

## PREVENTING TEAR OUT

Tear out is often blamed on a particular dovetail jig. This is just not the case.

Tear out is something that happens between the router bit and the material you're routing. So that's where you look to fix the problem.

Tear out is most often caused by:

- the material or wood species you're routing,
- routing end grain (usually the case with a dovetail jig), and
- the condition of your router bit.

Plywood is the most difficult material to rout "across the grain".

In truth, tear out is most often the fault of the operator for failing to take steps to prevent it, but the good news is, tear out can be prevented. In fact, if you experience tear out when you're using your AKEDA jig, relax! We considered it when we designed the jig.

The horizontally clamped half blind pin piece is not usually a problem because you're routing across the end of the board. It can be tough going, but you won't experience tear out. Here are some tips for half blind tail-pieces, through dovetails and box joints:

- There's no substitute for a sharp router bit. Use a small stone on the flats of the blades, but never on the edges.
- Use the correct motor speed on your router. Your router should be set to run at 22,000 rpm or higher. Feed rate should be slow and firm, but avoid burning.
- For the tail sockets, climb cut from right to left when you first enter the sockets, from right to left. Do this very carefully and take light cuts. After you've broken through to the back on the left side of the socket, climb cut from left to right.
- On the AKEDA jig, placing a backup board in the horizontal clamp is easy. Install it after you've installed your work piece, hard up against the back side of your pin piece and tail piece.
- If you're only doing a couple of joints, clamp the back-up board with the grain running the length of the jig, so you're routing into long grain, not end grain. If you're repeating the same layout over and over, clamp the back up board with the grain pointing towards you. It does a better job of supporting the long grain on your workpiece, and you can keep reusing the same back up board for, say, all your tail pieces. You'll need a different back-up board for all your pin pieces.
- Use a facer board in front if you're using plywood.
- Take two tail guides and cut the right leg off one and the left leg off the other. Do this very carefully and stay 1/8" away from the spring. Use them for the half pin sockets at opposite ends of your boards so you can come in from the side instead of the front.

Some people suggest adhesive tape, others suggest making a knife cut first. You can try those too, but we've never had much luck with either. Try all the above suggestions at once and you'll see some improvement.