Do It Yourself

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Mahogany Headboard -- Veneer Panels

From "Wood Works"
episode WWK-403 -- More Projects »

With the leg and rail stock complete, the next phase in the headboard project is the creation of edge-glued veneer panels. Commercially made veneers of quilted mahogany are attached to MDF substrates using resin glue and a vacuum press.


Figure A

Veneered Panels

Materials:


Figure B

Commercially made mahogany-veneer sheets
3/4" MDF Table saw
Vacuum press
Hand-held router
Razor knife
Yellow wood-glue
Slow-setting resin glue
Glue roller
Clamps
Straight-edge
Carpenter's pencil
Chalk marker
Blue carpenter's tape
Veneer tape
Safety glasses or goggles
Rubber gloves


Figure C

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


Figure D

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

Steps:

- Before work begins on the veneers, David cuts the tenons from the headboard on the table saw (**figure A**). The tenons are cut from mahogany and are 3/8-inch thick, 1-1/2 inches wide and 2 inches long.


Figure E

- Once the tenons are cut, a dry-fit is done to ensure that the frame pieces fit together properly. Varying thicknesses in the frame pieces create reveals where the frame pieces come together with the tenons and centered mortises. The reveals create shadow lines and add depth to the finished look of the piece.


Figure F

- While the pieces are together in the dry-fit, measurements can be taken for the headboard panels (**figure B**). The center panel is roughly 31x30 inches, while the two side panels are about 14x29 inches.

- We used commercial veneers to create the panels for the headboard. An advantage to using commercial veneer is that it give you access to some of the world's unusual figured-woods. They are pre-cut thinner than you might be able to slice them in your own shop. The ones we used (**figure C**) were quilted mahogany and were cut to 1/40-inch thick.


Figure G

- We needed a total of 8 sheets of veneer to make the panels: four sheets for the center panel, and two sheets for each adjoining side. Since commercially manufactured sheets come stacked in order, we number each with a chalk mark (**figure D**) to help ensure that we achieve the best grain-match possible.


Figure H

- Carefully trim the sheets, slightly oversized, using a razor knife (**figure E**).

- To get the edges of the veneers to line up perfectly in glue-up, they must be jointed. To joint stock that is this thin, stack all eight pieces and clamp them tightly between two sheets of 3/4-inch MDF. Offset the bottom piece of MDF slightly to support the stock (**figure F**). This portion will be cut away. The top sheet of MDF is set back about 1/16-inch and serves as the cutting template.


Figure I

- Clamp the stack securely with several clamps to prevent slippage (**figure G**).

- Make a first pass with a hand-held router, trimming the edges of the veneers between the clamps (**figure H**). Reposition the clamps one at a time, and make a final pass to finish trimming the edges.

- Since the center panel is made of 4 sheets of veneers, mark and remove those sheets from the stack and joint their opposing edges using the same technique as above.

- Once the edges have all been jointed, glue-up can begin on the center panel. With two veneers taped together and folded open, apply glue along the exposed edges (**figure I**) and bring the pieces together.

- With veneer this thin, it's impossible to clamp the pieces. Apply blue carpenter's tape to both sides of the seam, stretching it across the joint (**figure J**). The tension of the tape is enough to bring the two pieces together.

- To burnish the joints, bevel a block of wood along the edge, and run the beveled surface along the glued joint (**figure K**). This ensures that the two edges are properly aligned -- flat, and not overlapping.

- For added pressure as the glue dries, place a narrow strip of MDF along the joints, with bricks on top for weight (**figure L**).

- Once the two sides of the center panel have been joined together and the glue has dried, join the two halves together with glue and tape, using the same techniques as above.

- When the veneers have dried, carefully remove all of the tape.

- Use veneer tape along the newly glued seams to prevent the fragile seams from cracking when they are placed into the vacuum press. Wet one side of the veneer tape, and run it along the joint of the face side of the veneer (**figure M**). The tape will strengthen and support the seam as the veneers are handled.

- For the back, use a single sheet of commercially prepared mahogany veneer. For the substrate for the panels, use 3/4-inch MDF.


Figure J


Figure K


Figure L


Figure M


Figure N

- MDF is also used to make cawls to create the veneer "sandwich" in the vacuum press. The cawls are slightly larger than the panels, and their edges are rounded to prevent them from puncturing the vacuum bag.


Figure O

- Apply slow-setting resin glue to the substrate using a glue roller (**figure N**). This glue will permit ample working time.

  Important: Apply resin glue only to the substrate, and not to the veneers. Applying glue to the thin veneers would cause them to curl, and make them difficult to set in place.


Figure P

- With the glue applied to the substrate, carefully set the veneer in place (**figure O**).

- With the mahogany veneer in place, flip the panel over onto the cawl, and apply resin glue to the other side of the substrate.

- Place the quilted-mahogany veneer onto the substrate, and tape the "wood-and-glue sandwich" securely to prevent the pieces from slipping (**figure P**).


Figure Q

- Place a second cawl on top of the stack, and place the entire panel into the vacuum press. The vacuum press applies even pressure over the entire surface of the panel (**figure Q**). Set the vacuum press to a pressure of 1500 psi, and let the panel cure in the press for 12 hours.

- Use the same steps and process for the two side panels.


Figure R

- Once the panels have dried, prepare them to be cut to size by measuring out from the center seam.

- Cut the first panel to size using the table saw, cutting one side first, then flipping the panel to cut the opposite side parallel. As each panel is cut to size, the hardened glue at the edges is removed at the same time (**figure R**).

- Using the cross-cut sled, square off the bottom edge of the panel. Repeat the steps to cut the other panels to size.

In the segment that follows, the joinery for the headboard is completed.

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RESOURCES:

Fine Woodworking
A magazine devoted to high-quality craftsmanship in woodworking.
The Taunton Press Inc
Newtown, CT 06470
Phone: 203-426-8171
Fax: 203-426-3434
Email: service@taunton.com

The Small Wood Shop (The Best of Fine Woodworking)
Model: 1561580619
Author: Helen Albert (Editor)

Mastering Woodworking Machines (Fine Woodworking Book)
Model: 0942391985
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

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