Band Saw Circle Jig

One of the best ways to cut circles out of wood or plywood is to use a band saw along with a circle jig. Although there are various designs for band saw circle jigs, most of them work on a similar principle. The workpiece rests on top of a sled, or auxiliary table, and is rotated on a pivot point that is in line with the blade. The pivot point can usually be adjusted closer or further away from the blade for various sizes of circles.

The circle jig shown below is a good example of this style of jig. It consists of a plywood base with a hardwood runner that is sized to fit in the mitre gauge slot of your band saw. A cleat attached to the bottom of the base rides against the edge of the band saw table. A thin strip of wood attached to the front edge of the base serves as a hand grip.

To allow the jig to cut various sizes of circles, the pivot point can be adjusted via a sliding mitre track. This track is recessed into the base so that it’s perpendicular to the saw blade. Holes are drilled in the top of the adjustable portion of the track for a dowel centre. The dowel centre serves as the pivot point for cutting the circles.

To clamp the adjustable track in place, a hole is drilled and tapped in the mitre track for a studded knob. The knob is tightened against a narrow wood shoe, locking the two pieces of the track together.

SETUP. Before using the jig for the first time, turn on your band saw and slide the jig forward into the blade to cut a kerf. Stop cutting when the centre of the mitre track is in line with the teeth of the band saw blade. Without moving the jig, turn off the saw and let the blade coast to a stop. Then glue a stop block to the underside of the base, tight against the front edge of the band saw table.

USING THE JIG. To use the jig, simply adjust the sliding mitre track to position the pivot point for the size of circle you wish to cut. With your workpiece resting on the pivot point, slide the jig and workpiece forward into the blade until the stop block strikes the front edge of the band saw table. Then carefully rotate your workpiece on the pivot point to create a perfect circle.