

Demystifying the Traditional Backsaw

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Introduction



Introduction



Talking Points



- Is it worth saving?
- Disassembly
- Cleaning
- Handle Work
- Reassembly & retensioning
- Truing up
- Clock-sharpening
- Safety
- The Continuum of a Toothline



Is it worth saving?



- Pitting (know when it's too bad)
- Badly bent sawbacks
- Handle repair (you be the judge)
- Sentimental value
- Handsaw flex test



9 times out of ten, the traditional folded sawback saves the saw

Disassembly



- Leather-lined wood clamp
- Angle iron
- 12" mill file
- Sharpening files
- Dead-blow mallet
- Stout screwdriver
- Small crowbar
- Ruler
- Sharpie
- Brass hammer
- Leather patches
- Canning wax
- Whetstone
- Masking tape
- Stout vise

These are tools you'll likely have in your shop already

Disassembly (cont.)



Step 1: *this is how we get our frozen nuts off in Wisconsin. It doesn't even have to be winter.*

Disassembly (cont.)



Step 2: lay your handle aside—secure your fasteners inside the pistol grip so they don't get lost.

Disassembly (cont.)



Step 3: cinch your plate/back assembly into a your leather-lined angle iron and pry of back with crowbar.

“Warning, Will Robinson! don’t do this with static backs!”

Disassembly (cont.)



Step 3a: *know the difference between a static back and a traditional folded back—again, **don't attempt to pull off a static-back or you'll ruin your saw.** More on this later.*

Disassembly (cont.)



Step 4: *repeat this procedure gradually, then pull off back.*

Disassembly (cont.)



Completely disassembling a traditional backsaw is no different than disassembling a hand plane; easier, in fact.

Typical Cleaning Supplies (what Bad Axe Uses, anyway!)



- Sunshine Polishing cloths
- 3M Abrasive Pads
- Cordless Dremel
- Sandflex Eraser blocks
- Plastic Safety Razor
- Brass toothbrush
- Dental Pick
- Exacto Knife
- Wizard's Power Seal
- Nitrile Gloves
- Spraybees
- Wizard's Metal
- Renew
- Dust mask(s) & safety goggles
- Dry t-shirt/cloth diaper cloth
- Your child's old toothbrush.

Here are supplies we've gravitated toward from having serviced customer saws over the past six years

Typical Cleaning Methods



Step 1: *squirt some Wizard's Metal renew onto the plate and wipe it around to evenly distribute.*

Typical Cleaning Methods



Step 2: *Scrub plate with 3M pad. Take pains not to wipe out the etch by lightening your hand pressure.*

Typical Cleaning Methods



Step 3: Apply more Wizards & wipe with dirty cloth. Scrub with Sandflex block; exercise care around etch.

Typical Cleaning Methods



Step 4: *Work delicately around the etch with the corners/edges of your Sandflex block.*

Typical Cleaning Methods



Step 5: *Spray everything down with the Spraybees, and wipe with clean, dry cloth.*

Typical Cleaning Methods



Step 6: Apply Wizard's Power Seal. Smear on a layer and let it sit overnight. Wipe it off the following day

Typical Cleaning Methods



Remember: the intent behind doing this is to wipe out the scale and rust to mitigate friction in the cut.

Typical Cleaning Methods



Step 7: *Scrape off paint with wooden edge or plastic razor to avoid scratching/gouging soft metals like brass.*

Typical Cleaning Methods



Step 8: Use *Power Seal* for brass. We want the saw to look like a well-preserved antique, so don't overdo it.

Typical Cleaning Methods



The result. You want gleam, not drill sergeant dazzle on the parade ground. We're done here.

Handle Work



Here's one butt-ugly handle

Handle Work



Note the chipped horns. We're going to fix them.

Handle Work



Step 1: *Use an exacto knife and/or a scraper or safety razor to scrape off junk and glue spatters*

Handle Work



**Step 2: Cinch the handle
in your wooden clamp**

**Carefully make right-
angle cuts on both
horns.**



**Remember: "to cut is to heal" (ancient proverb
Special Forces medics live by).**

Handle Work



The takeaway: You want 90° notches for long-grain glue-up, not end-grain alone, which is weak.

Handle Work



Step 3: *select graft wood to approximate vintage tone, and trace an outline of a full horn.*

Handle Work



Step 4: *now cut out squares of your grafting wood proud of the outline you drew.*

Handle Work



Step 5: glue grafting wood squares onto the notches.
Get imaginative with rubber bands & clamps.

Handle Work



Clean your fasteners with a dental pic, a dremel with a brass wheel can help.

Step 6: time to get rid of a century's worth of dead skin cells & grime while the glue dries.



Sunshine cloths work great for gleam. Don't overdo it—the goal is to preserve an antique patina.

Handle Work



A bench hook is useful for stabilizing the cut.

Step 7: now cut off excess graft wood proud of your outline.



Cut parallel to the horns; don't taper the cut.

Handle Work



A bench hook and perhaps a holdown is good for stabilizing.

Step 8: chisel out the rough contour inside the horns before rasping.



Rasp the outer contours; avoid creating bumps & ridges.

Handle Work



Gramercy Tools makes a wonderful sawmaker's rasp for this mission.

Step 9: Rasp out and sand the horn contours for increasingly fine shaping.



Finish with a dowel & sandpaper; note slit in dowel.

Handle Work



Step 10: Conduct final sanding to desired finish.

Note array of rasps and other tools. The value of a leather-lined clamp cannot be overstated.



Handle Work



Step 11: Stain to match vintage wood tone.

Good idea to experiment first on sacrificial wood. Minwax makes a number of staining pens good for this.

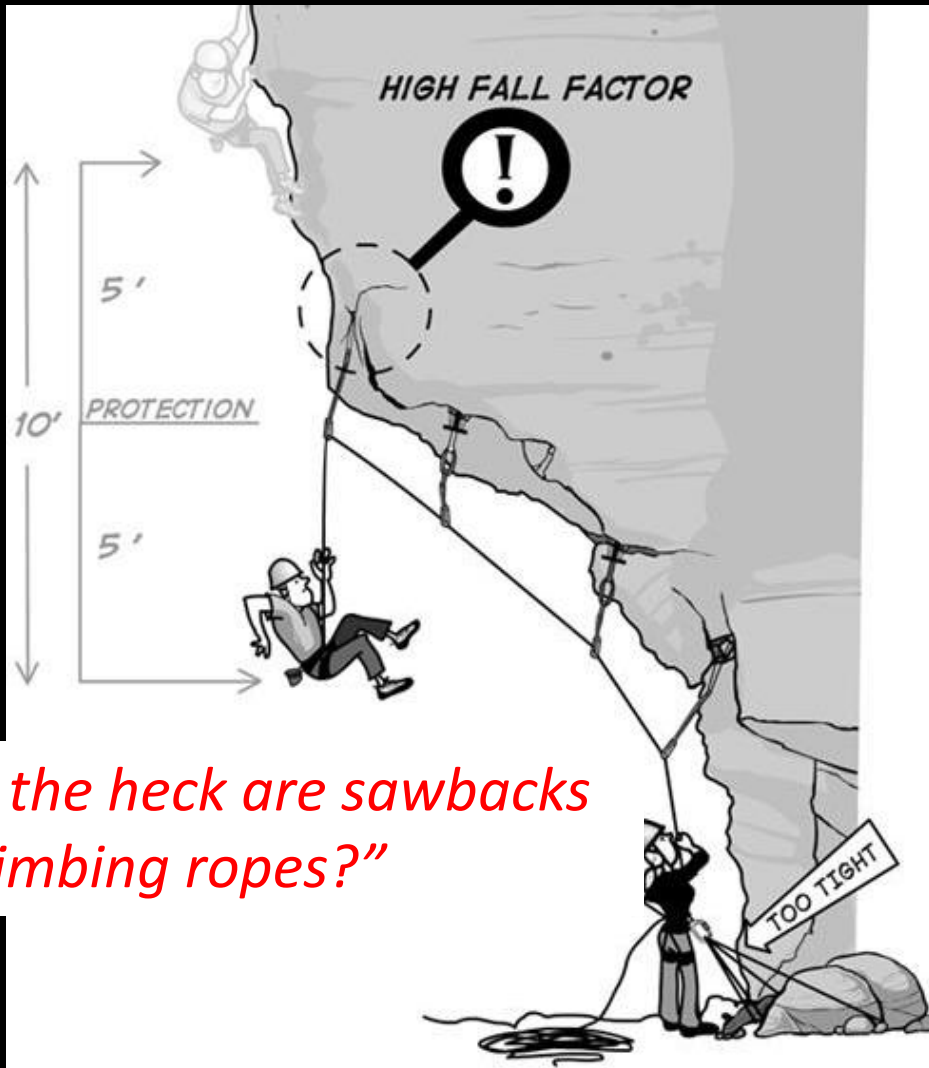


And your done!

Reassembly, & Retensioning the Traditional Folded Sawback



Reassembly, & Retensioning the Traditional Folded Sawback



Static Rope (hemp)



Dynamic Rope (perlon)



“How the heck are sawbacks like climbing ropes?”

Reassembly, & Retensioning the Traditional Folded Sawback



Traditional folded backs employ a tight compression-fit, which allows plate to slip under duress and allows retensioning at will

Disston folded back

(Bad Axe folded back)

Modern **static sawbacks** have plates glued into slit milled along underside of brass bar stock. *Do NOT remove or you'll ruin the saw.*

Reassembly, & Retensioning the Traditional Folded Sawback



Step 1: mount sawplate into leather-lined angle iron and secure with vise; leave $\frac{1}{4}$ " exposed.

Reassembly, & Retensioning the Traditional Folded Sawback



Step 2: *Now tap the back on with a dead-blow mallet; a little canning wax for lube helps.*

Reassembly, & Retensioning the Traditional Folded Sawback



Step 3: Tap sawback forward of the toe with a piece of wood.

Intent is to make a deliberate air gap between plate/back assembly & handle mortise.

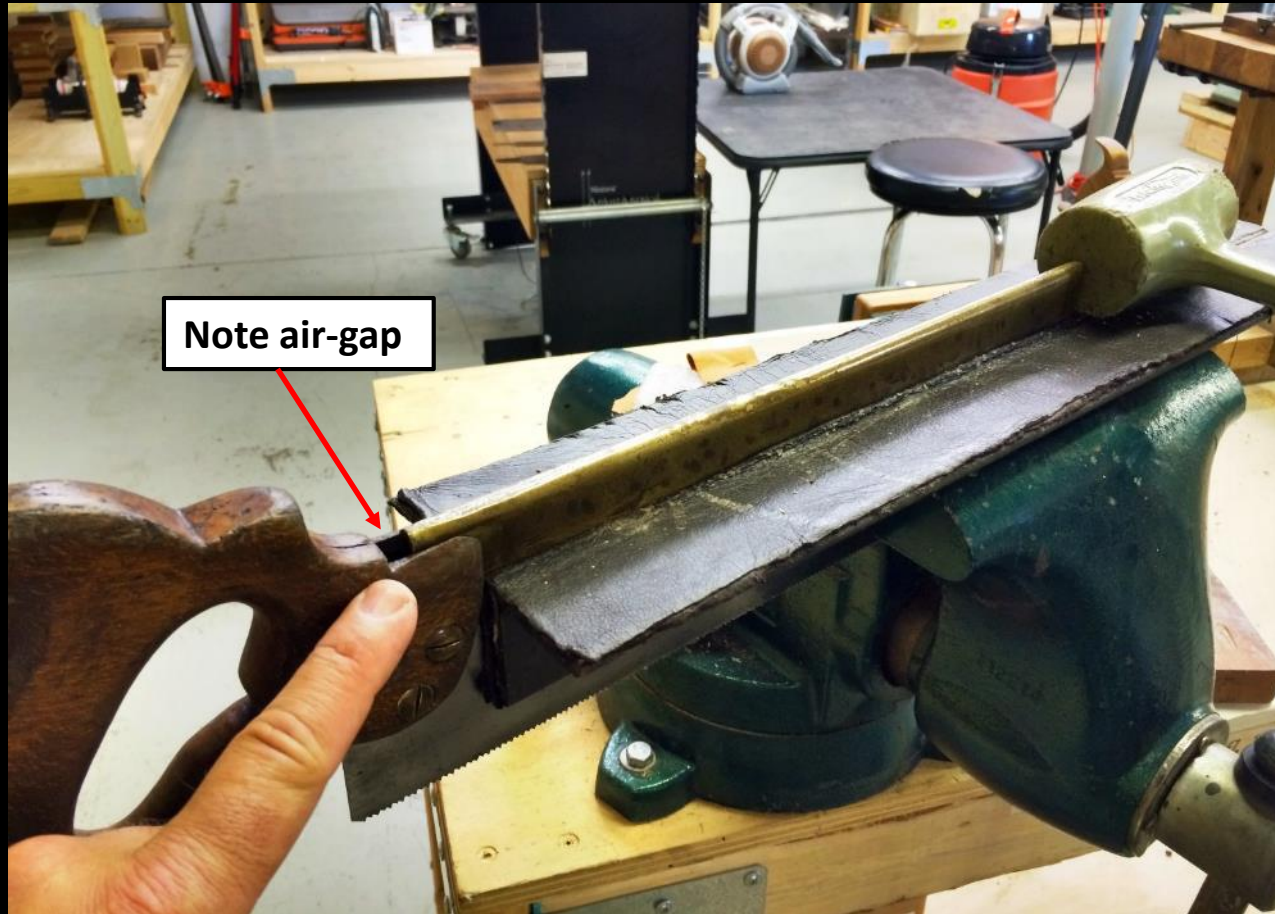


Reassembly, & Retensioning the Traditional Folded Sawback



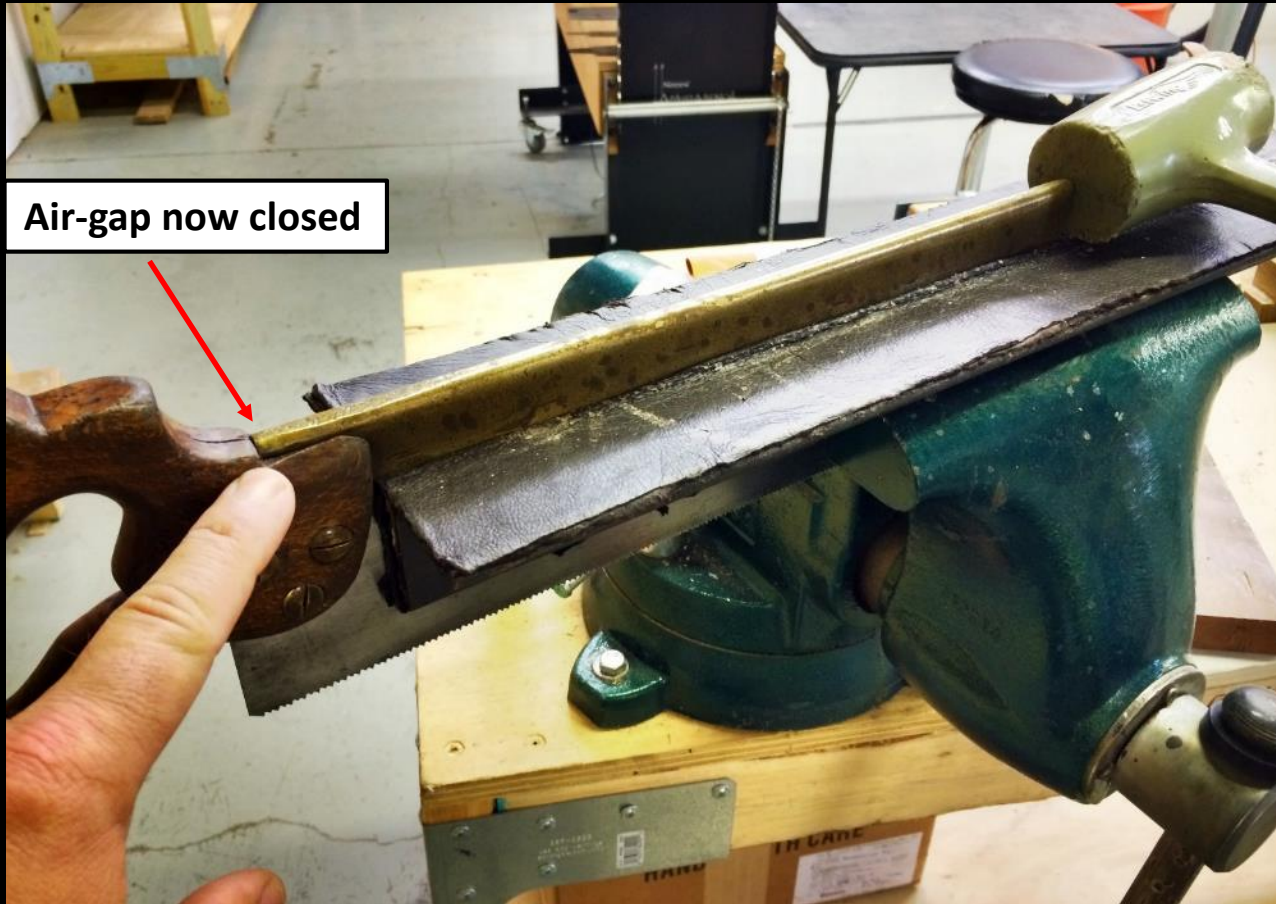
Step 4: Mount handle. Note how back overhangs sawplate toe edge and the air gap in the mortise.

Reassembly, & Retensioning the Traditional Folded Sawback



Step 5: Now close the airgap by tapping toe end of sawback with mallet. *This tensions the plate/toothline.*

Reassembly, & Retensioning the Traditional Folded Sawback



Step 5a: *Here's what right looks like. Don't kill it, or you'll damage the handle and torque the fasteners.*

Reassembly, & Retensioning the Traditional Folded Sawback



Step 6: Now gently tap the heel of back above handle mortise. Feel back shift with thumb & forefinger.

Reassembly, & Retensioning the Traditional Folded Sawback



Step 7: Finally, tap the toe. Leave air-gap between plate spine & inside fold of sawback (allows retensioning). *We're done.*

Truing up the components



*Vintage or new: ALL saw components must fit together in **proper alignment.***

Truing up the components



Step 1: *Assess for true. Look whether leading edge of plate is parallel to handle.*

Truing up the components



Step 2: *Bring plate edge into true with handle via torqueing with a pair of crescent wrenches.*

Truing up the components



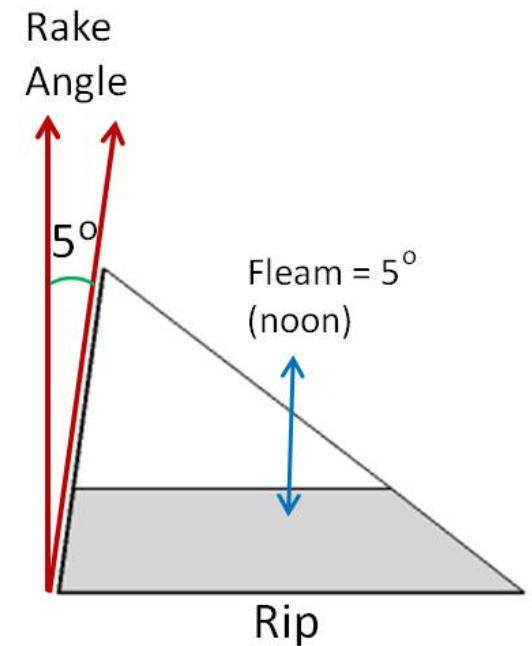
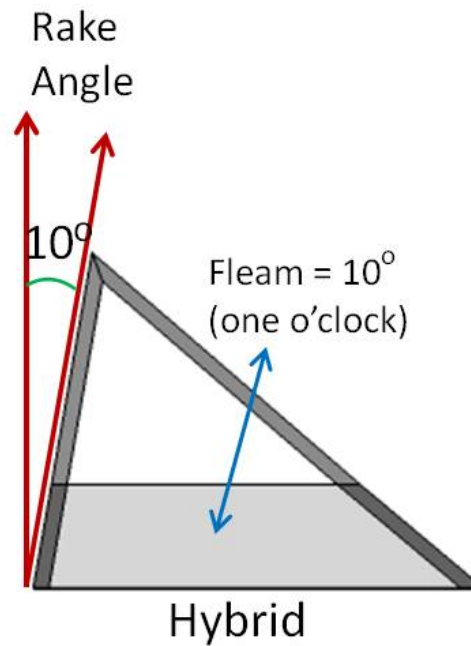
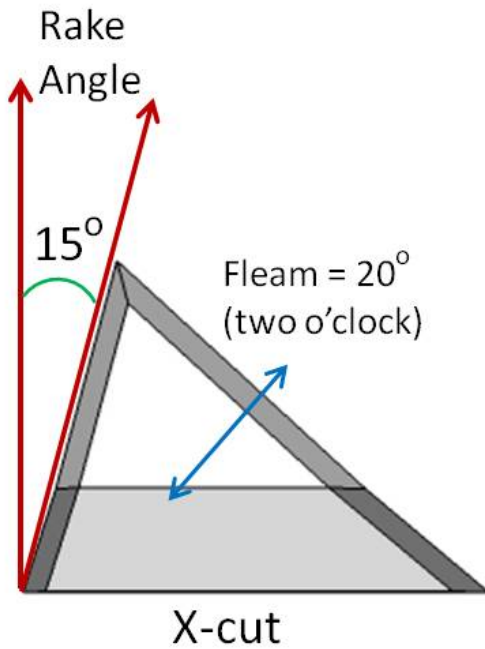
Step 3: *Test-cut for action & drift (and to assess where you are with need to sharpen).*

Truing up the components



Step 4: *If overset, stoning the toothline helps reduce what may cause action to drift.*

Clock-Sharpening



Forget about degrees except for as a point of reference: *The act of saw sharpening is far easier using the clock method for orienting your file.*

Safety



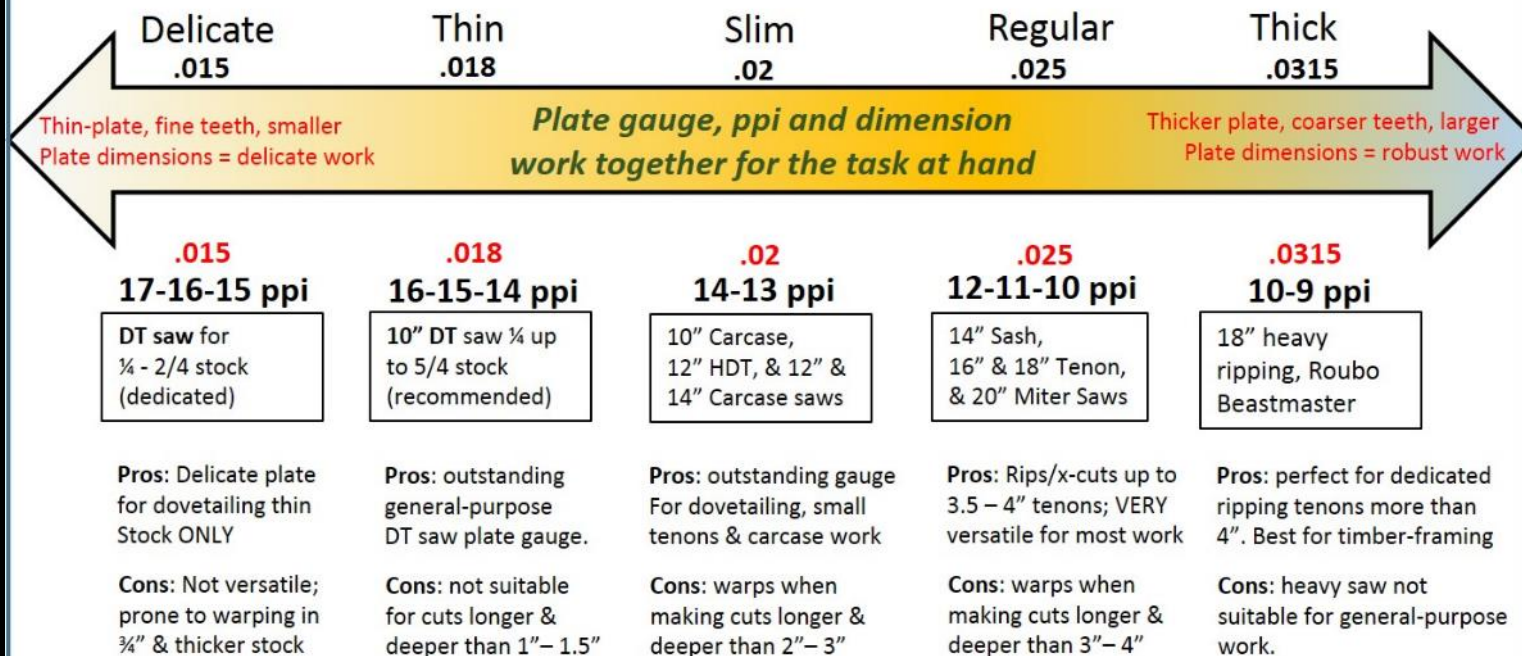
Metal Dust: *It's fine. It's **dangerous**. Don't breathe it in deep into the alveoli of your lungs. Don't scrub it into your corneas, either. That will hurt. Wear safety goggles and a dust mask. Wash your face and hands afterwards.*

The Continuum of a Toothline



The Continuum of a Toothline

(selecting the right plate gauge and ppi for the work you want to do)



Here's the takeaway: *don't get a backsaw with a plate thinner than what you need for the work intended. Friction, heat, and potential metal expansion can warp your toothline if you ask more of the sawplate than what it is designed to do.*

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may be downloaded at:

http://www.badaxetoolworks.com/pdf/Demystifying_20140926.pdf



Bad Axe Tool Works

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