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**Technical Resource**  
**Assembling ribs - F5/F4/H5**  
re: *Ultimate Bluegrass Mandolin*  
*Construction Manual - 4th Edition*  
Reprint size: 8.5"x11" • Rev: 10/15/23

To ensure accurate alignment of the rim set and body shape, a body fixture should be used to hold the rim in its precise shape until the soundboard is glued on.

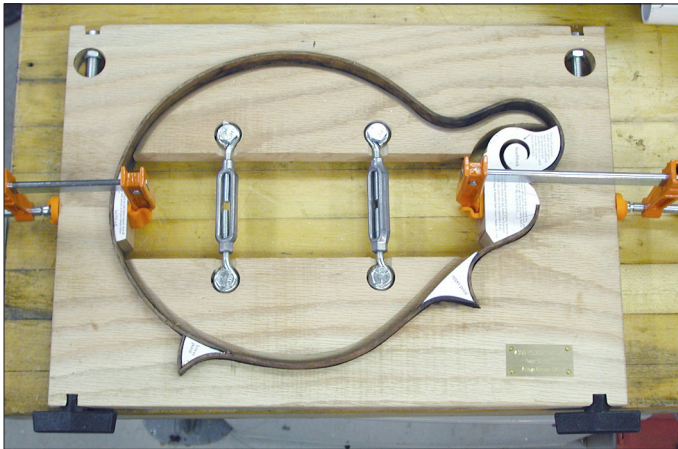


Fig. 1

**Basic set up and usage guidelines** (see reverse side for 15 step-by-step instructions to assemble the rib set):

- 1) Ensure that the black hand knobs are securely tightened and the halves of the fixture are properly aligned.
- 2) Place fixture on a smooth, hard surface.
- 3) Make sure all of the rib pieces are pushed all the way down to contact the work surface (the fixture is designed so that its feet raise the fixture to contact the rib in its centermost area).
- 4) Apply a few layers of masking tape to the center spreader to help build up any gaps where the center spreader is not pressing the rib against the outer frame. (Small differences in rib thickness will cause the spreader's fit to vary.)
- 5) You may have to make minimal corrections to the shape of the blocks to get a good fit of the blocks' gluing surface to the ribs.
- 6) Tighten the center adjusters with hand force only. Do not tighten with a wrench.
- 7) Use clamps as shown in Fig. 1 to draw the head and tailblock to the rib and to the fix-

ture. **NOTE:** On F5 rims, do not tighten the headblock without wedges in the scroll opening or you might break the headblock (see #15, pg 2).

8) When using a dovetail neck joint (where the dovetail is pre-cut in the headblock), ensure that the back edge of the headblock cap is perpendicular (right angle) to the fixture as shown in Fig. 2.

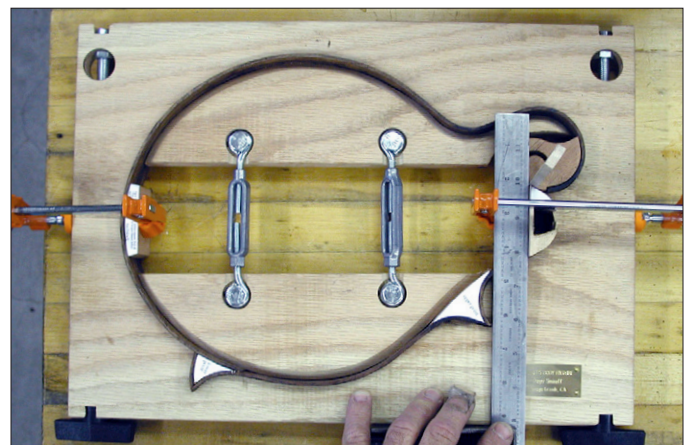


Fig. 2

9) To facilitate sanding the rib, kerfed lining, and block-set flush to each other after they have been glued up in the body fixture, fabricate a sanding block as shown in Fig. 3. The sanding block is simply a square piece of wood with a wood handle attached to one side. Tear apart a 60- or 80-grit sanding belt and glue a length of the sandpaper to the sanding block using rubber cement (apply to both faces, allow cement to dry, press together).



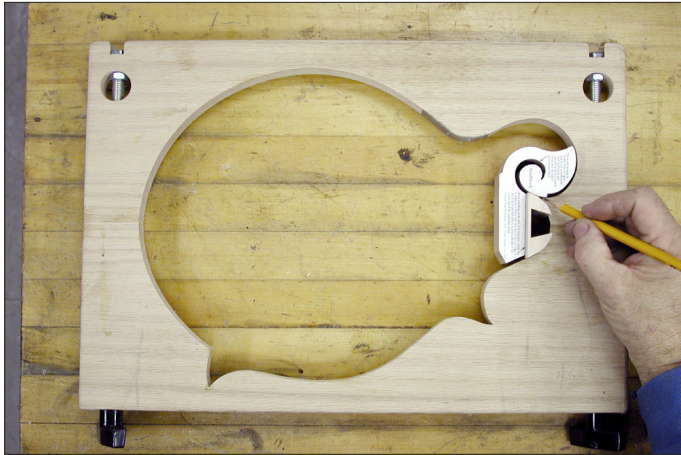
Fig. 3

continued on reverse side---->



## Follow these 15 steps for rim assembly:

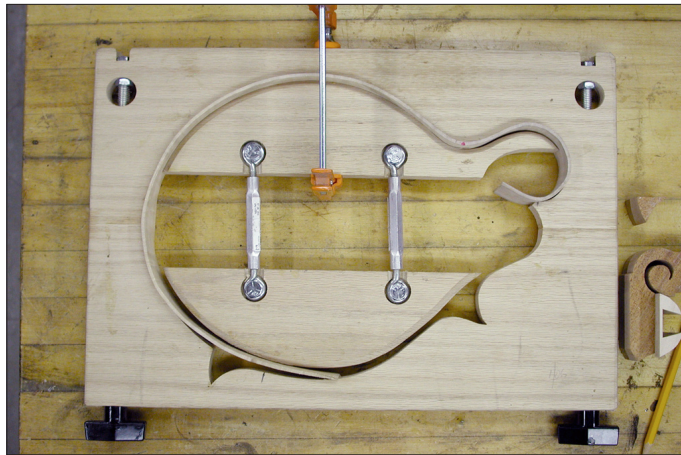
**Note:** For A-style rib assembly, follow steps 1, 3 and 4. Then mark centerline at tailblock and cut the rib's butt seam. Next, repeat the procedure for the treble side. Then check headblock square as in step 12. Glue butt seam and clamp, tighten spreader, and then glue headblock and clamp.



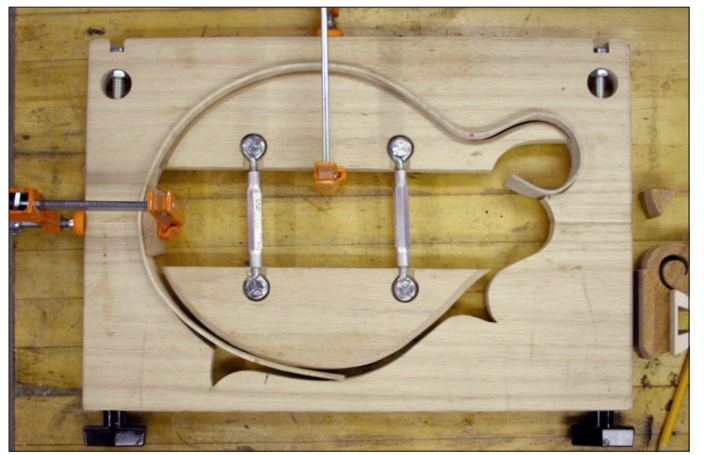
1. With headblock in fixture, make a mark on the fixture where the long rib piece meets the headblock notch.



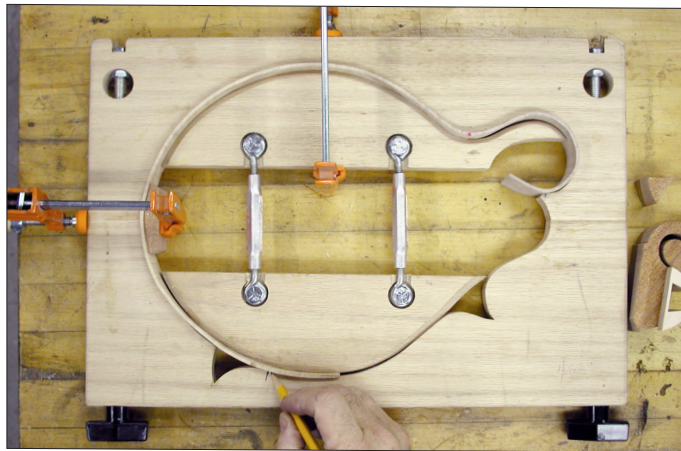
2. Position lower point block in fixture and make a mark on the fixture where the long rib piece will end.



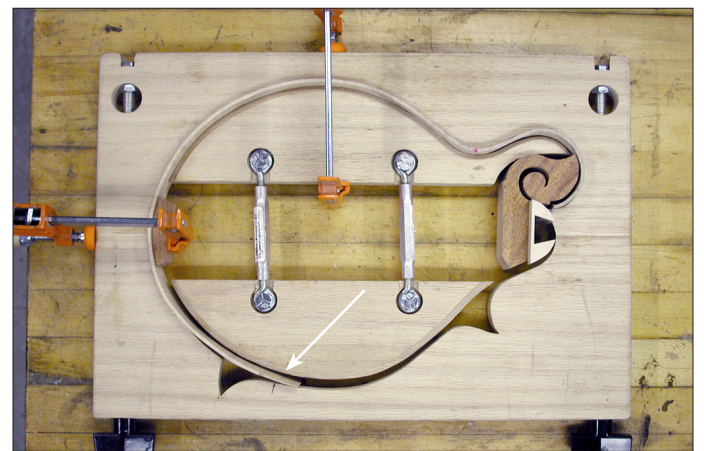
3. Place long rib piece in fixture. Use "C" clamp to tighten upper half of the center spreader to the fixture.



4. Place tailblock in fixture. Continue tightening rib around fixture by using "C" clamp to tighten tailblock to rib.

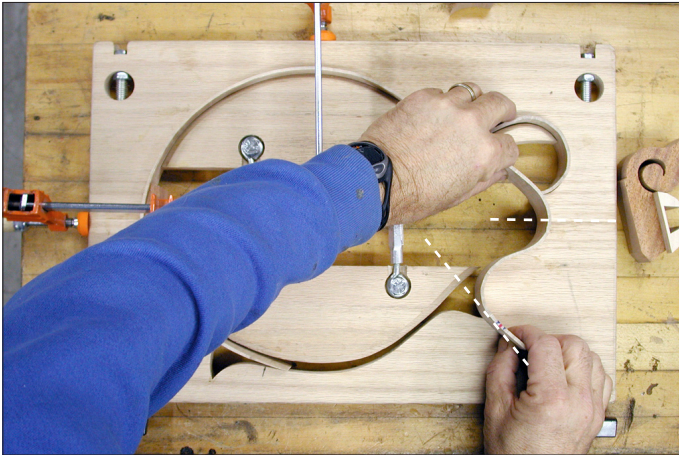


5. Tighten spreader. Transfer pencil marks from fixture to long rib piece. Remove rib piece and cut it through marks.

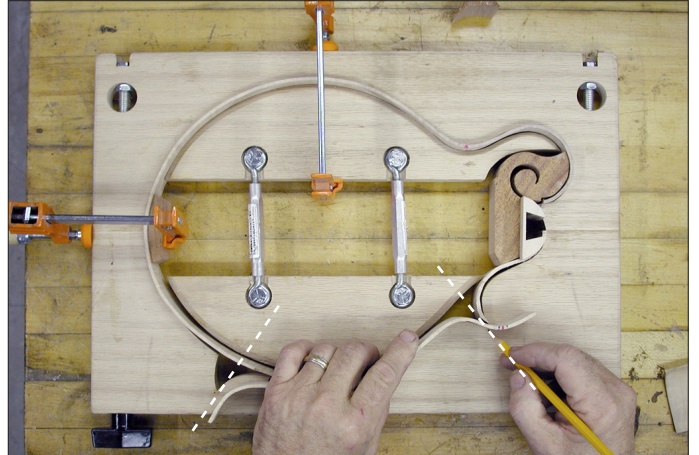


6. Taper the end of the rib piece at arrow. Test the connection of the headblock to the long rib piece. Don't clamp headblock yet. The long (main) rib piece will be glued to the side "W" piece at arrow. It will also be glued to the lower point block

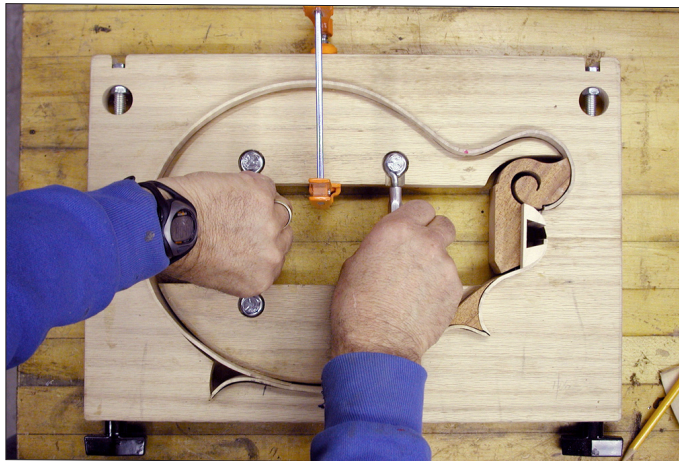




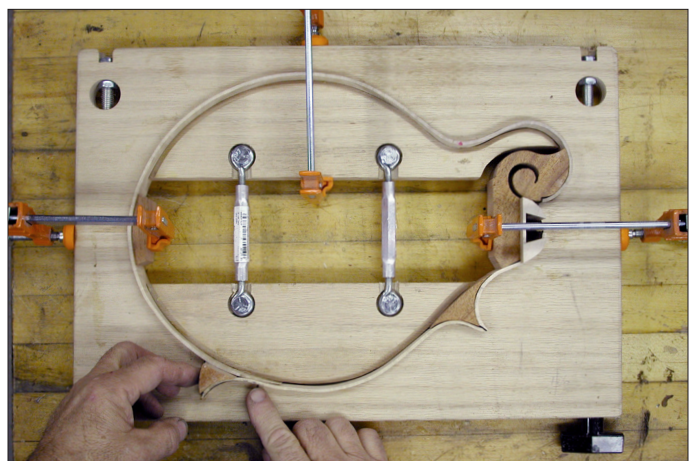
7. Align the "S"-rib piece that goes from the upper point block to the headblock. Mark it and cut it. Dotted white lines show the angle of cuts.



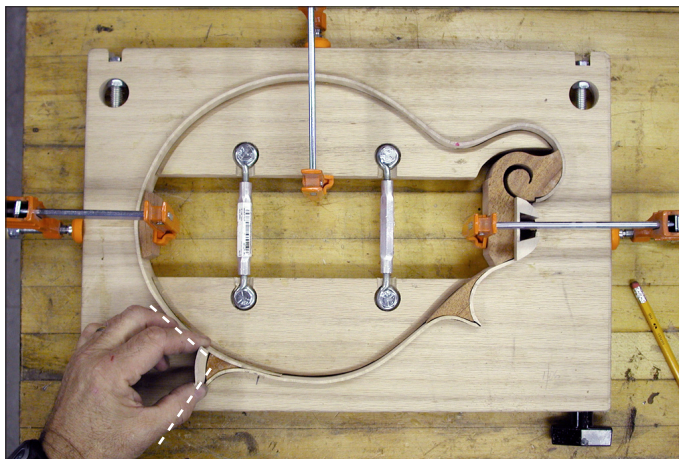
8. Align the "W" rib piece between the two body points. Mark and cut the ends. Dotted white lines show angle of mortise cuts.



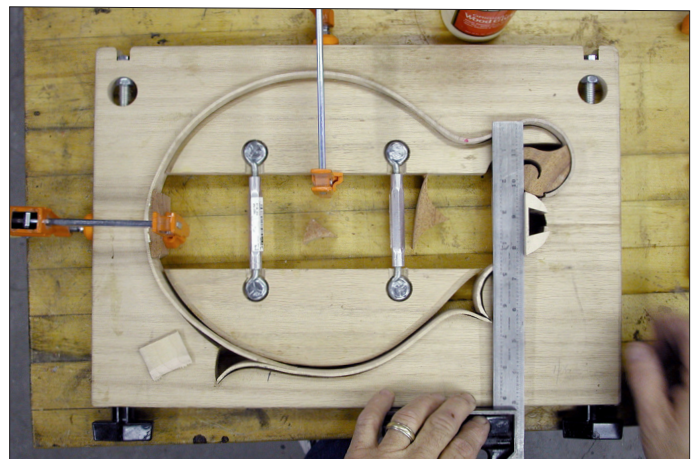
9. With the three main rib pieces in the fixture, tighten the spreader (hand tight only, do not use a wrench).



10. Fit the lower point block and adjust its size or shape. Put clamp on headblock and snug it lightly to check its fit - do not tighten.

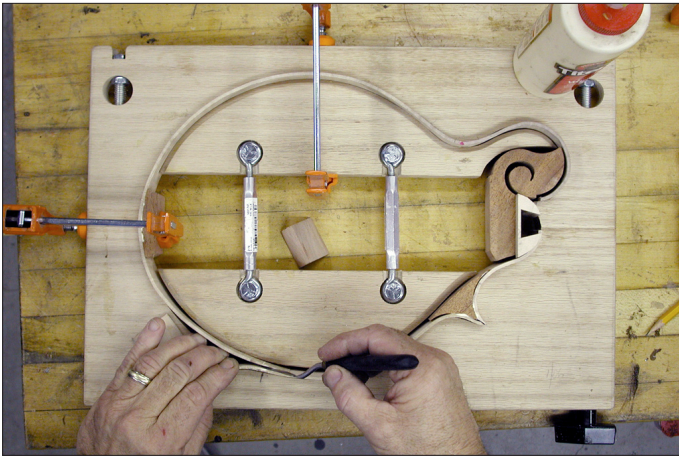


11. Using a scrap curved piece from previous cut-offs, fit the lower point rib. White lines show angle of mortise cuts.

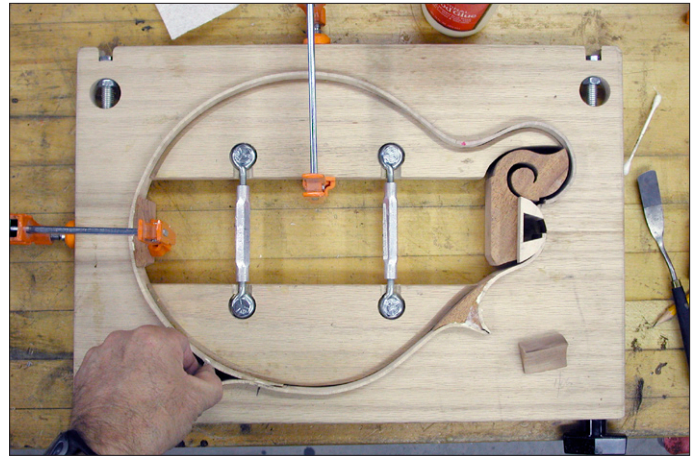


12. Remove clamp and re-check the square of the headblock cap to the fixture (especially important if using dovetail joint).

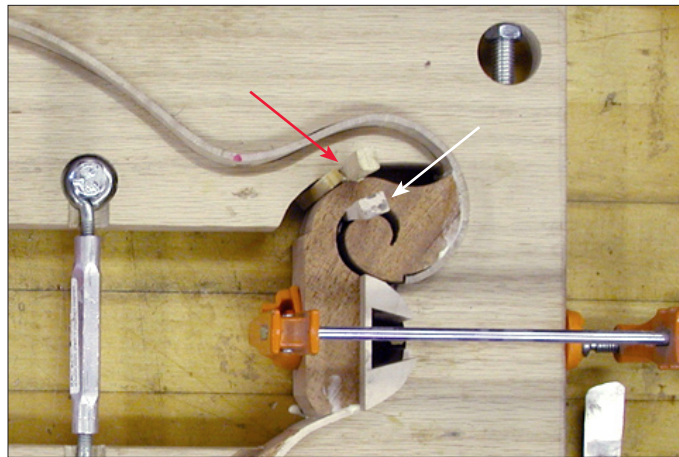




13. Remove tailblock clamp, glue tailblock, and re-tighten clamp. Then loosen spreader and use spatula to place glue between long rib piece and treble-side rib piece.



14. Remove upper point block, apply glue, and place back in fixture. Glue both ends of short rib piece and install in fixture. Glue three sides of lower point and tap it in place.



15. Snugly fit small wood wedges in headblock openings (both sides) to prevent cracking. Apply glue and tighten headblock clamp. Wedges in fixture help push sideways.