

Akeda DC-16 Dovetail Jig



Alan Goodsell tests the ease of the Akeda Dovetail Jig

PHOTOGRAPHS BY THE AUTHOR

One of the most popular jigs for the router is the dovetail jig and there are plenty of them out there. They range from ones that are a mere template that you screw to your workpiece to sophisticated models that look like they need a degree in rocket science to use them – actually this is rarely the case and most dovetail jigs are relatively easy to use once you have mastered the technique.

The Akeda DC-16 jig, although launched onto the market a few years ago experienced a major setback when the company's manufacturing plant suffered extensive fire damage and production temporarily ceased. Now the company has got back on its feet again the Akeda DC-16 jig is available once more.

The dovetail joint is mostly used to create drawers and there are two main types used in their construction. They are through dovetails and half blind dovetails that will both provide a strong joint that will resist the pulling



action of a drawer being continually opened. In typical use for the construction of drawers the through dovetail will be used on the back of the drawer box and the half blind dovetail is used on the front of the drawer.

What You Get

There are only few parts in the package, and that is simply because you don't need too many due to the ingenious design of the jig. There is of course the jig body, which is a sturdy, and well built piece of equipment capable of accommodating work that is up to 16" wide, four mounting screws, nine tail guides, nine through dovetail pins at 7° and nine half blind pin guides. Also included is a shutter that is fitted internally to aid dust extraction, a knob for tightening the clamps,

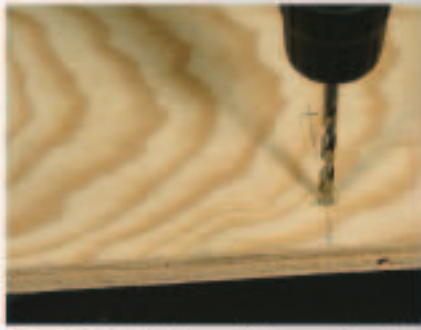
a 7/16" diameter guide-bush and finally a comprehensive instruction manual. At this point it is worth mentioning that the optional DC Accessory Kit is a useful purchase as it includes a waste collection system and nine each of pin guides at 9°, 11°, 14° and 20° to increase your dovetail options. There is also a router bit set that includes five dovetail bits at 7°, 9°, 11°, 14° and 20° as well as three straight bits at 0.315", 0.004" undersize and 0.004" oversize for adjusting the fit of a joint. A system for keeping your router's power cord out of the way is a useful extra that is included in this kit, as are the half blind pin stops to aid the positioning of the pin pieces. Tall guide spacers that are cut and fitted between the guides are just the job to prevent inadvertent routing between them.



above The DC Accessory Kit contains many useful parts

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above Drill holes in a sub base or bench...



above ...to hold the jig securely



above Tail guides are snapped into position...



above ...then marked with a pencil



above The wood is clamped vertically in the jig



above With guide-bush and dovetail bit fitted. The depth of cut is set

Getting The Jig Ready

There really is little to do before you are cutting dovetails and the first thing to accomplish is to mount the jig onto a sub base that enables the DC to be clamped to the bench. Cut a piece of plywood 26" long by 6" wide and screw it to the bottom of the jig in the position indicated in the manual. When mounted correctly this will allow the workpiece to be fitted into the jig without interference from the edge of bench. An alternative method, if the jig is to be used often, is to mount it directly on the bench. That is all the preparation you need to do to get the DC ready for setting up for some dovetail cutting.

Clamping System

When I first saw the bag of accessories I wondered why there was only clamping knob. There is only one because you only need one. The vertical and horizontal workpiece clamps that run the length of the jig tighten in one action, a bit like the mechanism in a planer, and placing and turning the knob in either of the clamp sockets will tighten the workpiece against the jig's fixed surface securely across its width.

Guide Fingers & Guide Rails

The pin and tail guides are ingenious devices that are well made from high quality

carbon fiber filled plastic and easily clip into position in the DC's guide rails. You have to cut your workpiece at a convenient width to suit the 1/8" increments of the guide finger settings in the guide rail, so bear this in mind when planning your project. The guides clip into the guide rail and you place them at a slight upward, or downward, angle then snap them into place, making sure they locate in the rail's indents. You can then position the rest of the guides in between and at spacings that you want; generally speaking, even spacings look better. When they are all in place, mark the positions of the tail guides with a pencil mark on the rail so you have a reference for positioning the pin guides.

Dust Collection

As standard, the Lexan window on the front of the DC is installed angle out and this is if you are not planning to attach a shop vacuum system to the jig. If you are planning to, then you will need the accessory kit and when that is installed the window is removed and replaced angle in to aid the path of extraction. The system keeps the atmosphere clear of dust for a healthier working environment. You will be advised to frequently clean the jig of the inevitable dust and debris that will accumulate so that the guide rails and other parts do not get clogged up.



above The router moves easily on the jig to make the cut



above Careful routing produces the tails

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How It Works

The DC, like most router jigs, works by its various components that, when set up, restrict the movement of the router bit to a controlled path. In this case the pin and tail guides and guide rails of the jig steer the router bit to cut the pins and tails that are required for the dovetail joint. A guide-bush fitted into the router's base combines with these to give the router bit an accurate path of travel at a set depth.

The process for cutting through or blind dovetails is similar but the latter uses only the dovetail bit for cutting both the pins and tails whereas the former uses a dovetail bit for the tails and a straight bit for cutting the pins.

For half blind dovetails, the tail guides are set up first. Once they are snapped into position and marked on the rail with a pencil, the workpiece is slid tight to them from below and held in the DC's clamp. The router, with the guide-bush and dovetail bit fitted and set to depth, is placed onto the top of the jig. The router's baseplate runs on the rails on the top of the jig, and not on the guide fingers, so the path of travel is smooth. The first cut is taken from left to right with the guide-bush pulled firmly against the guide rail on the front of the jig, and a cut is taken along the length of the workpiece.

After this you can work the cutter in the slots of the tail guides, making sure not to cut in between the guides. The accessory kit features tail guide spacers that will prevent this. Take the bit through this part of the cut slowly as this will help to prevent tearout on the outside of the workpiece. When you have completed cutting all of the tails on all of the workpieces, the jig can then be set up for cutting pins.

The pin guides are set to the pencil marks and the workpiece is fed into the back of the jig, against the stops, with the end of it protruding past the guide rail the thickness of the workpiece then clamped in place. With the bit set to the same depth as the cut for the tails, the pins are cut. Work from the left to the right and rough out the pins first, taking relatively gentle cuts, as dovetail bits are a little fragile and prone to break if worked too hard. The final cut is taken with the guide-bush firmly against the pin guides, and this small final pass will give a good finish. You will probably find that you will have to make some small depth adjustments to the bit for a well fitting joint. Raising it will loosen the joint and lowering the bit will tighten it. Work with scrap pieces until you have got it right and remember that all joints need some space for glue so don't make them too tight.

Conclusion

If you have used any kind of dovetail jig before setting up and using this jig will be a breeze, but if not the technique will soon become familiar. I thoroughly enjoyed setting up and using this jig and although a bit expensive for the casual user it pays dividends if you have a project with a lot of drawers, or if you are a commercial cabinetmaker where time and quality is of the essence. The DC is capable of more types of dovetail joint that I have the space to cover and I am sure that the jig will be seeing plenty of use in my shop trying them all out.

SPECS

Akeda DC-16 Jig: \$330
DC accessory kit: \$250
Contact Akeda:
Tel: 604-484-4893
Website: www.akedajigs.com

Joint Capability:
Through dovetails, half blind dovetails, box joints, shadow dovetails, sliding dovetails, end-on-end dovetails, and angled dovetails

Work Piece Width:
Minimum: 1 1/4"
Maximum: 16"

Work Piece Length:
Vertical Minimum: 3 1/2"
Horizontal Minimum: 3 1/2"

Work Piece Thickness:
TD pin piece: 1/4" - 3/4"
TD tail piece: 1/4" - 1"
HBD pin piece: 3/8" - 1"
HBD tail piece: 1/4" - 1"

Guide Finger Pitch:
Minimum: 1"

Spacing Increment: 3/8"

Dovetail Angles:
7, 9, 11, 14, and 20 degrees

Router Requirements:
Minimum 6" dia. base
1/2" collet



above Set the wood to the correct depth and clamp tight



above Install the pin guides on the pencil marks



above The finished dovetail pins



above The completed half blind dovetail jig

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