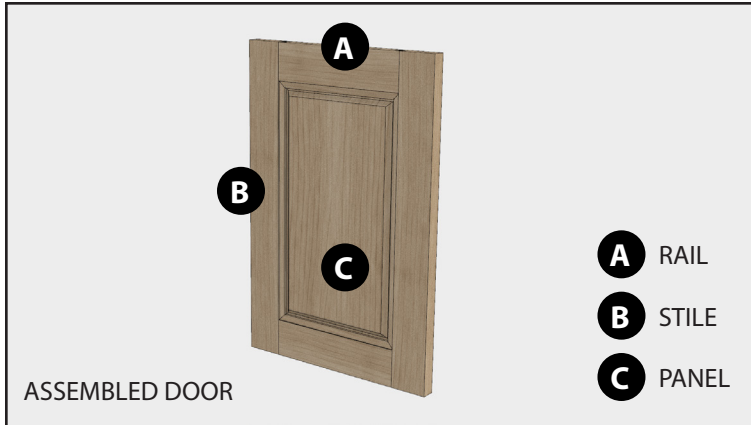
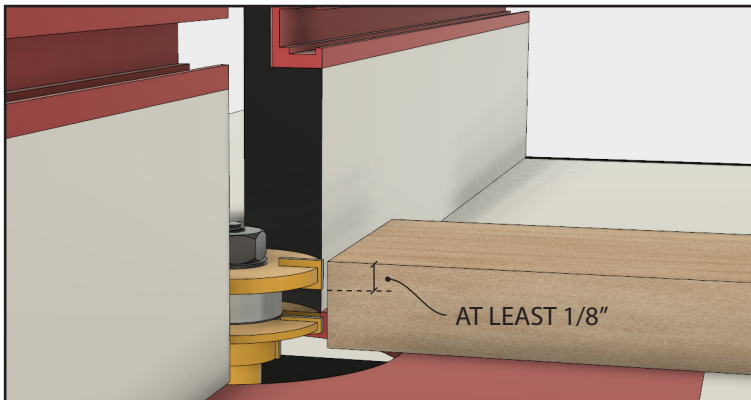




Build rail-and-stile doors with a bevel profile using this two-piece router bit set. Use 3/4" stock for the rails and stiles and refer to the shimming instructions for troubleshooting information.

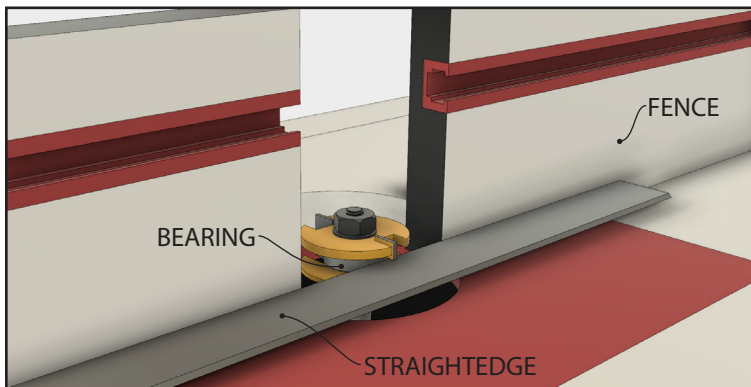


Step 1: Install the coping bit.



When using any rail-and-stile router bit set, it's always a good idea to make the cope cuts first. Insert the coping bit in your router and set the height so that the slot cutter makes at least a 1/8" deep cut into the stock.

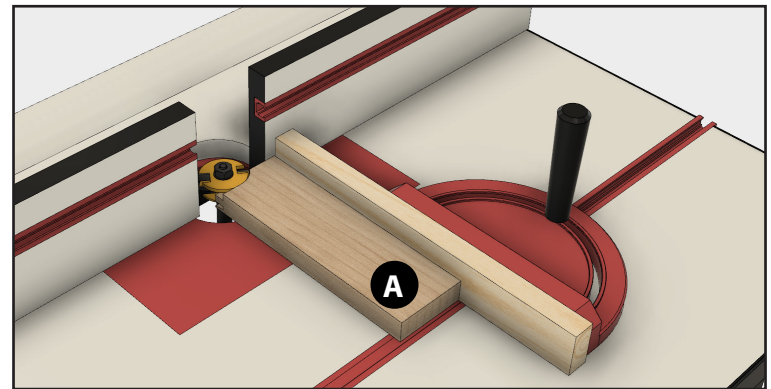
Step 2: Set the fence.



Use a straightedge to align the fence with the router

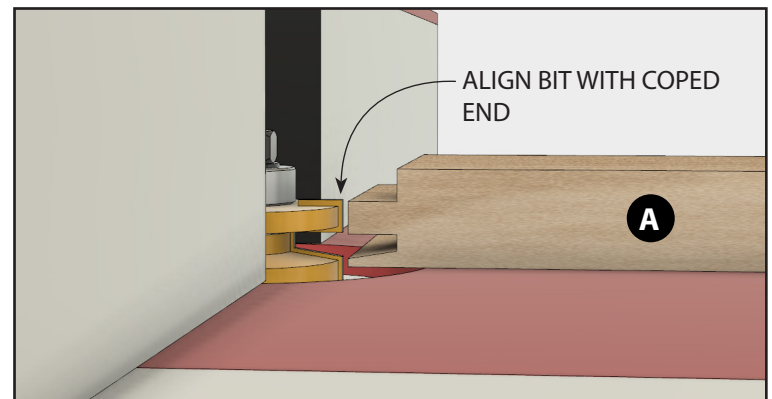
bit's bearing. Place the straightedge against the bearing and pull the fence forward until flush. Lock the fence in place.

Step 3: Make the cope cut.



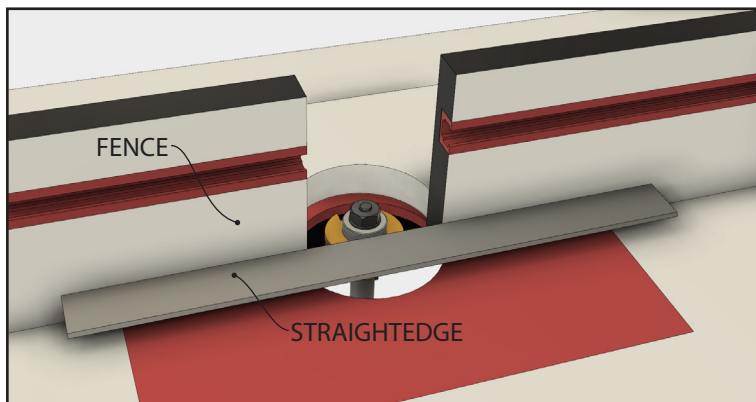
Attach a backer board to your router table's miter gauge to prevent tearout in the rails. Make the coping cut with the stock face down. Route one end of a rail, and then rotate the part 180 degrees, keeping the material face down. Cope the second end. Repeat this process for each rail.

Step 4: Insert the profile bit.



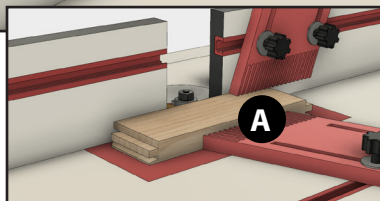
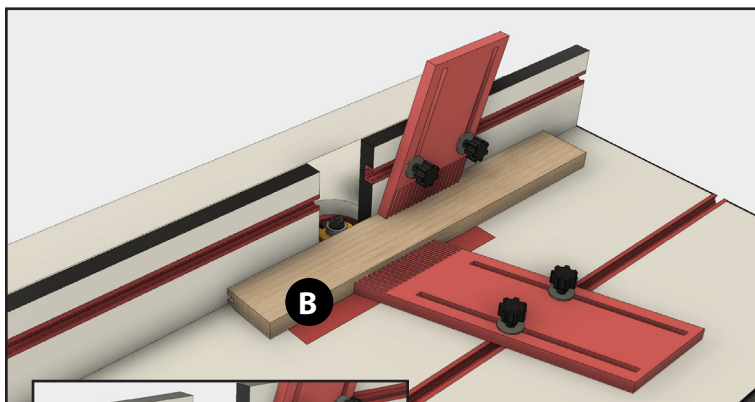
Remove the coping bit and replace it with the profile cutter. Place one of the coped rails face down on the table and adjust the bit's height so that the cutter aligns with the cope in the end of the rail.

Step 5: Position the fence.



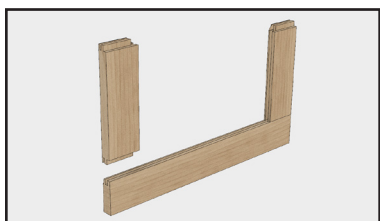
Use a straightedge to align the fence with the flat edge of the upper profile cutter as shown in the illustration. You should be able to rotate the bit freely with your finger when the fence is properly positioned.

Step 6: Route the profile.

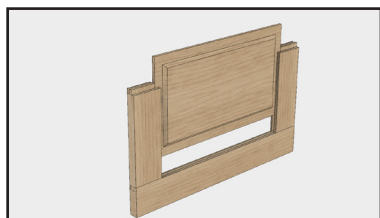


Route your stiles and rails with the stock face down. The bit will produce a bevel profile in the bottom face of the material.

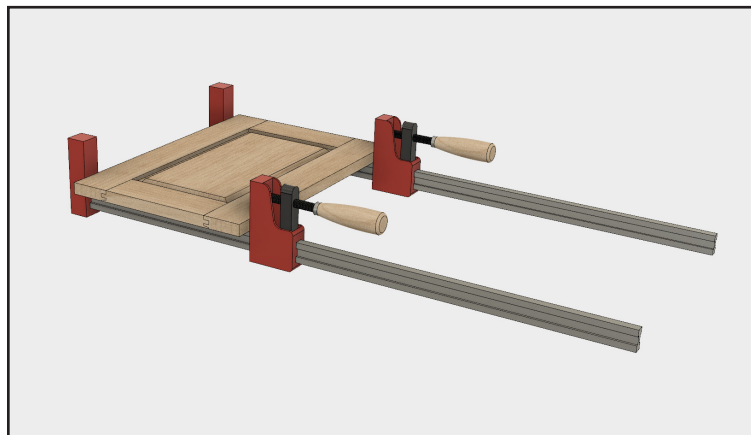
Step 7: Assemble the door.



Apply glue to the coped ends of the rails. Insert the rails into the stiles.



Slide the door panel into the frame.



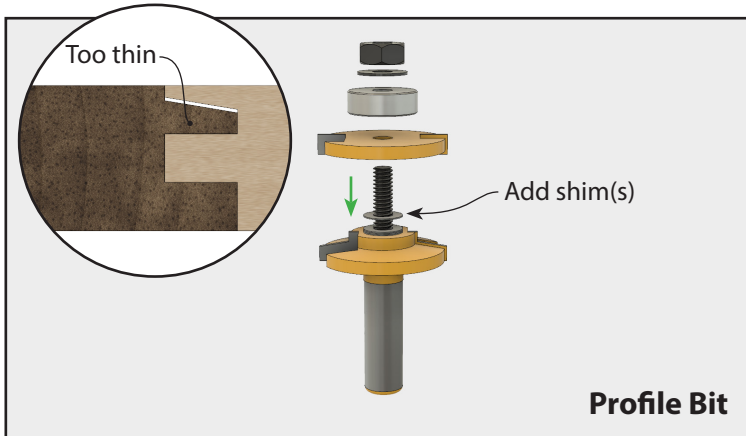
Finally, add the second stile and clamp the door until the glue is dry. Lightly sand the door before applying a stain or finish.



Although Yonico rail and stile bits are pre-shimmed, some fine-tuning may be necessary. Test your router bit setup on scrap material. If required, use shims according to the instructions below to achieve a perfect fit.

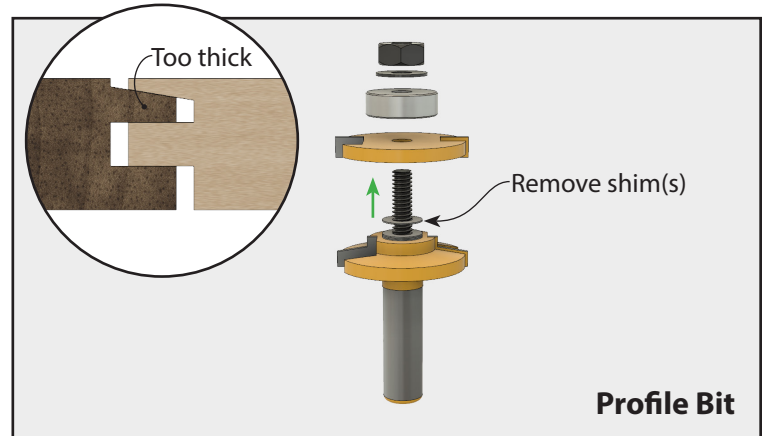
Four Potential Problems When Routing Rails and Stiles

1. Profile bit cuts design tongue too thin



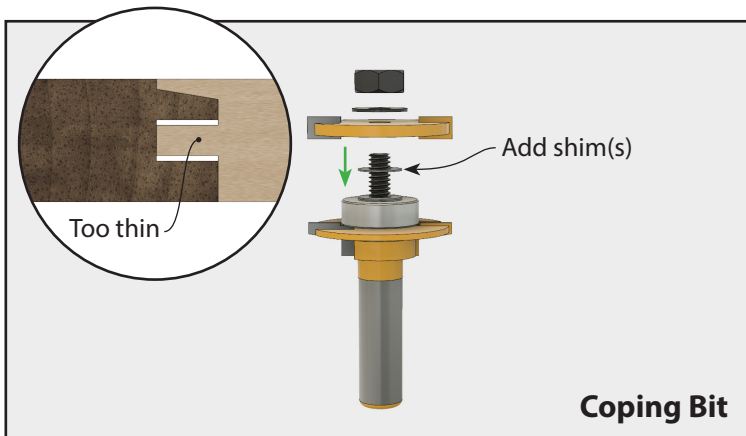
Solution: Add shims between the groove cutter and design cutter to increase the height of the design.

2. Profile Bit Cuts Design Tongue Too Thick



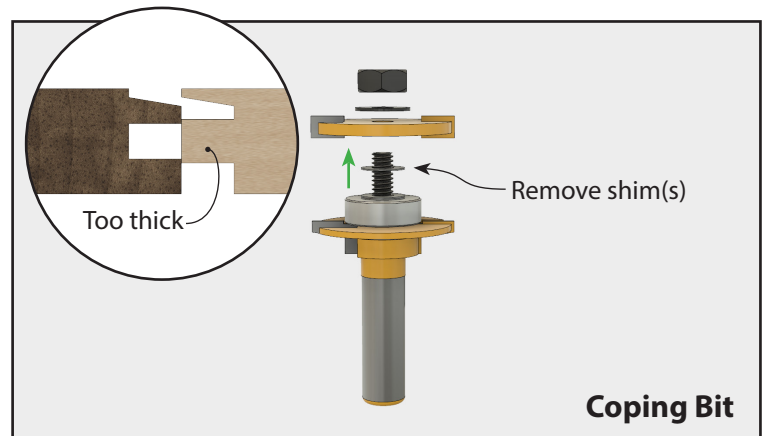
Solution: Remove shims between the groove cutter and design cutter to decrease the height of the groove.

3. Coping Bit Cuts Tongue for Rails Too Thin



Solution: Add shims within the tongue space to add height to the tongue.

4. Coping Bit Cuts Tongue for Rails Too Thick



Solution: Remove shims from within the tongue space to decrease the thickness of the tongue.