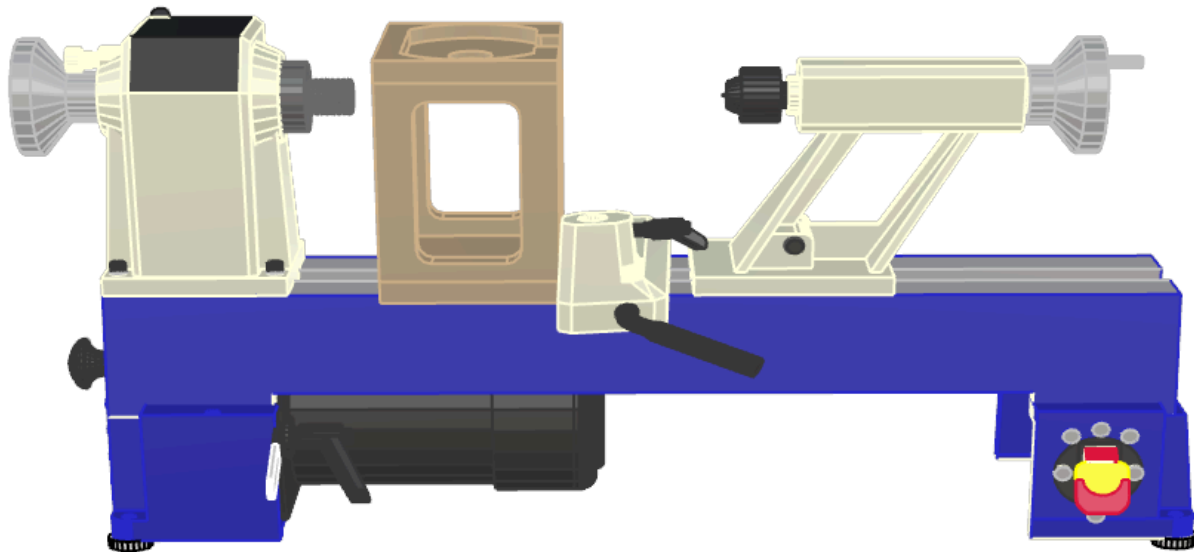




PersonMakeObject Facet-O-Rama Lathetop Faceting Doohickey



This simple lathe mounted jig uses a trim router with plunge base on a riser box which you slide on the bed of your lathe to cut facets, flutes or similar features on stock mounted between the lathe's centers or on a mandrel. The jig in this example is constructed for a Rikon 70-220VSR lathe: the dimensions are pretty arbitrary and should be relatively simple to modify for use on any lathe.

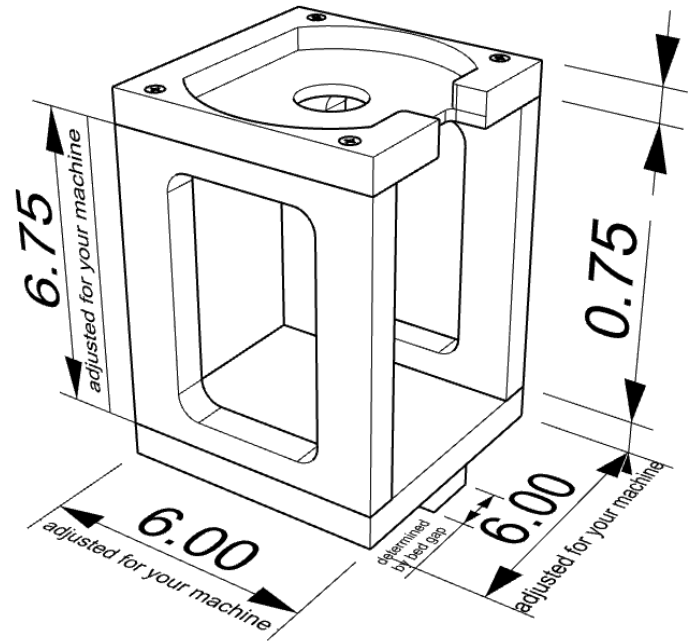
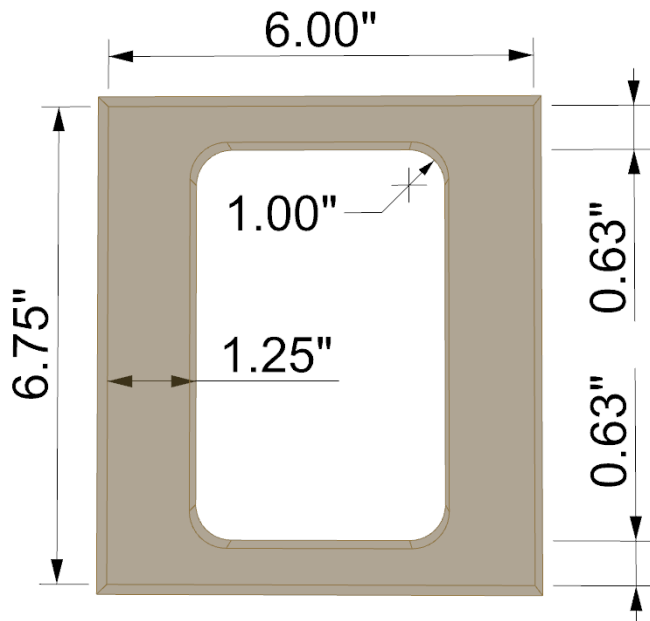
I made the interior of the jig 1-1/8" above the centerline of the lathe spindle to allow for faceting of stock up to 2" in diameter: I think it could be taller to accommodate larger stock, but smaller sizes might become limited by the extension capacity of the router and bit used as height increases.

The riser is constructed from 3/4" thick baltic birch style plywood joined with simple butt joints and construction screws. Windows are cut in the side panels to allow access and visibility to the work. A plunge base trim router (DeWalt DWP611) fits in a pocket on the top of the riser and a guide block on the bottom allows the router to move smoothly along the lathe bed. Facets, flutes, and similar features by utilization of the lathe's indexing mechanism and tooling in the trim router.



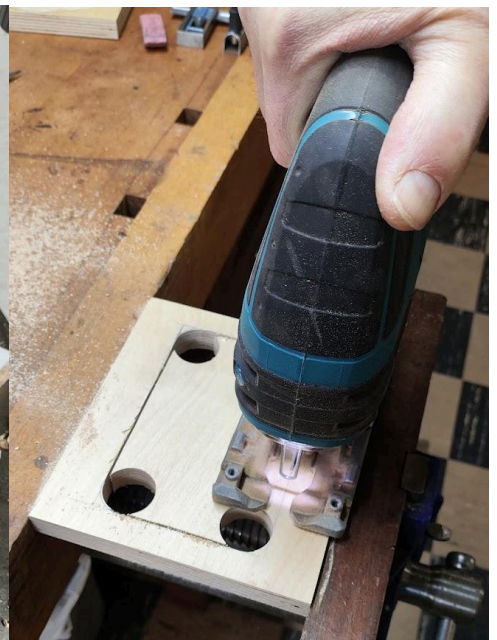
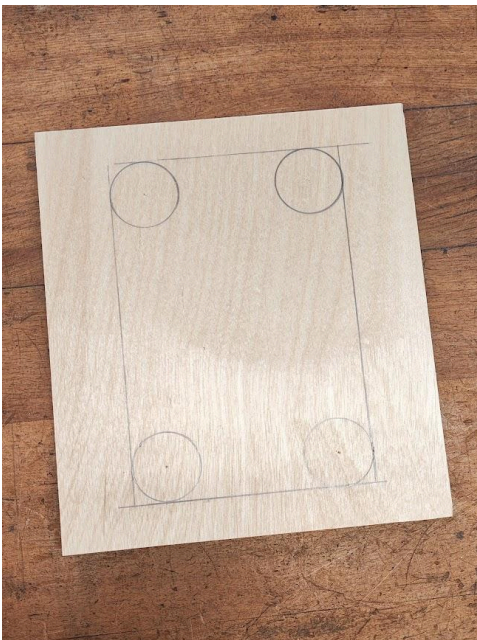
Constructing the Riser Box

- 1) Determine the dimensions required for your lathe and cut the two sides, top, and bottom panels.



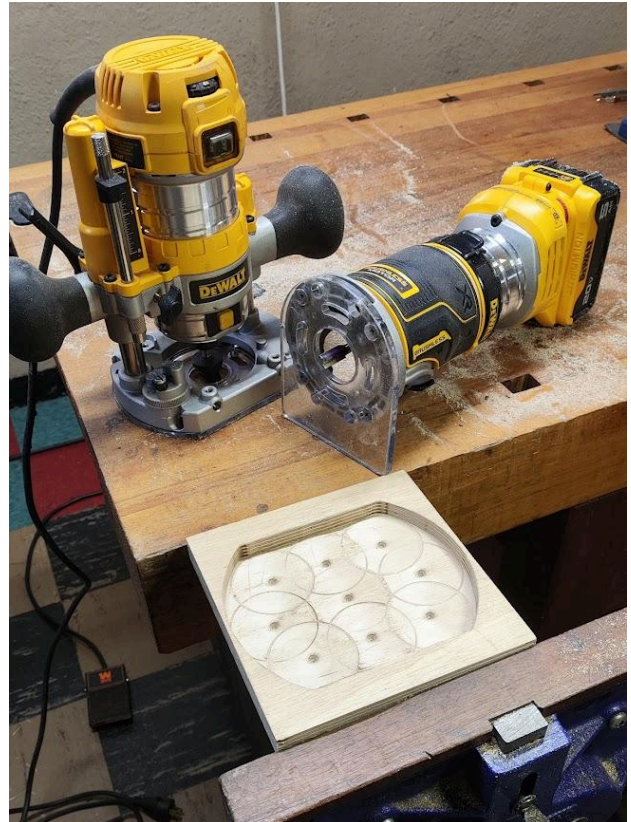
2) Create openings in side panels.

- a) Mark out the openings as desired.
- b) Drill corners of side panel openings
- I used a 1" forstner bit on drill press with a backing board for a clean exit.
- c) Cut straight lines between the corner holes to clear the side panel openings.
- I used a jigsaw, filed it clean, then put a small radius on the edges with a roundover router bit.



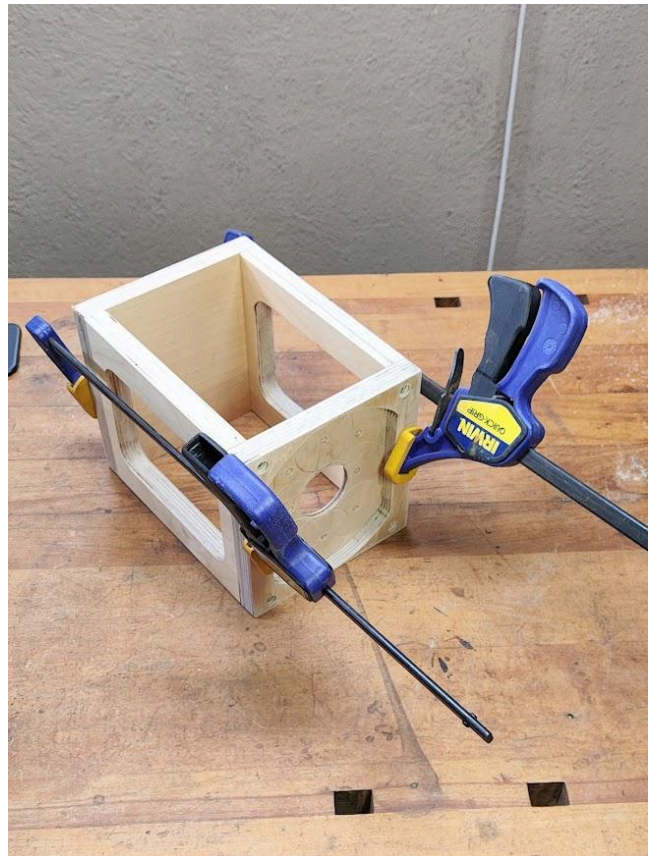
3) Create pocket in top panel to hold trim router base

- a) Position router on panel as desired and trace the base.
- b) Remove waste from pocket to $\frac{1}{2}$ " depth.
 - I did this by drilling out the majority of the waste with a 2" forstner bit in a drill press, then cut to the traced line with chisels and a trim router.
 - Ideally the router will be a friction fit in this pocket when complete. The router could be screwed to the jig if you find it necessary, but for me it works well just setting in the riser box pocket.



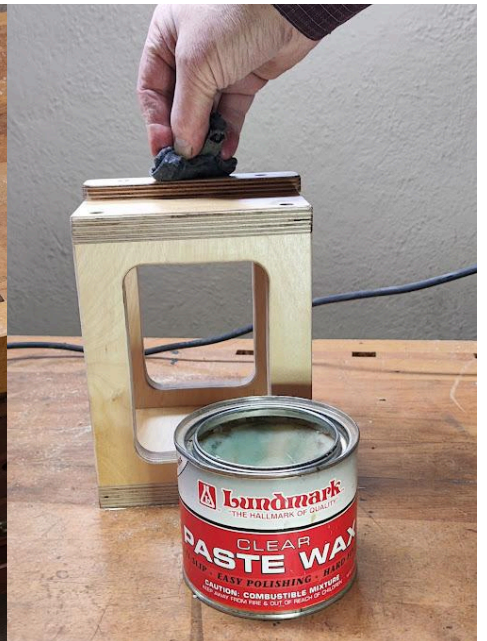
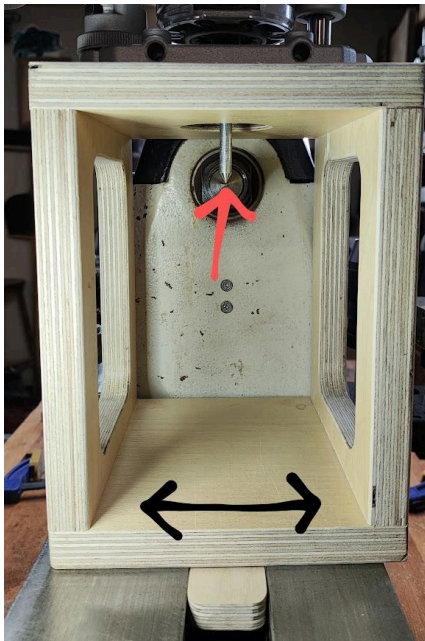
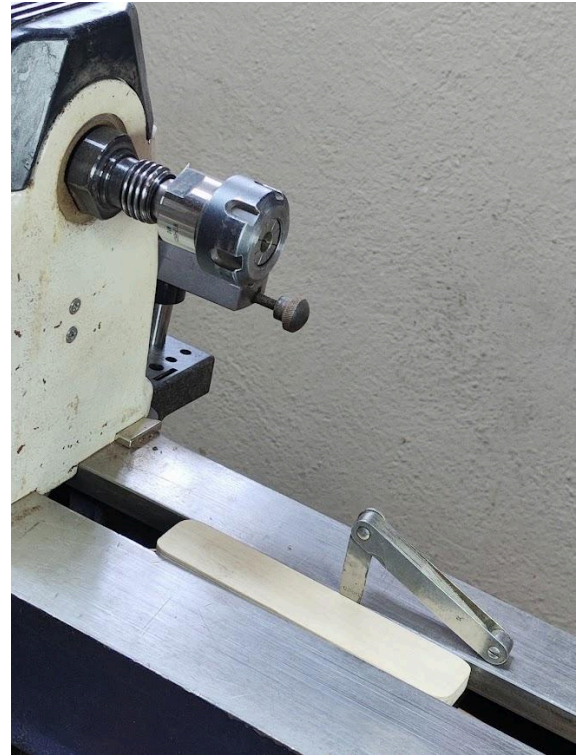
4) Assemble the riser box

- a) Mark, drill, and countersink the screw holes in the top and bottom panels.
- b) Clamp all panels with edges flush.
- c) Pilot drill and screw the top and bottom to the side panels.
 - pick the pilot drill size carefully to avoid potential splitting of the side panels.
 - I used #10 x 2" flathead stainless wood screws.



5) Cut, fit, and attach the Guide Block

- a) Cut guide block to slide freely between lathe bed ways
 - I cut to a friction fit then sanded the edge on a flat surface to a slip fit.
- b) Align the front-to-back centerline of the lathe and the trim router - secure guide block to riser box in centered position.
 - I used double sided tape to temporarily secure the guide block, then drilled and screwed it from the bottom.
- c) Apply paste furniture wax to contact surfaces and buff.



I made a YouTube Short to outline how the jig can be used. Check it out and don't hesitate to get in touch if you have any questions or suggestions.

