 % Average
Sulfur - 0.025 % Max

SKS5

Carbon - 0.8 % Average
Chromium - 0.35 % Average
Iron - 97.395
Manganese - 0.25 % Average
Nickel - 1 % Average

Phosphorus - 0.03 % Max
Silicon - 0.35 % Max
Sulfur - 0.03 % Max

SKS51

Carbon - 0.8 % Average
Chromium - 0.35 % Average
Iron - 96.745
Manganese - 0.25 % Average
Nickel - 1.65 % Average
Phosphorus - 0.03 % Max
Silicon - 0.35 % Max
Sulfur - 0.03 % Max

75Cr1 (1075 w/chrome)

Carbon - 0.77 % Average
Chromium - 0.375 % Average
Iron - 97.7875
Manganese - 0.725 % Average
Phosphorus - 0.025 % Max
Silicon - 0.325 % Average
Sulfur - 0.01 % Max

Carbon is the principle element that allows for hardening. Without carbon present, you can't harden steel.

Nickel improves toughness, weldability and hardenability of steel. It also reduces distortion in the heat treating process.

Molybdenum is essential for controlling hardness during heat treatment by inhibiting the formation of particular microstructures.

Manganese increases hardenability, tensile strength and durability of steel.

Chromium improves wear resistance of steel and resists softening of steel during the tempering process.

Silicon: The main role of silicon is increased durability.

Phosphorus & Sulfur are natural by-products of the steel making process. Both are undesirable as sulfur is harmful to the surface quality of the steel and phosphorus reduces toughness.



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

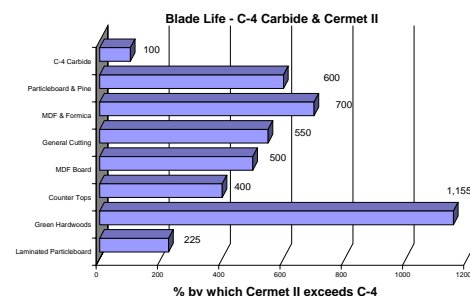


Cermet II®
8 days
instead of 5
in MDF

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 **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

Filtering Straight Oil Coolants



We now have a filter system that filters straight oil coolants. Above is our CP 2020 which filters tight oil coolant very well. It is also available as a wall mount unit.



Here is our CP 2002, which has been an extremely good unit on water based coolants for about eight years.

We have tried it on straight oil with very poor results. It filtered for maybe an hour before it plugged up.

Oil is much thicker than water. The filters were good enough to filter the oil for awhile but, as soon as they started to load up with dirt, the oil was too thick to get through.



Here are the two units side by side.

A filter is a series of holes that separates particles from liquid. Oil is thicker than water so it is harder to filter out small particles. In addition oil transfers the pressure from the pump directly to the filter and is much more likely to collapse a filter element.

The secret is a high-tech filter. This is stainless steel inside and outside to handle the pressure. It is smaller than our water filters and has a pleated surface to provide sensational filter surface area at the high pressures oil creates.



We recommend monthly filter changes but many go much longer than that.

Great Filter Units

For Straight oil, Synthetic and Water - based coolants.

Really popular – We're selling a bunch of them



Great prices, pay for themselves readily, cleaner shops, less labor and longer diamond wheel life with better, faster grinds.

Now accepting Visa & MasterCard

Call Us at 800 346-8274 or
Equipment Ltd at 800-533-2006

Coolant filter Life

We recommend a filter change after one month in use on a single machine which is about 160 hours of use. In our tests we have seen them go 21 days of 20 hour shifts, which is 420 hours. Many folks get 2 or 3 months out of the filters which is 320 to 480 machine hours.

The rating is based on the amount of sludge generated by the machine in an hour. If you run a machine 40 hours and filter one hour then you remove all the sludge from the 40 hours of running.

If you are running 11 machines then you are getting 440 hours life out of the filters in a week.

Two things can happen. 1. If filters are run too long they can load up and releases over and over so they don't do any good past a certain point. It looks like they are working, however. This is like pouring fifty gallons of water in a five gallon bucket. It works because when you are though the 50 gallon drum is empty and the bucket is full. You just ignore the water on the ground. 2. After a long enough time there will be a lot of sub-micron particles in the coolant and this can give it a gray color.



**Not only pretty faces but also
great customer service
800 346 - 8274**

Here are Jackie and Emily are always perky and always happy to help. If we can't supply you but we know who can we will refer you. No matter what you want we will work really hard to find it.

Get Cash for Scrap Stellite® or Carbide

Emily is paying \$6.50 a pound for scrap and maybe higher. You can ship a lot of scrap for \$8.95 in a US Postal Service flat rate box.



Dave Garrett of Warm Springs Forest Products In Oregon is pretty excited. He has reservations at a deluxe fishing resort. He sent us this picture.

Dave is a man I very much respect and admire. He is a genuinely nice guy, very smart and very modest. He has a rather unique job and faces some of the toughest challenges in the industry.

**Sawfiler®
brand supplies
from Carbide
Processors,
Inc.
(800) 346-8274**



Buy Carbide and Pretinning from Us Here's One Reason Why



Here's what you get.



Here's what you never see.

These are tips we bought and had to eat because the braze alloy didn't stick to the surface. You can see the lumps of braze alloy and the gaps. In the bottom right the braze alloy ran too well and ran over the side. Not all the tips were bad but it takes one bad tip to make a bad saw blade and many of these tips were bad enough to jam an automatic brazer.