

THE MANUFACTURING DYNAMICS OF SCROLL SAW BLADES



Fret saw blades *By Chuck Olson*

Fret saw blades are the most commonly used scroll saw blades designed for today's parallel and C-arm scroll saws. Dimensionally, the largest fret saw blade (with the exception of Olson's "thick wood" blade) starts off where the smallest scroll saw blade ends, at about 1/16" or .0625" wide. Fret saw blades are available in skip, double tooth, and reverse (skip) varieties. They are made from soft high carbon steel which is drawn and rolled (flattened) to size. The "milled" teeth are formed by a hob that rotates through the material, then the blades are flame or induction hardened, cooled, and cut to length. Because fret saw blades are narrow and thin, they require no set for clearance. This helps to cut down on the amount of sanding necessary. Reverse tooth blades prevent underside tearout and splintering. Fret saw blades are available small enough to cut almost any design drawn by hand.

The methods used to manufacture scroll saw blades are similar to those for band saw or jigsaw blades, but there are lots of misconceptions that can result in misinformation...which could lead to your buying the wrong blades. So before you tear open the Full Size Pattern Section and get to work on the many great projects in this issue, let's first make sure you've got the right blades for the jobs at hand.

Size really does matter

The basic, and most obvious, difference between scroll saw versus band saw blades is size. The machinery used to make the blades becomes miniaturized as the material dimensions get narrower and thinner. So, regardless of what you've heard in the past, here's the real scoop, by blade category.

Pinned and plain end blades

Pinned and plain end scroll saw blades are made from pretempered high carbon steel, into which regular or skip shaped teeth are either punched or milled, then set. Pinning follows where needed, then the blades are cut to length. These types of blades are usually wide and thick, and have set teeth to provide clearance for the back of the blade while cutting curves. Earlier scroll saws, such as the 24" Delta/Rockwell and Powermatic, as well as Sprunger and Shopsmith, have loaded or spring actuated mechanisms which require these blades. Pin end blades are also still popular for many contemporary scroll saws costing less than \$200.

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Spiral and metal cutting blades

Spiral and metal cutting blades have regularly shaped teeth. These teeth are mostly milled, although some metal cutting or jeweler's saw blade teeth are formed with a file. Spiral blades are twisted to expose teeth all around the blade, then they are hardened, cooled, and cut to length.

Precision ground tooth blades

Precision ground tooth blades are produced by special grinding machines developed by the Olson Saw Company. The material is a pretempered high carbon steel, into which the teeth are ground twice to produce an ultra sharp edge all around the tooth, face, and gullet of the blade. They are then cut to length on an angle to indicate tooth direction. These blades have no tooth set and no burs. They will cut straight lines and tight radii, providing a wood finish that is incredibly smooth.

Now that we have put some rumors and fallacies to rest, the Full Size Pattern Section awaits, starting on page 35...

Should you have any further questions or suggestions about scroll saw blades, feel free to write to Chuck at the Olson Saw Company, 16 Stony Hill Road, Bethel, CT 06801.