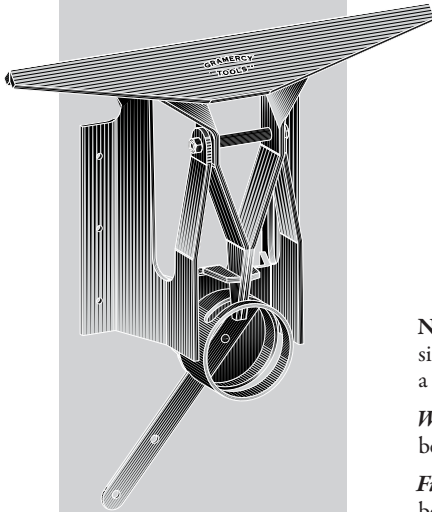




14" SAW VISE

Thank You for purchasing a Gramercy Tools Saw Vise. We're thrilled to offer a quality vise that will give years of faithful service.



ALWAYS WEAR EYE PROTECTION WHEN USING TOOLS

Gramercy Tools are designed & manufactured by the good people at:



112 26th St. Brooklyn, NY 11232
800.426.4613 & 718.499.5877

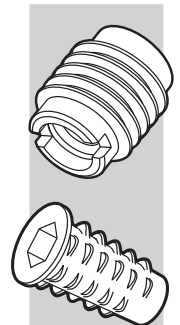
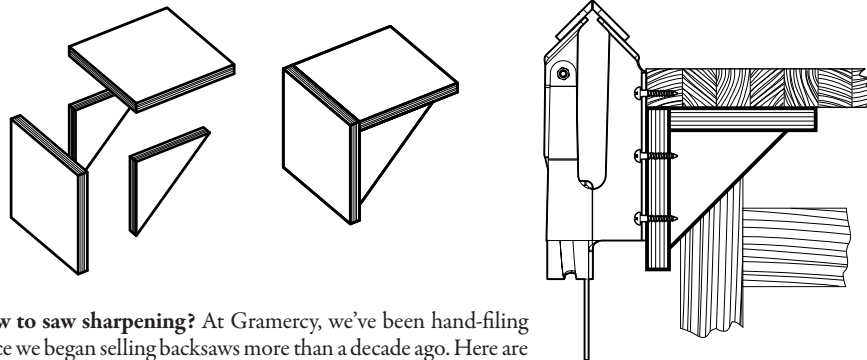
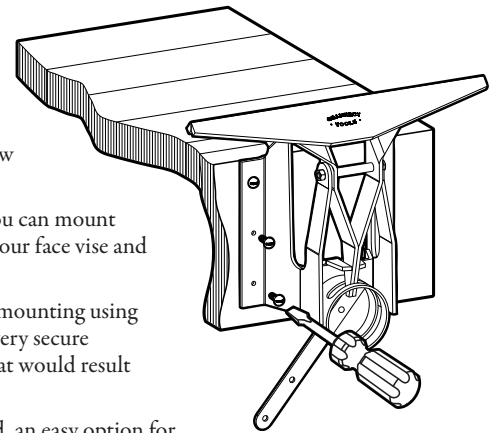
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As an addendum, we've enclosed **Elements of Saw Tooth Design**, a chart that provides a graphic overview of saw tooth characteristics. It's only a small sample of the wealth of knowledge out there on saw filing, but we hope our chart will aid you in your research and practice.

Mounting: Your new vise should be mounted on a vertical surface, such as the apron of a workbench or a similarly rigid stand. The six mounting holes are 3/16" in diameter and will easily accept No. 10 screws.

If you are interested in less permanent methods of mounting your saw vise, we have a couple of suggestions:

- If you have a bench with a flush-mounted face vise and an apron, you can mount the saw vise to a length of board, clamping one end of the board in your face vise and the other to the apron with a clamp or holdfast.
- Optionally, you could install threaded inserts that would allow for mounting using machine screws. We recommend this method because it provides a very secure attachment, but protects your workbench from the wear and tear that would result from repeated installation and removal of wood screws.
- If the stand or workbench you'd like to use has no apron of any kind, an easy option for mounting is to prepare a simple angle plate like the one shown below.



Threaded inserts for soft and hard woods

New to saw sharpening? At Gramercy, we've been hand-filing since we began selling backsaws more than a decade ago. Here are a few pointers to start first-time filers off in the right direction:

Work by a window: Raking daylight is particularly helpful to the saw filer because it helps show contrast between the different facets of the teeth. Absent the sun, a strong lamp positioned low to the bench helps.

File every other tooth: We believe it is correct to file every other tooth from one side, keeping to the bevel (or rake) angles of teeth that are set AWAY from you. That way, as you push the file over a sawtooth, you're not filing into its point. This can create unnecessary chatter and possibly dull tooth points.

Stone the teeth: After filing, run a small Arkansas stone along the sides of the teeth. "Stoning" will clean up burrs leftover from filing and help bring any over set teeth into line. A light pass with gentle pressure is sometimes all you need to sweeten the cut of a saw, eliminate hang-ups, or fix tracking issues.

Mark the corners: Increase the lifespan of your saw files by marking each corner with a marker or some layout fluid. By keeping track you can be sure you've used up corner #1 before moving on to corner #2. Sure, you can feel the difference between sharp and worn corners by filing a little, but it saves time to skip the hunt altogether.



Care & Feeding: Saw filing generates a lot of abrasive steel dust. If this swarf is allowed to accumulate in the moving parts of machinery, it can cause premature wear and tear. To keep your vise in tip top shape, brush away this waste periodically. Don't operate the cam if it's covered in filings. Under pressure, the swarf can embed itself and cause damage.

Lubrication: Steel machinery needs regular lubrication for quiet, reliable operation. Put a few drops of oil in the cam cylinder slot and on the various contact points between moving parts whenever you begin a new filing session.

Rust: Your saw vise is made entirely out of steel. It is by no means rust-proof. It has been shipped with a corrosion inhibiting oil film, but it's a good idea to give it a periodic wipe-down with camellia oil or a light mineral oil.

Pressure: A Gramercy Tools Saw Vise can generate considerable clamping force. The handle need not be tightened to its limit to achieve suitable clamping pressure for filing. Practice and preference will guide you to what pressure is suitable for each sharpening job.

Handle Holes: We included two extra holes in the handle for user-customization. Some filers may desire a little more leverage and wish to add an extension. Professionals may prefer to operate the vise with their knee for speed, in which case some knee-friendly, paddle add-on is not hard to imagine.

Toe-In: The jaw faces are not parallel. Each has been designed to feature a slight curve. This concavity, sometimes called "toe-in," allows the jaws to touch first at the ends and finally in the middle as the vise closes. This ensures that your saw plate is more uniformly clamped over the jaws' length.



ELEMENTS OF SAW TOOTH DESIGN

RAKE

-RAKE

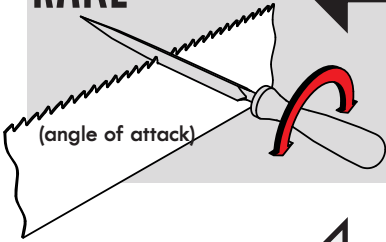


+RAKE

Common for western crosscut saws. Incise across grain with minimal snagging and smoother starting. More forgiving, but with greater tendency to slide over the wood without cutting.

ZERO (0°): Rake perpendicular to the direction of cut. Common to rip saws. Strikes a balance between a keen tooth and a smooth cut.

Angle of attack common to Japanese saws cutting on the pull stroke. Fast cutting but may snag or be hard to start. Extreme cases of positive rake increase potential for tooth breakage.



FLEAM

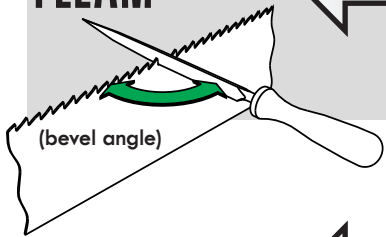
NO FLEAM



MORE FLEAM

Filing without fleam cuts teeth like a row of chisels. This is the essence of a rip pattern. Some fleam is required for a clean crosscut.

Forms two rows of alternating knife points. This is the very essence of a crosscut pattern. Too much fleam will allow teeth to dull easily.



SLOPE

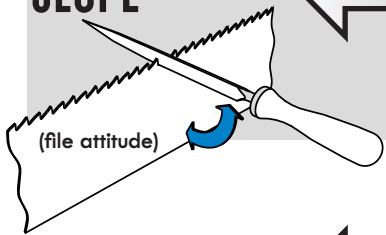
NO SLOPE



MORE SLOPE

Filing without sloping the gullets keeps the surface area of the gullet down, and easier to file.

Can achieve keener tooth with a standard saw file, but can also make the saw prone to tearing. Gives more space in the gullet for sawdust.



PITCH

(teeth per inch [tpi] or points per inch [ppi])

COARSE



FINE

Coarser pitch means deeper gullets and more pressure per tooth tip. Harder to start. Fast cutting but leaves rough tool marks.

Finer pitch means less pressure per tooth tip. Yields smoother cutting, easier starts, and finer cut marks. Numerous, smaller teeth increase sharpening difficulty.

GULLET DEPTH

(file corner radius)

SHALLOW



SHARP

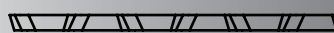
Shallower gullets have less space for sawdust. The saw will stop cutting if gullets fill up during a stroke.

Sharp gullets are deeper and have more space for sawdust to accumulate and so you can cut without clogging in thicker material.

SET

(alternate tooth offset)

NO SET



MORE SET

Makes the saw track better, if started correctly. Thinner cut requires less force to make. Increased potential for rubbing or jamming due to heat deformation of the saw plate.

Cuts a wider kerf with more clearance. Prevents saw binding. Extra 'wiggle room' allows for adjusting the direction of cut. More space for sawdust. More wood removed per cut, which takes more work.