

ROUTERS, BITS, COLLETS, GUIDE BUSHINGS and SUB BASES

Most problems with dovetail jigs can actually be traced back to your router. Here are some guidelines for routers and guide bushings for use with the AKEDA Jigs:

<i>Quality</i>	Purchase a high quality precision router. Users mostly report success with Porter Cable, DeWalt, Triton, Festool and Milwaukee. Bosch has its own guide bush system, which must be replaced with a sub base so you can use Porter Cable style AKEDA guide bushings without slippage. Unknown problems have been reported with Freud 1200E and 2200E.
<i>Collet</i>	An 8mm collet is preferable, but not always available in North America. If your router has a 1/2" collet, use the 1/2" to 8mm reducer. You'll get less vibration if the collet nut drops down inside the back side of the guide bushing. Some people use a lathe to turn down the end of the collet nut to fit. In order to fit, the first 3/8" of the nut should be turned down to 1" diameter.
<i>Quantity</i>	Router set up is time consuming. Some users set up two separate routers for through dovetails, and sometimes a third router for half blinds.
<i>Type of base</i>	A plunge base is best, with a minimum 6" diameter.
<i>Horsepower</i>	Minimum 2 hp recommended. Run the router at 22,000 RPM.
<i>Weight</i>	AKEDA's jigs are heavy duty, so a heavy router is better – it provides a steadier platform and helps dampen vibration.

Check Your Router – Each of the Following Items Is Important

1. Your router bearings must be in good condition, with no run-out. Run out is the result of a worn bearing, a dirty or damaged collet, or a bent cutter shaft. Run out causes the bit to rotate eccentrically, causing too much material to be removed. In the case of a dirty collet, take it apart, clean it with alcohol, and lightly oil it before reassembly.
2. The base must be flat and stiff. It should not "concave" anywhere with thumb pressure. If it does, use a sub base.
3. The base must not feature any recess that would allow the router to drop slightly off the ends of the guide rails. If it has a recess, use a sub base.
4. The guide bushing *must* be centered with the collet to avoid joint misalignment. If it's eccentric, use a sub base.

Strongly Recommended

An after-market clear acrylic router sub base is strongly recommended for any router that's used with a dovetail jig. It provides better visibility, ensures a perfectly flat stiff base, and allows you to accurately center the guide bushing to the collet. The sub base manufactured by The Jig Store has a neat feature. It incorporates a pin that engages the cut out in AKEDA's guide bushings to prevent the guide bushing from rotating when you tighten it.

Guide Bushings

To cut accurately fitting dovetails on the AKEDA jigs, you must use AKEDA's 7/16" precision thin wall Porter Cable style guide bushings. They're accurate to within .001". Don't use after market guide bushings. They may not be accurate enough, the barrel may not be long enough and the inside diameter may not clear AKEDA's .350" box joint bit.

AKEDA guide bushings are included with the jigs and kits, and are also available separately. They come in .438" (standard) .434" (undersize) and .442" (oversize) to provide fine adjustment to joint fit (see the User Manual).

Router Bits

AKEDA router bits now feature 8mm shanks for extra stiffness. If your router manufacturer does not offer an 8mm collet, use an 1/2" to 8mm collet reducer. One is included with the C-Kit, and they're also available as an accessory. AKEDA's router bits are average quality. Whiteside manufactures high quality bits for the AKEDA jig.