Bad Axe Basic Sawfiling Weekend Seminar Itinerary

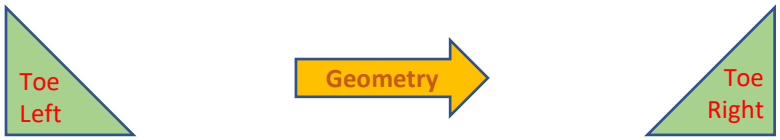
Day One

- 0800-0900: Introductions & Orientation
- 0900-0915: Supplies & Tools Review
- 0915-0930: Disassembling a backsaw
- 0930-1000: Understanding the traditional folded sawback
- 1000-1030: Reassembly and Retensioning
- 1030-1115: Bench Hooks and Saw Benches
- 1115-1130: Sawfiling Principles: hammer-set & sharpening to joint
- 1130—1200: Hammer-set Orientation
- 1200-1230: **Lunch**
- 1230-1300: Sawtooth geometry
- 1300-1315: PPI vs. TPI and Jointing
- 1315-1400: Marking & hammer-set a 8 ppi sawplate
- 1400-1500: Sharpening Dry-Fire a 8 ppi toothline.
- 1500-1515: Stroking your file.
- 1515-1645: Sharpening Live-Fire on a 8 ppi toothline.
- 1645-1700: Review and report for duty at the Bodega Brew Pub (4th & Pearl – 122 rth St. S, La Crosse, WI 54601.

Make your Own BAMS

Set Strength Tolerances

Stone your toothline



Bad Axe Advanced Sawfiling Seminar Itinerary, 24-25 March

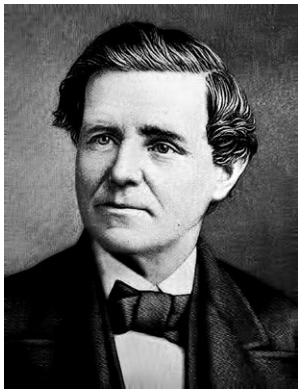
Day Two

- 0830-0845: Dry-Fire/Live-Fire a 10 ppi toothline.
- 0845-1200: Sharpen your 10 ppi hand or panel saw.
- 1200-1230: **Lunch**
- 1230-1300: Dry-Fire/Live-Fire a 6 ppi toothline.
- 1300-1330: ***Demo: crowding a toothline for symmetry.***
- 1400-1600: Sharpen your 6 ppi hand or panel saw.
- 1600-1630: Review.

Sawsmithing Demo

Truing Plate/Back Ass'y

Understanding Saw Files



The Henry Disston Story

Toe Left

Geometry

Toe Right

Orientation & Administrative Notes

Let's meet first and organize:

- Introductions: In two minutes, tell us your life story ☺.
- Bench Leaders (voluntary): coaching, bench organization & supply accountability.
- Everyone: help each other out. We all have a dedication to excellence in common.

Training Hours:

- Friday: 0800-1700 (long day; I stay until 1730)
- Saturday: 0830-1500 (I stay until 1530)
- Brush & vacuum sawfiling dust regularly

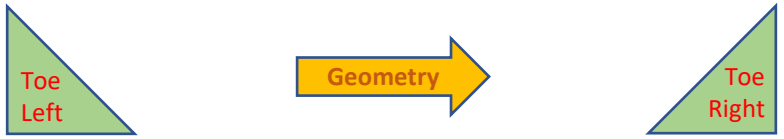
Goal: disassemble, clean, reassemble, retension and sharpen your own backsaw

Workbench Hygiene:

- Keep things organized at all times.
- Create simple tool storage block
- Sawmaking supplies neatly stored at all times

Safety:

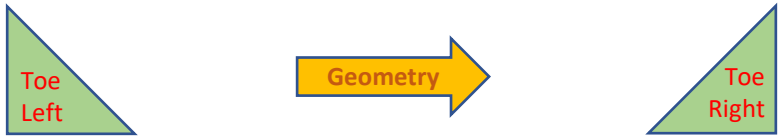
- Wear dust mask & safety goggles
- How to mount/change out handles on your files
- Brush & vacuum sawfiling dust regularly



Friedrich Dick Needle File Sizing for dovetail & carcase saws

Threesquare

Item No.	shape	length	section	Cut	packaging	unit
21321010	Threesquare	4 "	2,9 mm	1	box	10
21321020	Threesquare	4 "	2,9 mm	2	box	10
21321030	Threesquare	4 "	2,9 mm	3	box	10
21321040	Threesquare	4 "	2,9 mm	4	box	10
21321410	Threesquare	5 1/2 "	3,6 mm	1	box	10
21321420	Threesquare	5 1/2 "	3,6 mm	2	box	10
21321430	Threesquare	5 1/2 "	3,6 mm	3	box	10
21321440	Threesquare	5 1/2 "	3,6 mm	4	box	10
21321450	Threesquare	5 1/2 "	3,6 mm	5	box	10
21321610	Threesquare	6 1/2 "	3,9 mm	1	box	10
21321620	Threesquare	6 1/2 "	3,9 mm	2	box	10
21321630	Threesquare	6 1/2 "	3,9 mm	3	box	10
21321640	Threesquare	6 1/2 "	3,9 mm	4	box	10
21321650	Threesquare	6 1/2 "	3,9 mm	5	box	10
21321800	Threesquare	7 "	4,3 mm	00	box	10
21321810	Threesquare	7 "	4,3 mm	1	box	10
21321820	Threesquare	7 "	4,3 mm	2	box	10
21321830	Threesquare	7 "	4,3 mm	3	box	10
21321840	Threesquare	7 "	4,3 mm	4	box	10
21321850	Threesquare	7 "	4,3 mm	5	box	10
21322000	Threesquare	8 "	4,5 mm	00	box	10
21322010	Threesquare	8 "	4,5 mm	1	box	10
21322020	Threesquare	8 "	4,5 mm	2	box	10
21322030	Threesquare	8 "	4,5 mm	3	box	10
21322040	Threesquare	8 "	4,5 mm	4	box	10
21322050	Threesquare	8 "	4,5 mm	5	box	10



Friedrich Dick File Sizing for tenon and handsaws

Saw file double extra narrow

Item No.	shape	length	section	Cut	packaging	unit
12391000	Threesquare	4 "	4 mm	2	box	10
12391250	Threesquare	5 "	5 mm	2	box	10
12391500	Threesquare	6 "	6 mm	2	box	10

Saw file narrow

Item No.	shape	length	section	Cut	packaging	unit
12371000	Threesquare	4 "	6,3 mm	2	box	10
12371250	Threesquare	5 "	7,2 mm	2	box	10
12371500	Threesquare	6 "	9 mm	2	box	10
12372000	Threesquare	8 "	12 mm	2	box	10

Toe Left

Geometry

Toe Right

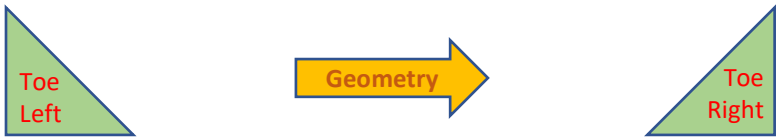
Friedrich Dick File Sizing for tenon and handsaws

File Sourcing:

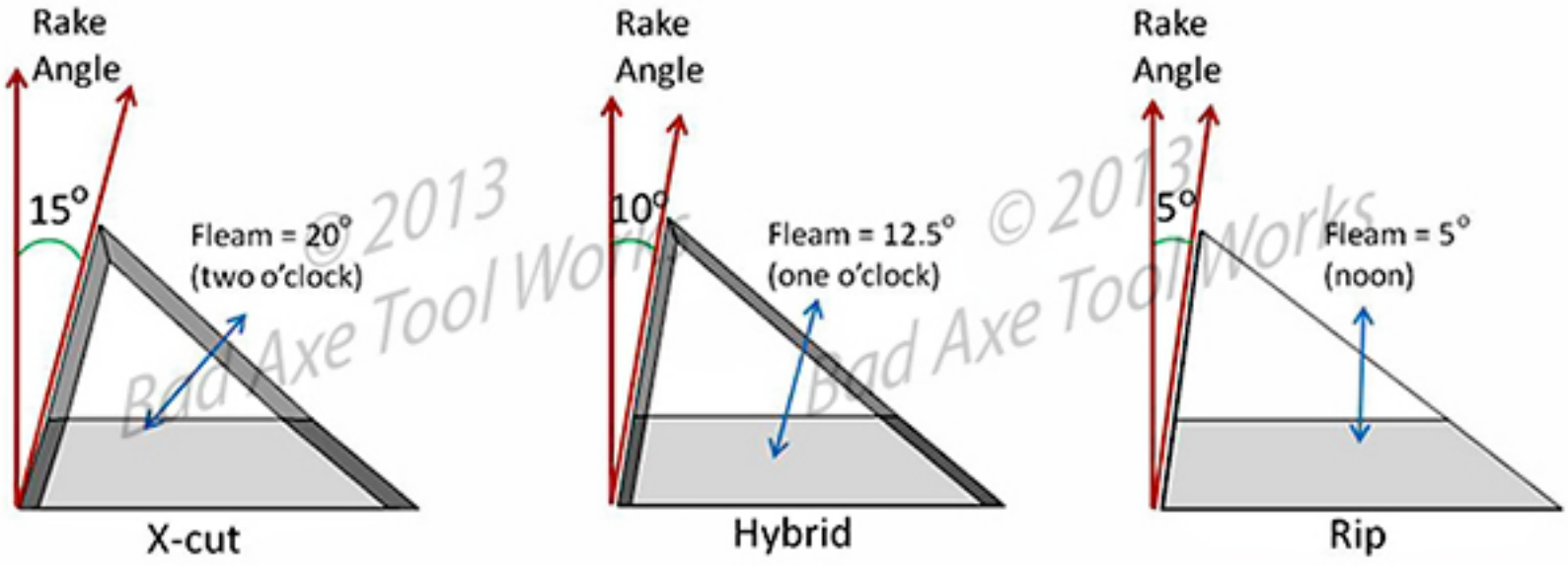
- Classic Hand Tools (UK)
- Workshop Heaven (UK)
- Rubank Verktygs (Sweden)
- Baptist Tools (Netherlands)
- Dictum (Deutschland)

File Brands:

- Friedrich Dick (Deutschland)
- Corradi (Italy)
- Vallorbe (Switzlerland)
- Bahco (Sweden/Portugal



Bad Axe Filing Profiles

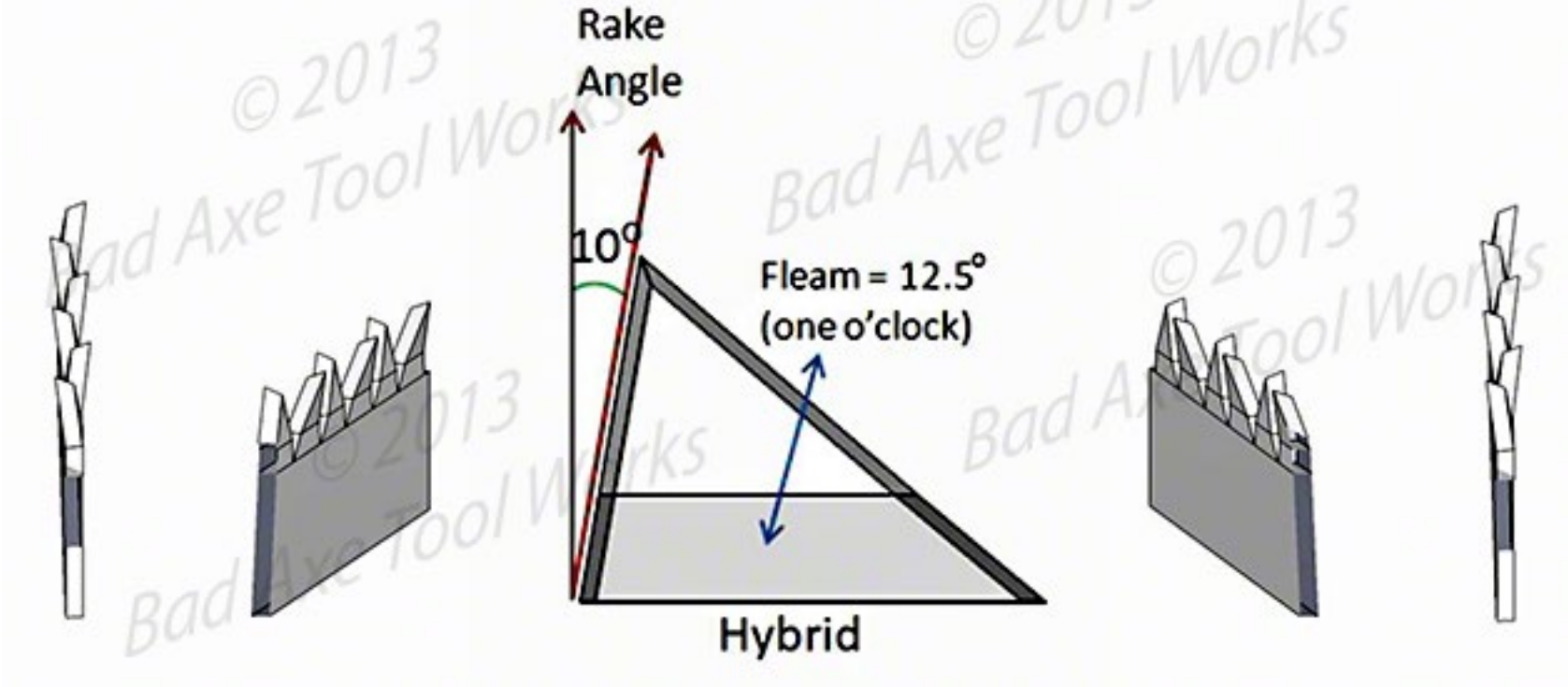


- Cutting tenon shoulders
- Off-cuts, Dados,miters
- Slow at the expense of edge retention & accuracy
- Highly overrated

- Ripping Tenon Cheeks
- Cutting tenon shoulders
- Offcuts
- Dados, rabbets, miters
- Actionable
- Incredibly versatile

- Ripping Tenon Cheeks
- Ripping boards to width
- Aggressive—a big plus when working with moisture-laden softwoods

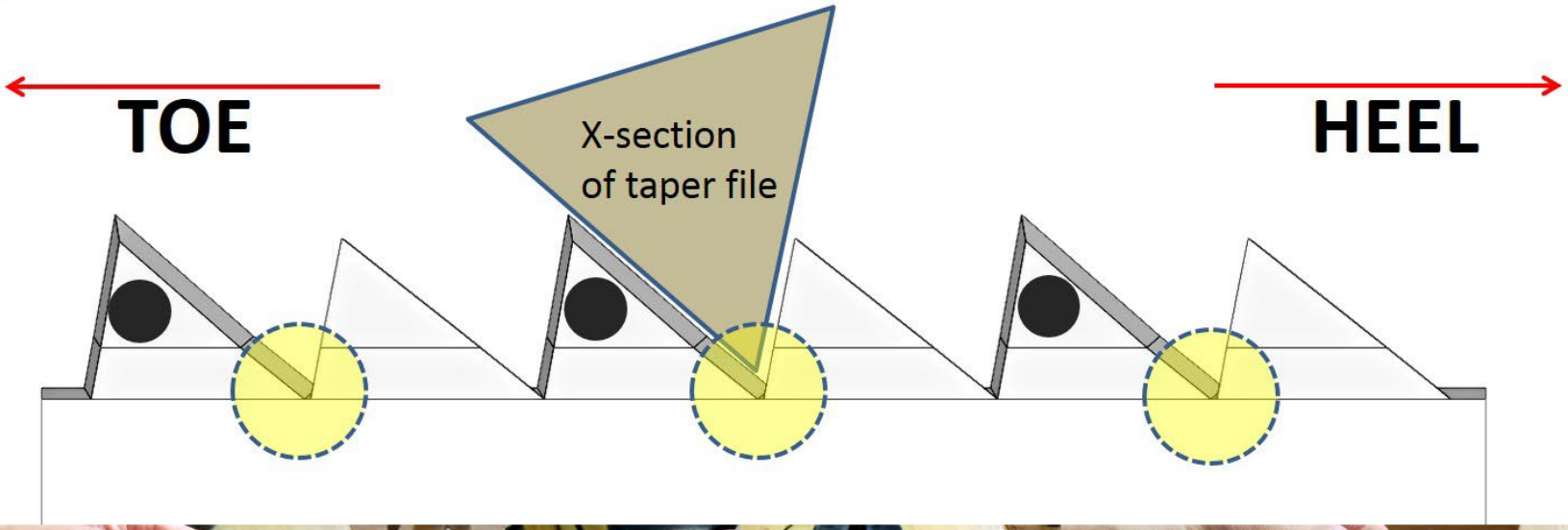
Hybrid-Filing Demystified

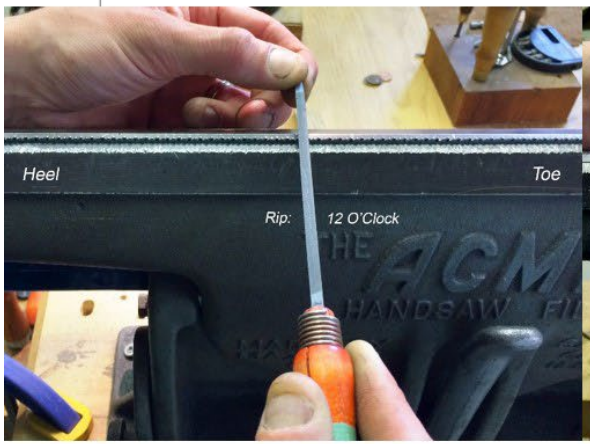


- No magic. The geometry is simply split between dedicated rip and dedicated x-cut.
- What truly matters is that the teeth are hammer-set and sharpened to joint.
- Get the best of both worlds (rip & x-cut) so you can use one saw for the majority of your cuts, and less apt to clutter your bench.

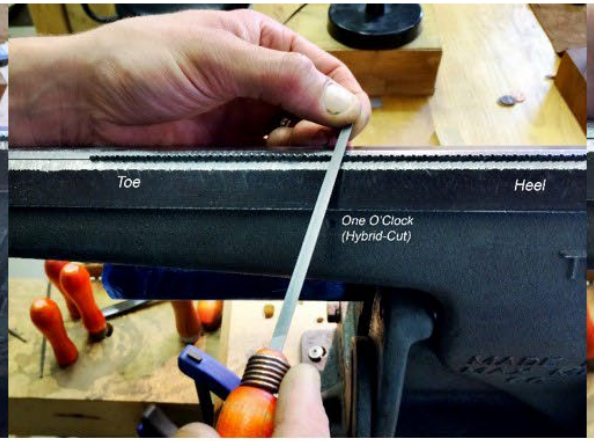
Toe Left
Geometry
Toe Right

Using the Clock Method (1st pass)

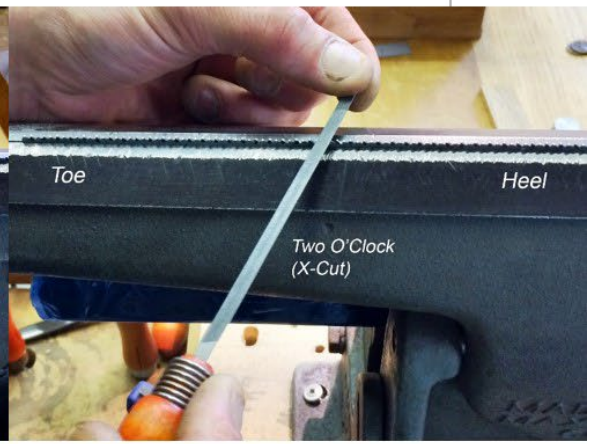




Rip: 12 o'clock



Hybrid: 1 o'clock



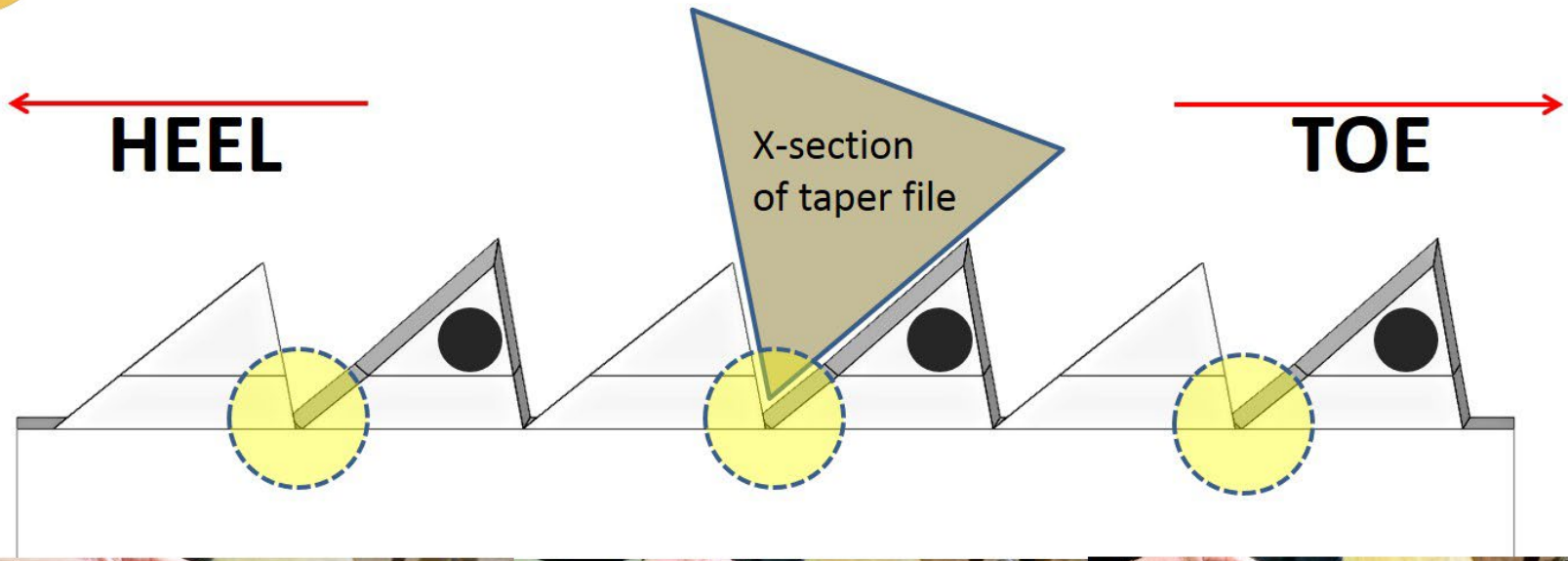
X-Cut: 2 o'clock

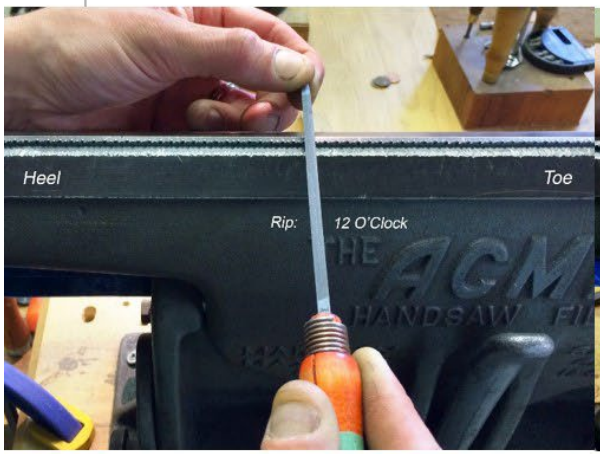
Toe Left

Geometry

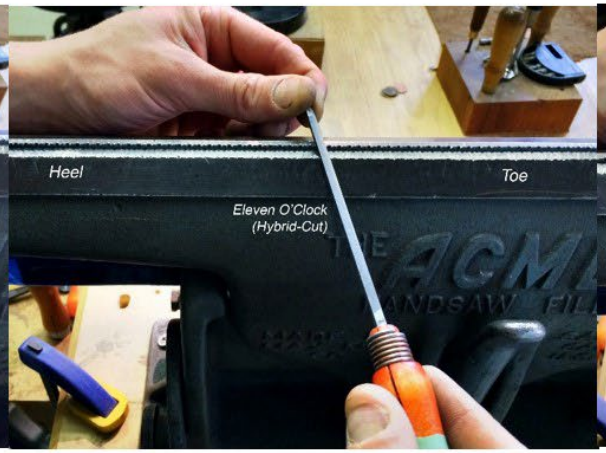
Toe Right

Using the Clock Method (2nd pass)





Rip: 12 o'clock



Hybrid: 11 o'clock

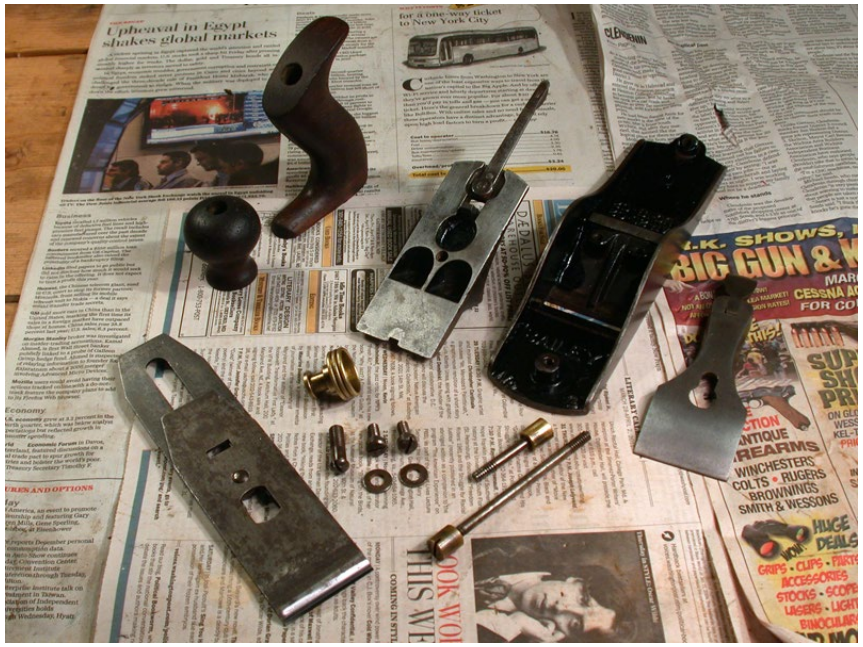
X-Cut: 10 o'clock

Toe Left

Geometry

Toe Right

Disassembly/Reassembly & Retensioning



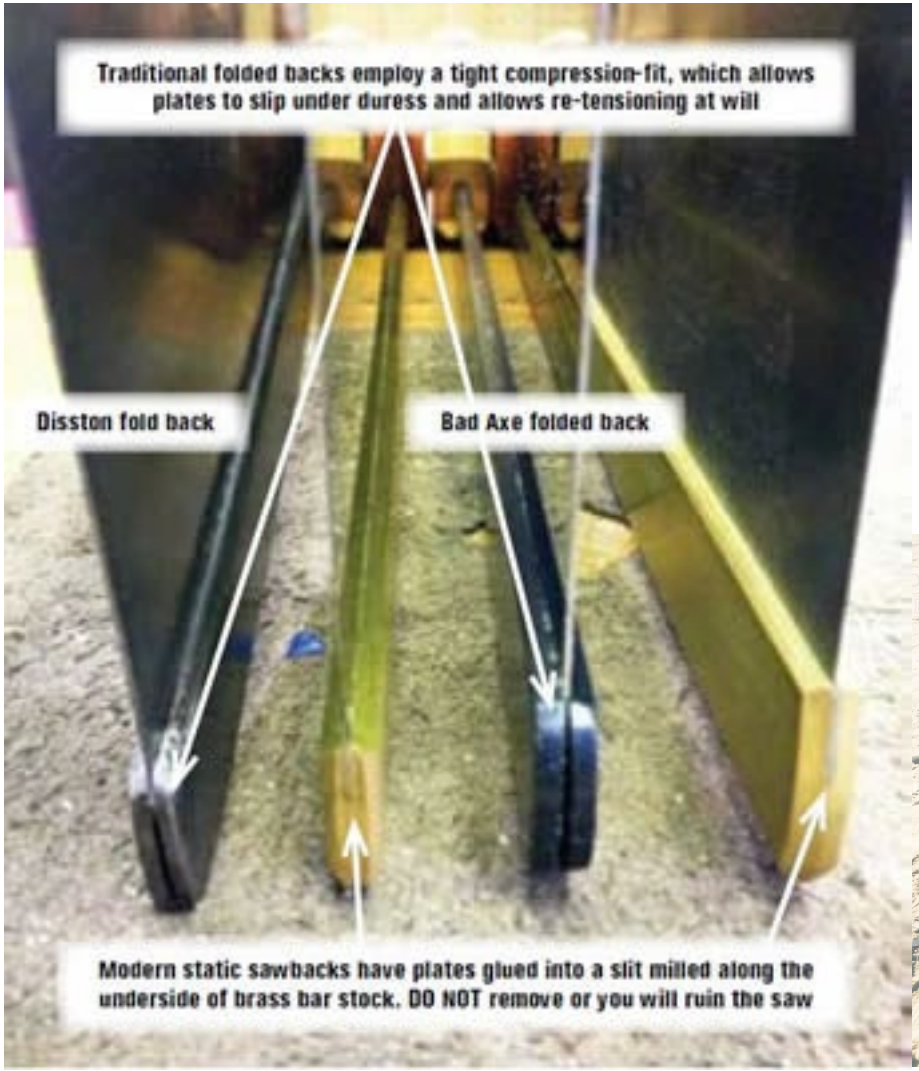
- If you can disassemble, restore & reassemble an old plane, you can do the same to a traditional backsaw.
- Procedure is for a traditional folded sawback only.
- This also applies to tightening handles.

Toe Left

Geometry

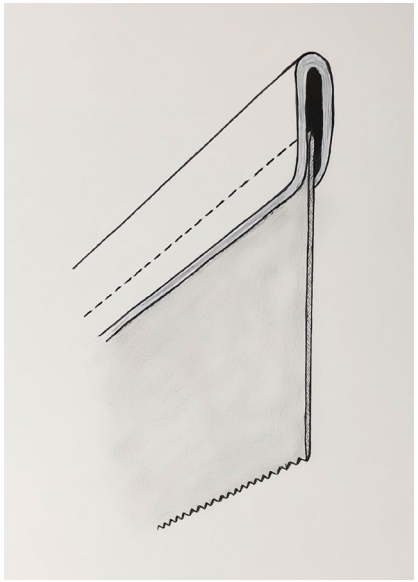
Toe Right

Understanding the Traditional Folded Sawback

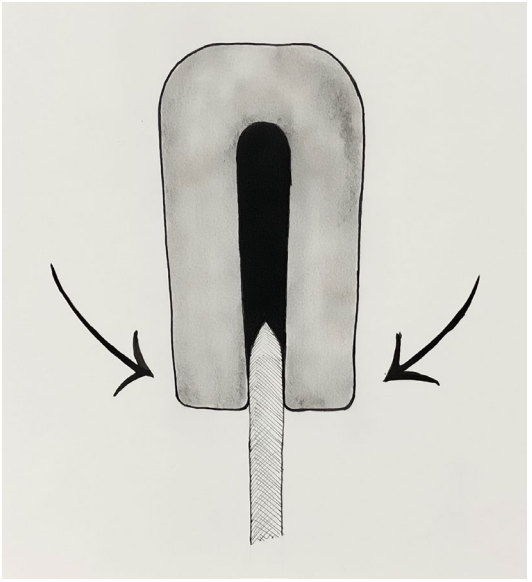


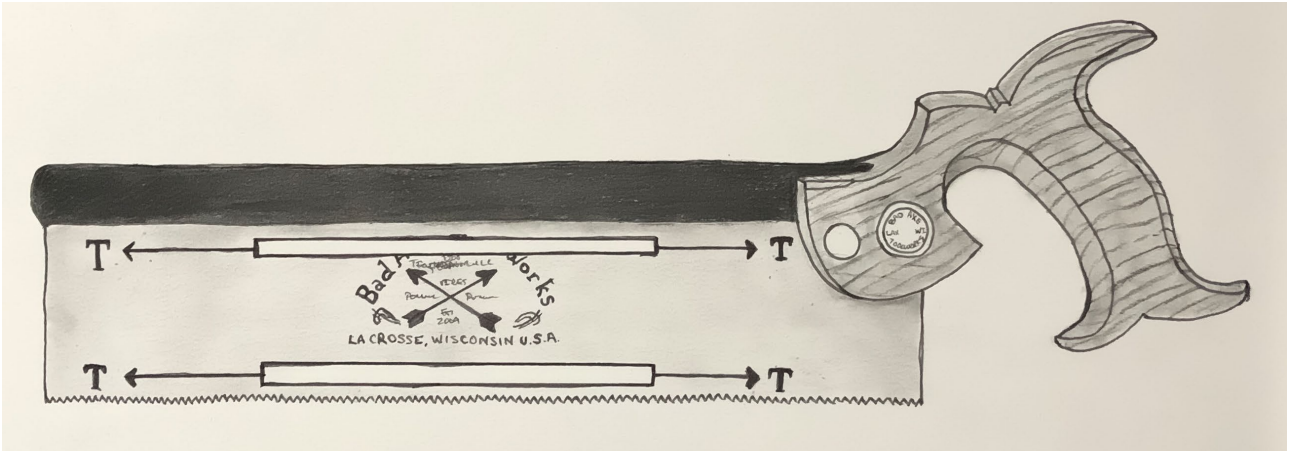
- The **traditional folded sawback** is sprung onto the spine of the sawback. **Pro:** may be adjusted, removed and protects the plate like a ski binding. **Con:** Expense.
- A **static back** has a slit machined along the underside, where the plate is glued in. **Pro:** production-friendly and less expensive: **Con:** cannot be adjusted.

Understanding the Traditional Folded Sawback



- The traditional folded sawback is sprung onto the spine of the sawback.
- It is intended to allow the plate to slip out of tension before kinking under duress.
- The back can be completely removed and re-mounted.





Toe Left
Geometry
Toe Right

Reassembling your Backsaw

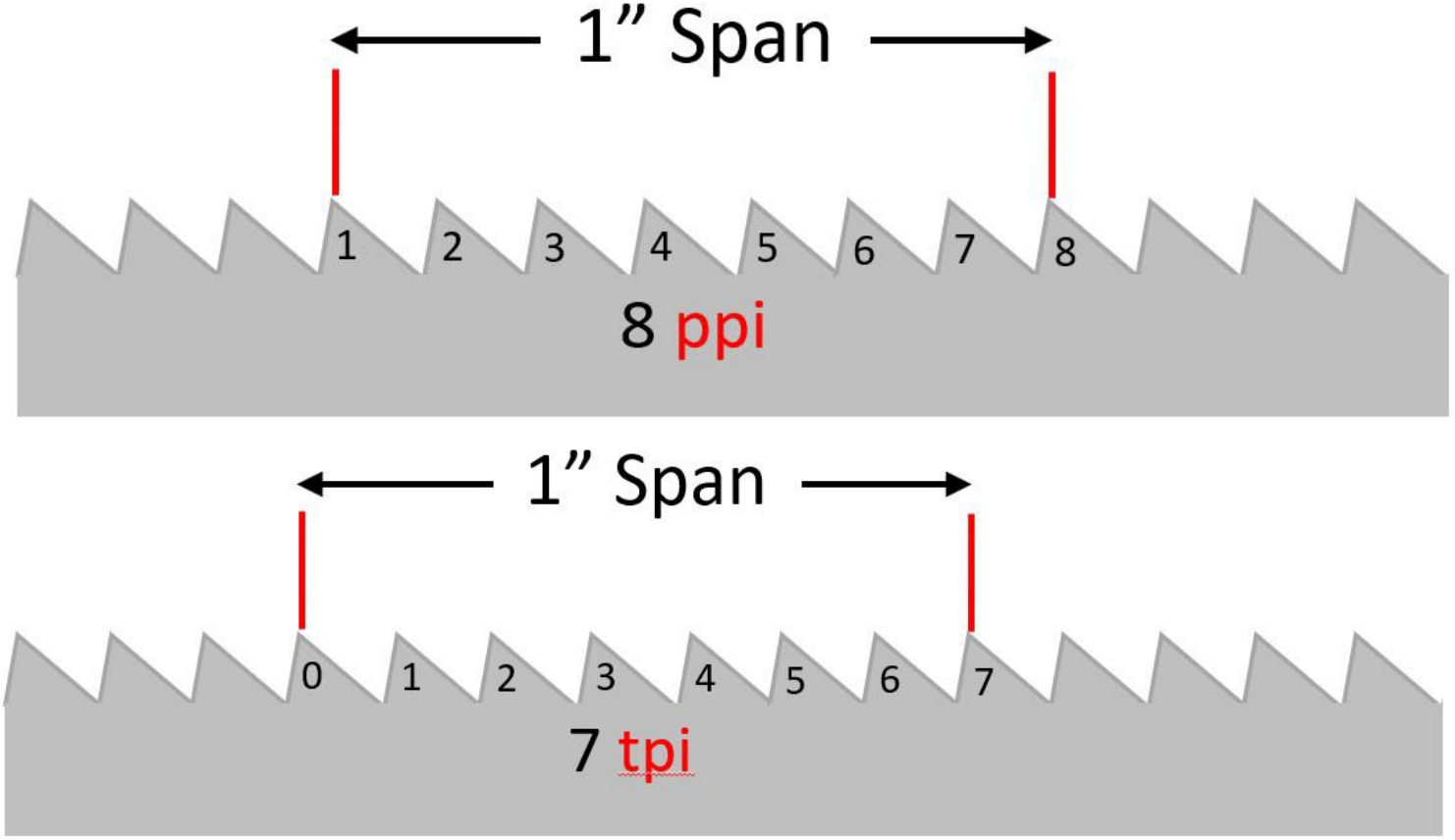
- Clamp your plate in the BAMS, & wax the spine
- Mount the back forward and high
- Mount the handle
- Close the air gaps
- Retension
- Assess

Toe Left

Geometry

Toe Right

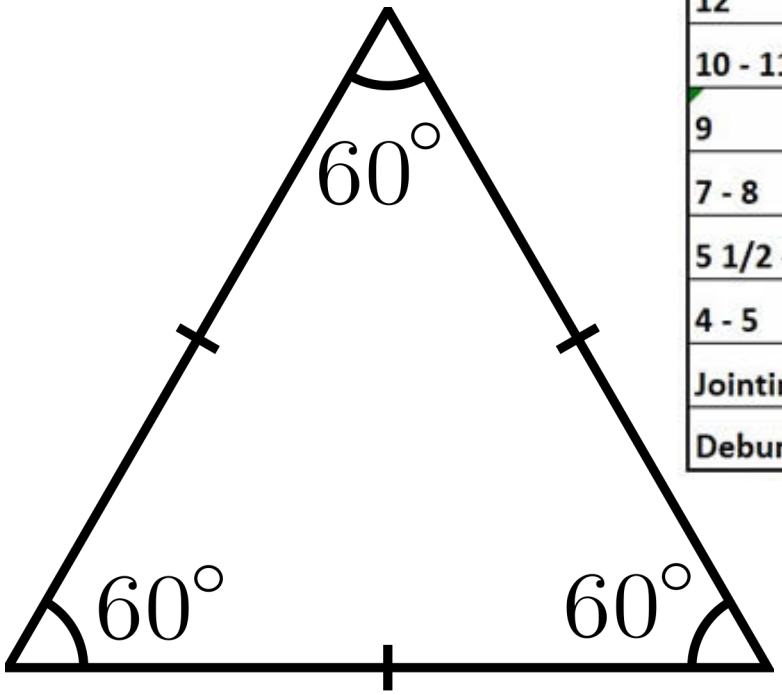
PPI vs. TPI

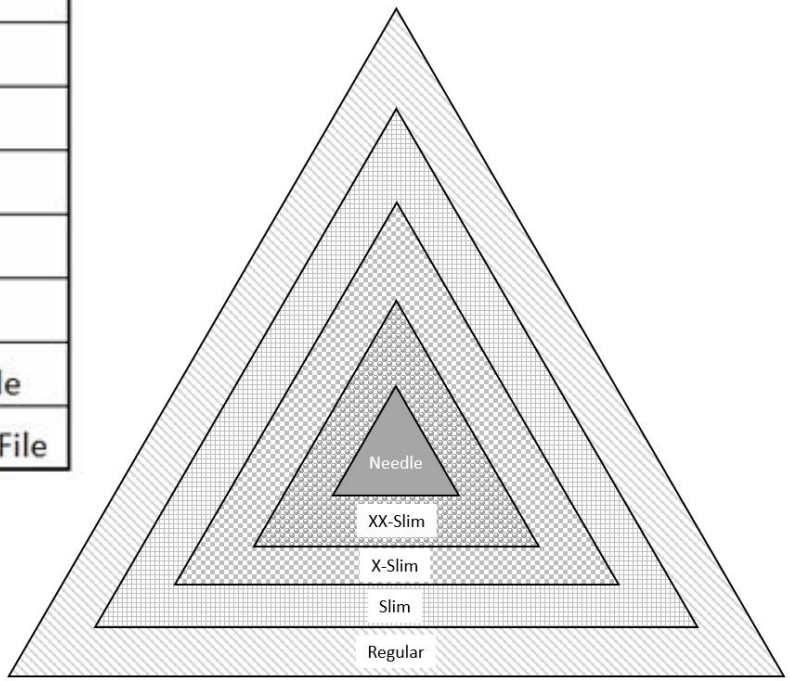


Toe Left
Geometry
Toe Right

Saw Sharpening Files

PPI	Size File
16 - 17	140mm needle
15	160mm needle
14	200mm needle
13	4" xx-slim
12	5" xx-slim
10 - 11	6" xx-slim
9	6" x-slim
7 - 8	8" x-slim
5 1/2 - 6	8" slim
4 - 5	8" reg
Jointing	10" Mill File
Deburring	Chainsaw File





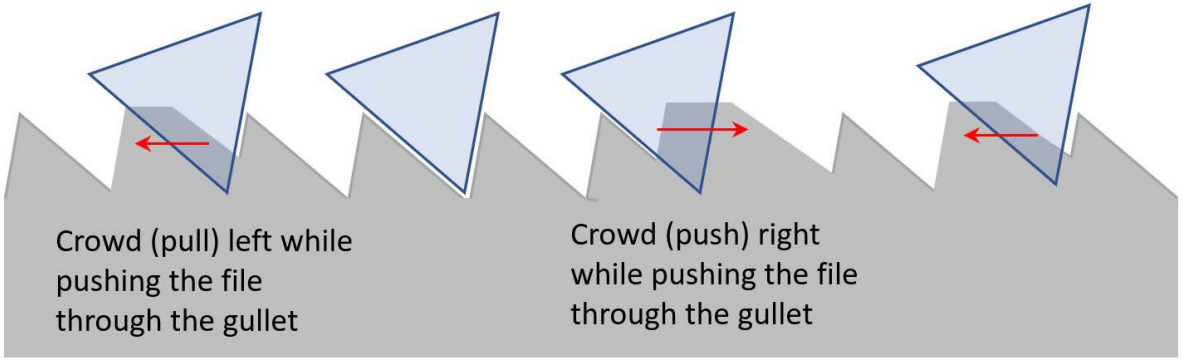
Toe Left

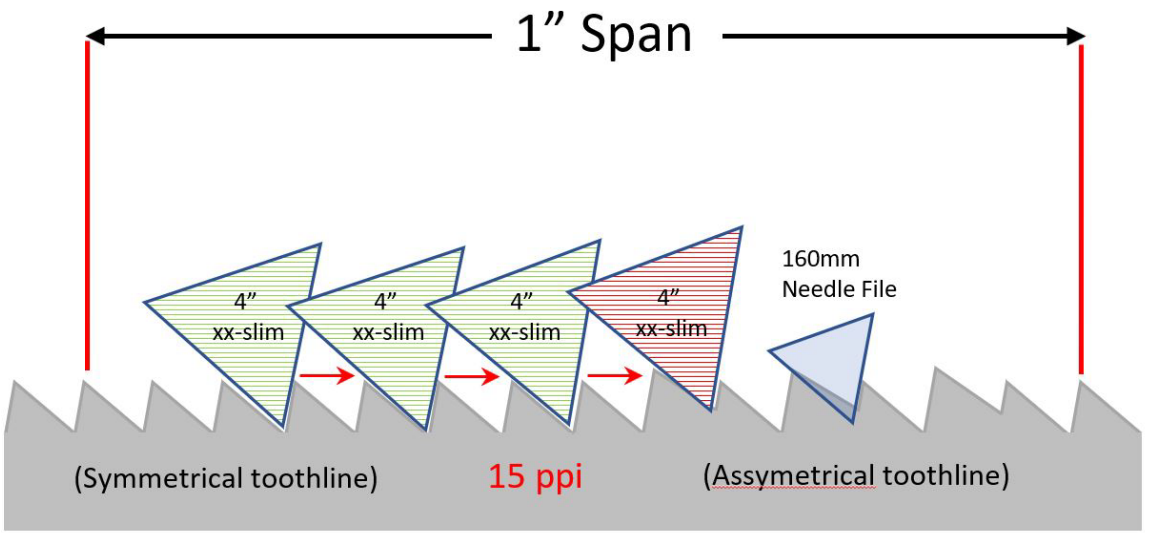
Geometry

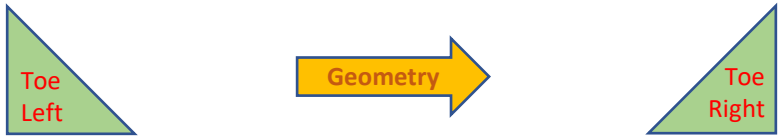
Toe Right

Crowding & Symmetry

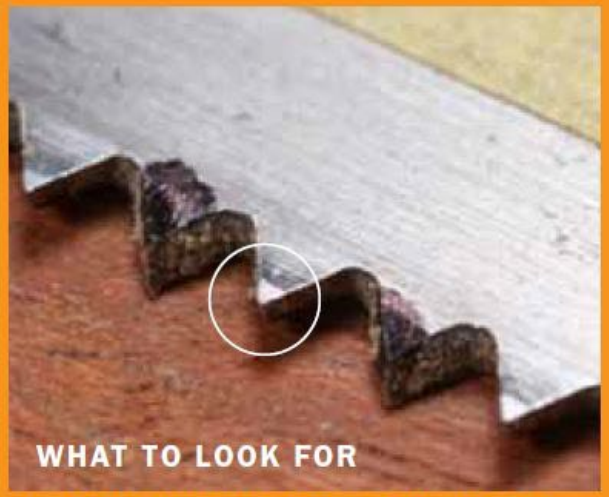
Crowding the Toothline







Stoning your toothline



Most of the teeth should have a tiny flat on the sides. Stoning evens out the set of the teeth and removes the burrs created by filing, dramatically improving the quality of cut.

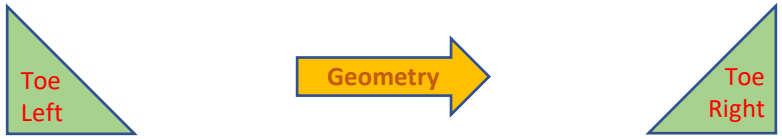
- Stoning evens out the set by reducing burrs
- Use a hard Arkansas stone initially before getting aggressive
- If you're making more than three back & forth swipes, you've overset your teeth
- Consider the gauge of metal when seeting and the loss of .005 to .015 you'll incur through stoning.

Toe Left
Geometry
Toe Right

Set Strength Tolerances

Plate	Pre-Sharp	Post-Sharp	Stoned
0.015	.023-.024	.022-.023	**0.021**
0.018	.027-.028	.026-.027	**0.025**
0.020	.029-.03	.028-.029	**0.028**
0.025	.035-.036	.034-.035	**0.033**
0.032	.044-.045	.042-.043	**0.041**
0.040	.053-.054	.052-.053	**0.051**

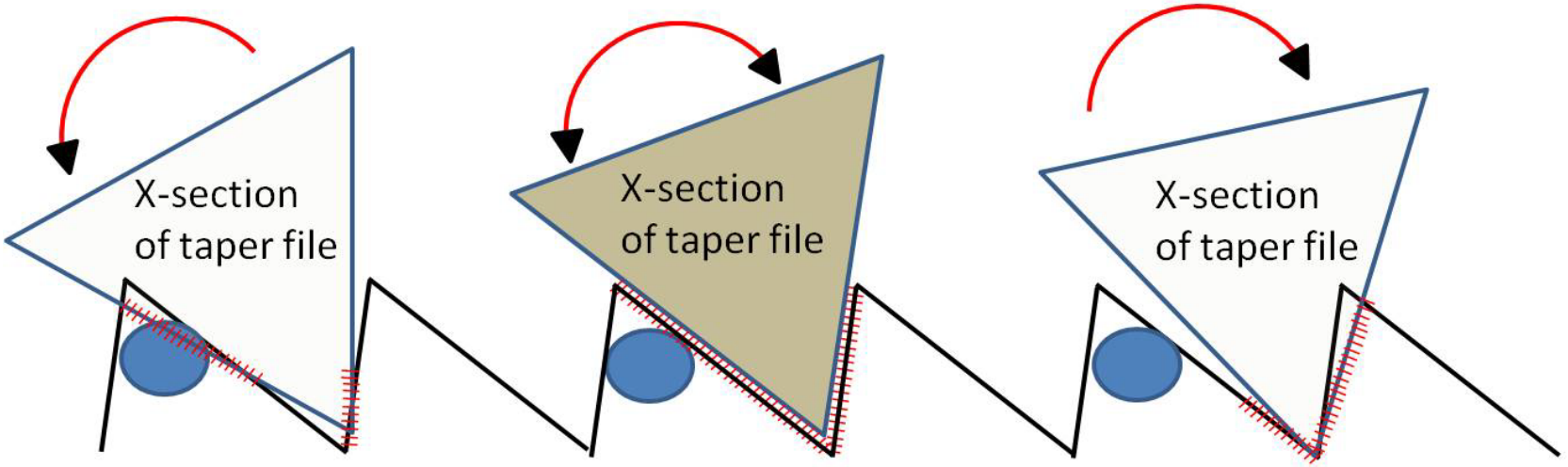
- Final set goal post sharpening/stoning listed on right-side column.
- Set lessens with thinner plates; increases with thicker plates.
- Adjust hammer-set to achieve pre-sharp set objective.
- Sharpening process will lessen set.
- Use a hard Arkansas stone and dial caliper to dial in optimal set strength.



Brush Stroke Assessment

Direction of cut
(toe end of the saw)

Heel end of the saw
(the handle end)



No-Go
Stroke rotated counter-clockwise to established rake

Good facets!
Stroke consistent with established rake

No-Go
Stroke rotated clockwise to established rake