

Thin Stock and Veneers

Veneers and other thin materials must be handled carefully to prevent splintering and tearing. Choose a very fine blade and adjust the tension to the highest recommended setting. Reduce the tension slightly if blades begin to break frequently. Also select the lowest speed setting-especially if the material is brittle or the piece requires intricate detail.

Even if you are using the special insert or table covering mentioned above, you'll get better results by supporting veneers during the cut. This is easily done by taping the veneer to a piece of cardboard or posterboard (Figure 15-23). Many people sandwich the veneer between two layers of posterboard to prevent fluttering.

If they are available and suitable for your project, the new adhesive-backed veneers seem to splinter somewhat less than ordinary types, but even these cut smoother when an additional backup is used.

CUTTING METAL, PLASTIC AND OTHER MATERIALS

In addition to its woodworking capabilities, the scroll saw can be used to cut a wide variety of materials including nonferrous metals, rigid plastics and even such unusual items as bone, ivory, mother-of-pearl, rubber, cork and paper.

Obviously the characteristics of these materials vary greatly, so it is impossible to provide complete instructions in a limited space. The following suggestions should be used as a guide to help you get started, but you'll need to experiment to find the best techniques for each material.

Metal Cutting

Metals vary widely in hardness and ease of cutting, but all metals require blades which have hardened teeth. These blades are identified as suitable for metal cutting and are available from heavy duty sizes down to extra fine jeweler's blades. Caution: Trying to cut metal with an ordinary woodworking blade will dull the teeth and ruin the blade almost immediately.

Some metals may be cut dry while others require lubrication. When using lubricating fluids, disconnect the air blower tube to keep from blowing the fluid away from the cutting line. Ideal cutting speeds also vary from metal to metal, but when in doubt it's usually best to start slow before trying faster speeds.

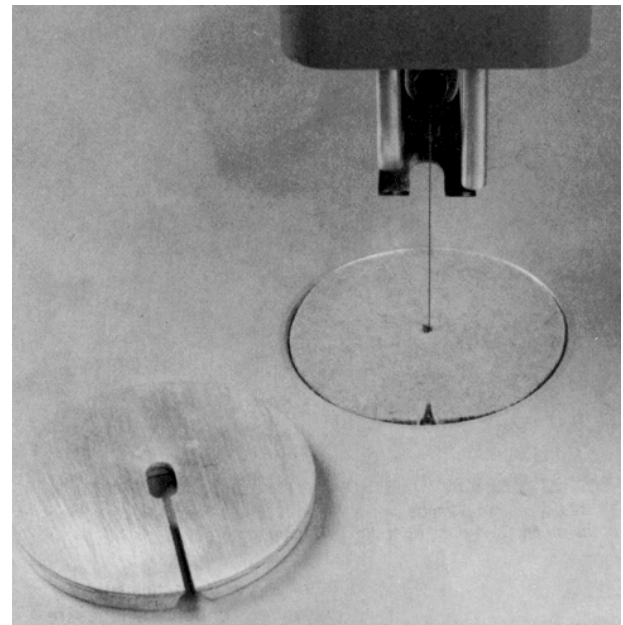


Figure 15-22. Make an auxiliary table insert out of hardboard to provide extra support for cutting small pieces or thin stock. A hole drilled in the center of the insert accommodates the blade.

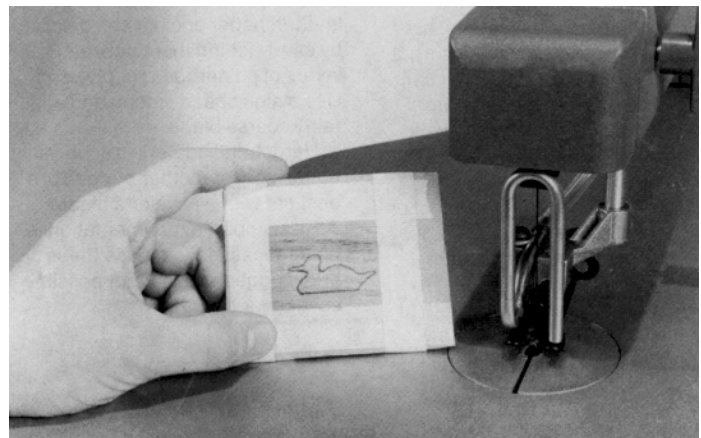


Figure 15-23. Tape veneer to cardboard or posterboard for added support and a cleaner cut.

Many of the softer metals-such as silver, gold, copper and brass-seem to be almost selflubricating and cut well dry. Aluminum, although a soft metal, cuts better when a light oil or a tap and die lubricant is used.

Although some very hard metals such as steel can also be cut with the scroll saw if necessary, it is difficult to do and not generally recommended. Warning: If you must try it, use slow speeds and feed rates, keep the blade lubricated to reduce dulling, and never attempt to cut steel more than 1/4" thick.

Thin sheets of metal often form a burr on the bottom side. This can be minimized by backing up the metal with a piece of plywood or similar material. Any remaining burrs can be removed with emery cloth or a file. Caution: Cutting metal will leave abrasive dust on the scroll saw and the Mark V. Always clean up carefully after each work session to protect your equipment.

Plastics

Plastics vary even more widely than metal in density and ease of cutting. In general, use the coarsest blade available which has at least three teeth in contact with the work and does not produce chipping on the bottom side.

The harder and denser varieties of plastics often cut like wood, so fairly high speeds and somewhat finer blades may be used.

Medium-hard plastics such as acrylics are often difficult to cut because they create more friction and heat. As the heat builds up, the plastic starts to melt and weld itself back together. These materials should be cut with the protective paper covering still intact or with a piece of masking tape applied to the cut line to promote cooling (Figure 15-24). Select a blade with some set in the teeth to promote chip removal and slow down or stop completely at the first sign of melting.

For very soft plastics such as polystyrene or polyethylenes, reduce the speed and select a very coarse blade with maximum set in the teeth.

Use the dust blower when cutting plastics to help cool the blade and rub the cutline with paraffin or a crayon for lubrication.

Other Materials

Very soft materials such as leather, paper or cloth can be cut by sandwiching them between layers of posterboard or plywood. Use a high speed setting and a fairly coarse blade.

Hard, brittle materials such as bone, ivory or mother-of-pearl are best cut with a jeweler's blade.

Remember, experimentation is often necessary because these brief suggestions cannot possibly cover every situation.

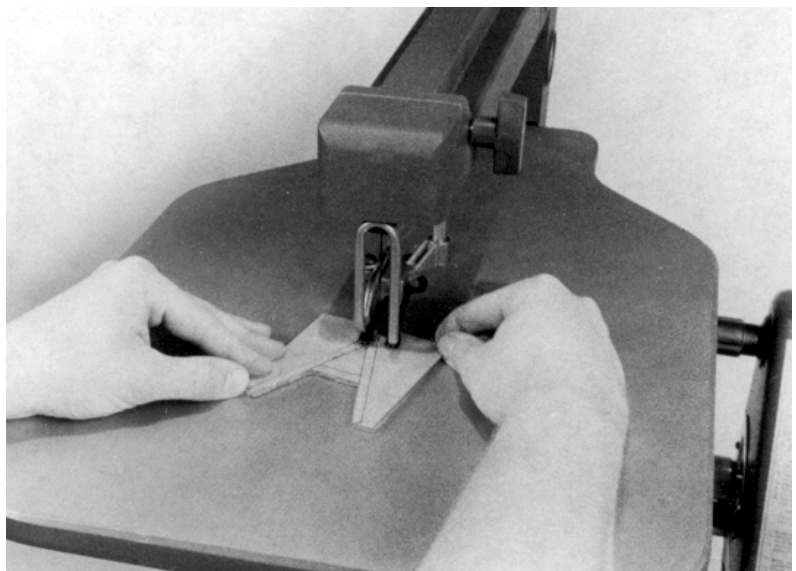


Figure 15-24. When cutting plastics, leave the protective paper in place or tape both sides of the cutline to reduce heat and scratching.