

Do It Yourself

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Contemporary Headboard -- Joinery

From "[Wood Works](#)"

episode WWK-107 -- [More Projects »](#)

With the template made and mahogany stock cut for the frame, work proceeds on the joinery used to hold the frame together.

Materials:

Mahogany stock

Table saw

Jigsaw

Band saw

Drum sander

Jointer

Power planer

Multi-router

Table router; radius bits

Carpenter's pencil

Yellow wood-glue

Wood clamps

Safety glasses or goggles

Note: Cut sizes may vary. For exact measurements, please contact David Marks through his website -- information below under Resources.

Safety Alert: *Always* wear safety goggles or safety glasses when working with wood, saws, drills, routers, etc.

Exposed-Spline Joinery for the Frame

Steps:

1. Since the wood splines holding the pieces of the frame are exposed in the finished piece, they need to be made from mahogany to match the rest of the piece. The dado slots previously cut in the frame-members are measured, and mahogany spline-stock is cut



Host David Marks demonstrates how to create the fine joinery used in this curved headboard.



Exposed mahogany splines are used to join the separate members of the headboard's curved frame.



Figure A

on the band saw (**figure A**).

2. The stock is then sanded down to thickness on a drum sander (**figure B**).
3. The pieces are then cut to length on a table saw.
4. The individual members of the frame stock are laid out in their curved position and dry-clamped to check for fit. During this stage, the splines are checked for fit in the slots (**figure C**) to ensure the integrity of the joints.
 - **Important:** When cutting splines, it's critical to make certain that the grain of the splines runs parallel to the grain of the frame. In that way, once the splines are in place, the appearance will be uniform and the joint will be strong.
- 5.
6. Once the fit has been checked for all of the elements, glue-up may begin. For best results, splines are glued in pairs. The splines are coated with wood glue and inserted into the slots (**figure D**), and the pieces are joined together (**figure E**).
7. A piece with an expansive curve like this headboard needs good, strong joints. The dog-ears cut in the frame elements earlier provide solid surfaces for applying ample clamping pressure (**figure F**) during glue-up.
8. While the glue is drying on the curved portion of the frame, the leg pieces can be dry-clamped into position (**figure G**). This provides the opportunity to take exact measurements for the rails that will run between the legs of the frame.



Figure B



Figure C



Figure D



Figure E



Figure F

Mortise-and-Tenon Joinery for the Legs and Rails

The legs of the frame, and the rails that run between them, are put together using mortise and loose-tenon construction. Large mortises are cut into the leg pieces, and matching mortises are cut into the rails. Jumbo-size tenons are used to join them together.

Steps:

1. Before cutting the mortises and tenons for the legs and rails, the jointed and planed stock is cut to length on the table saw.
2. The mortises are cut using a multi-router. One advantage of this tool is that large pieces of stock can be clamped into the worktable where it floats in a controlled manner on linear-motion bearings. This makes it easy to work with extra-long pieces of stock -- such as that used for the headboard rails (**figure H**).
3. First, the mortises are cut on the ends of both rails (**figure I**).
4. For the legs, the setting for the size of mortises is left the same, and the leg stock is positioned on the multi-router to make two mortises for each leg (**figure J**).
5. The edges of the rails are softened on the router table (**figure K**) using a 1/8" radius bit. The same is done for the inside edges of the legs.
6. For the tenons, the stock is resawn to thickness on the band saw, smoothed to final dimensions on the drum sander and finally given rounded edges using a 1/4" radius bit on the table router (**figure L**). The tenons are cut and rounded precisely to match the rounded profile of the mortises (**figure M**).
7. Tenon stock is then cut to length -- for individual tenons -- on the table saw (**figure N**).
8. Finally, the glue and tenons (**figure O**) are used to attach the legs and rails for the bottom portion of the headboard (**figure P**). The bottom assembly is clamped to hold it secure as the glue dries.

With both the curved top portion and bottom portion assembled, the top and bottom portions can now be joined together (**figure Q**). With the glue not fully dry, final adjustments can be made to fine-tune the fit of the joints. Once again, the dog-ears serve to make the clamping more efficient for a solid assembly. It's important to make certain that the joints are solid and the legs straight and even. That way, when the glue has dried, the headboard will rest flat on the floor and stand upright.

The next segment shows the completion of the headboard frame and the



Figure G



Mortise and loose-tenon construction is used to connect the legs and rails of the headboard frame. David Marks displays the large mortises that have been cut into the leg prototype.



Figure H



Figure I

installation of a mahogany back panel.

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Author: Mark Duginske

David Marks Website

David Marks, DIY's *Wood Works* host, is a master woodworker. For more information on cut sizes and project details, please contact him via his Website at www.djmarks.com

Beds and Bedroom Furniture: The Best of Fine Woodworking

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Figure J



Figure K



Figure L



Figure M



Figure N

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The Complete Book of Wood Joinery

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Popular Woodworking Magazine (F & W Publications, Inc.)

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Figure O



Figure P



Figure Q

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