

Sharpening A Saw

Key words:

TPI (teeth per inch)
Kerf
Rip/ Crosscut/ Tenon saw
Rake angle
Gullet

Resources:

Saw
Vice
Saw file
Mill file
Oilstone

Saw blade angles and TPI

Tenon: 75 degrees – 14 TPI

Ripsaw: 90 degrees – 4 TPI

Crosscut: 80 degrees – 6 TPI

The size of the file used to sharpen a saw is generally twice the size of the gullet. It is important to hold the saw file firmly, as it must be steady to file the teeth properly. You should practice on a saw with large teeth until you have a good understanding of how to sharpen a saw. There are five important steps to sharpening a saw.

Step One (Topping):

Put the saw in a vice, preferably one designed for saw sharpening. Secure the saw just below the teeth and ensure there is enough light to work effectively. Get a flat mill file to run across the top of the teeth to evenly level them off to the same height.

Step Two (Shaping):

Shaping restores teeth to the proper shape.

While the saw is still in a vice place a saw file in the first gullet at 90 degrees to the blade, with a few strokes reshape the gullet to the correct shape, repeat this process until all the gullets are equal depth size and pitch.

Step Three (setting):

Setting is basically the resetting of the teeth, for this you should use metal saw setting pliers; these are designed specifically for setting saw teeth. Place the pliers over the first tooth and squeeze, this will then move the pliers along to the next tooth once it has set the begging tooth. Repeat this process along the length of the saw.

Step Four (sharpening):

Sharpening is the process of sharpening the teeth of the saw.

While the saw is still in the vice use a tapered saw file, position it within the gullet much like you would when shaping (sharpening is focussing on the cutting edge of the tooth not the shape of the gullet). Firmly stroke at the following angles depending on type of saw:

- Ripsaw: sharpened at 90 degree angle to the blade
- Crosscut: sharpened at 55 degree angle to the blade
- Tenon: sharpened at 75 degree angle to the blade

Step Five (honing):

Honing removes the burs from sharpening or shaping, simply lie the saw flat and rub it with an oilstone to polish sides of the teeth and remove burs.