



## Bad Axe Frame Saw DIY Instructions

**Concept:** These instructions summarize a list of tools & supplies and provide a suggested sequence of steps necessary to make your own Roubo-styled frame saw. You are essentially making a frame of a specified length to provide adequate clearance for the sawplate to be tensioned. These instructions provide a recommended inside width (10”), but you may increase that dimension if desired. These instructions also reflect mortise and tenon joinery, but as long as you achieve the specified inside length, then how you choose to construct the frame given your own woodworking background, preferences and techniques is entirely up to you.



**Sourcing Your Wood:** You’ll need to source four lengths of wood sufficient for the measurements identified in these instructions (or wider for the handles per your preference). You will make two handle ends and two rails connecting the handles. Each piece should consist of jointed flat stock, either quartersawn OR laminated to mitigate wood movement with seasonal change and how that can potentially throw the plate out of true. These instructions identify sizing requirements in your species of choice.



**Tools Required:** Unlike the kerfing plane DIY process, there are no specified Forstner bits, taps, or any other tools other than your own complement of backsaws, drills, spokeshaves and planes to achieve the end state.

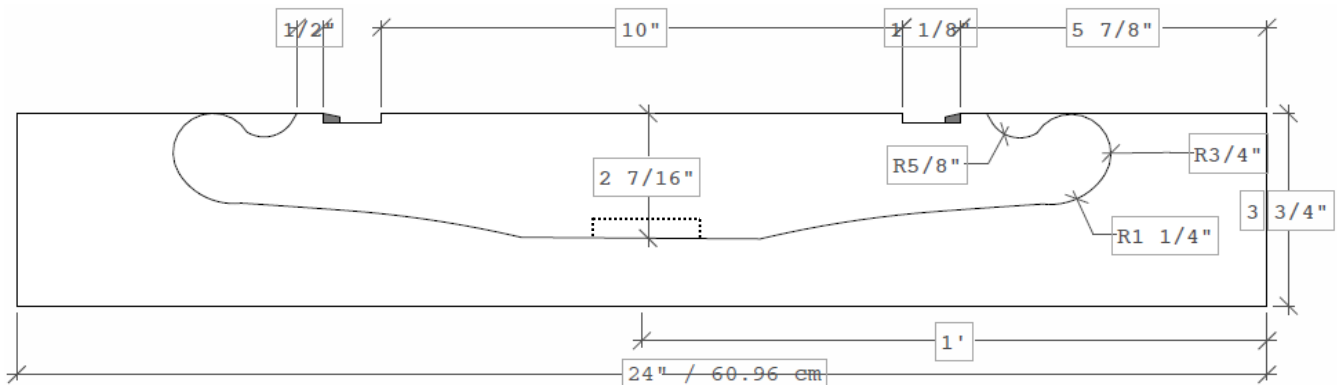
**What Bad Axe has supplied:**

- DIY Instructions
- Frame Saw Handle Template (may be increased in width per your preference)
- 30.5" or 36.5" hammer-set and sharpened frame saw plate filed 5 ppi rip
- 2 ea U-bolts (taped to ends of sawplate)
- B-1 Bracket (tapped on the end to receive eyebolt)
- B-2 Bracket for opposite end
- 3/8-16 Shouldered Eyebolt
- 3/8-16 Brass Hex Nut
- ~~Stainless Steel Eyebolt Striker Plate~~ now replaced with circular striker plate with indent.
- ~~Stainless Steel Slotted Striker Plate Screws~~



**Joinery Specifications:**

- Cut handle ends to specification with the template. Notch only one of the handles such that the B-2 bracket will seat flush to the handle's surface. **NOTE:** you can make the handle as wide as you prefer—simply elongate where you see the 10" span below.

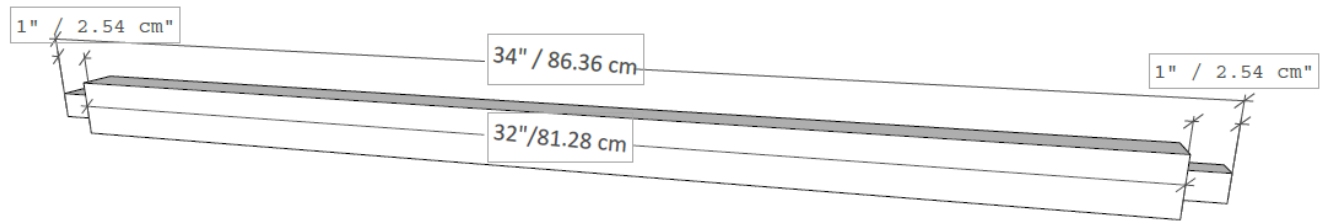


**NOTE:** Notch the handle end receiving the B-2 (non-eyebolt) bracket flush, square and center to the handle's surface. This cut-out is provided on the template. Do not notch the other handle receiving the B-1 bracket.



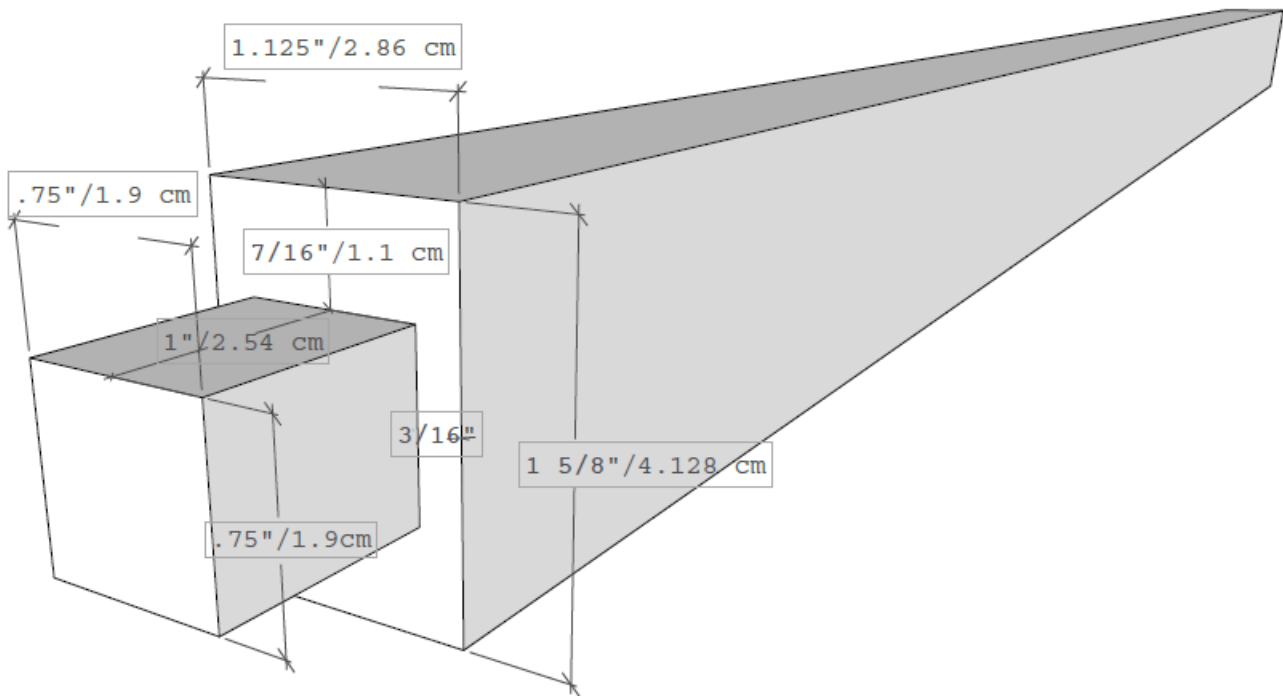


- Cut rails as specified in diagram. **Note:** Add six inches in length (shoulder-to-shoulder) for a size long frame saw with the 36.6" plate.

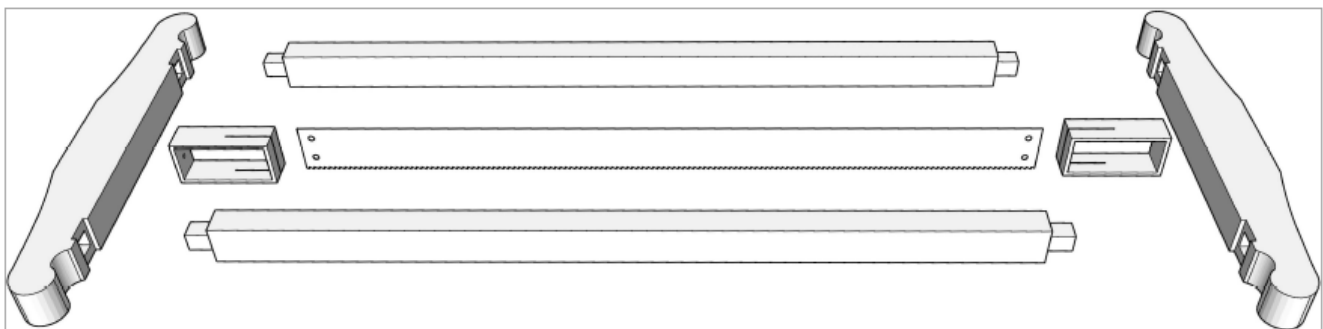


*NOTE: Leave your wood long and cut the first tenon before trimming the length to final dimension. Add 6" shoulder-to-shoulder length if making our size long frame saw kit with the 36.5" plate.*

- Now cut your tenons.



- Dry-Fit wood pieces to ensure fit.





- Slip brackets onto handles and test-fit assembly with plate. Install U-bolts to retain plate inside brackets.



- Screw eyebolt and brass nut through B-1 bracket eyebolt hole and note center location on handle where circular striker-plate should center on the end of the eyebolt. Mark this point, then disassemble the frame. Using a Forstner bit, embed the circular striker plate flush to handle's surface. Ensure that the indent in the center of the striker plate is oriented toward the eyebolt, which keeps the eyebolt from walking under tension. Reassemble the bracket in place.

- Insert sawplate into bracket kerfs and hold it in place loosely with U-Bolts, then tighten eyebolt/brass nut until plate just becomes tense.



- Now close the brass hex nut to within 1/16" away from bracket surface. Hold frame saw assembly upright, and using a stout screwdriver, give the eyebolt a 180-degree turn clockwise. By now the brass



nut should be flush to bracket surface and the sawplate tight. Using a crescent wrench, tighten the brass washer. This adds a decorative flourish to your frame saw, but also adds to the bracket's thread count to prevent stripping. Repeat this procedure as necessary until plate is tense to your satisfaction. Don't overtighten during this step such that you wind up stripping the bracket threads.

**Finishing up:** Once you have ensured all joinery dimensions are within proper fit and tolerance, disassemble your frame saw and finish all wood components to your satisfaction. For instance, May May's excellent wood-carving youtube video demonstrates how to carve decorative scrolls into the handle ends at <http://www.badaxetoolworks.com/kpfs-Roubo.php#Mary>.

Note that you'll never need to glue your frame together—everything is held in place under tension by the plate/bracket assembly.

Have fun with this project—it's very straightforward and quite gratifying to complete. Cheers!

