The High Art of the Lowboy

Elevate your skills with a regal case piece

BY PHILIP C. LOWE

The Queen Anne lowboy is about as traditional as American furniture gets, but from a modern perspective this 18th-century piece is still highly practical. The lowboy can be used as a dressing table or hall table, and the design has lost none of its elegance in the last 300 years.

For an intermediate woodworker looking to grow as a craftsman, the lowboy is an ideal project. It's not overly big or complex, but it is a satisfying, high-level test of many skills; so many, in fact, that you're almost guaranteed to learn one or two new ones before you're done. The piece combines a mortise-and-tenoned case with cabriole legs, dovetailed drawers, and a tabletop with a hand-shaped edge profile. A fan carving decorates the center drawer (see Master Class, pp. 92-94).

I've modified some of the period construction details to build a case that will accommodate seasonal wood movement. It's not an exact reproduction, but it captures the spirit of the early pieces.

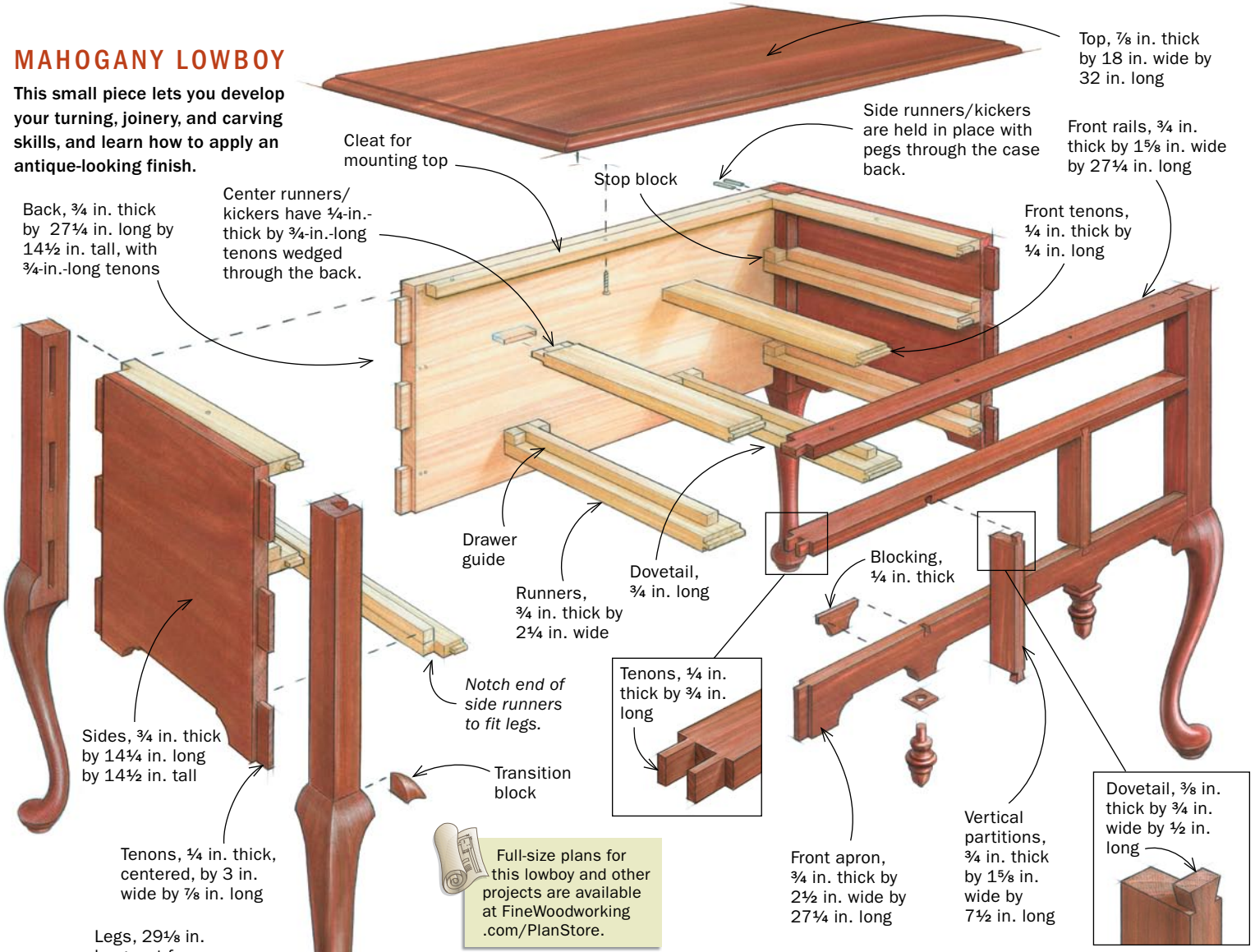
The cabriole leg: grace under pressure

These cabriole legs are slender, but balanced and strong enough to support a heavy case piece without stretchers. They also do more than just hold the case off the floor; their long top posts are an integral part of the case itself. The case can't go

Photos: Steve Scott; drawings: Bob La Pointe

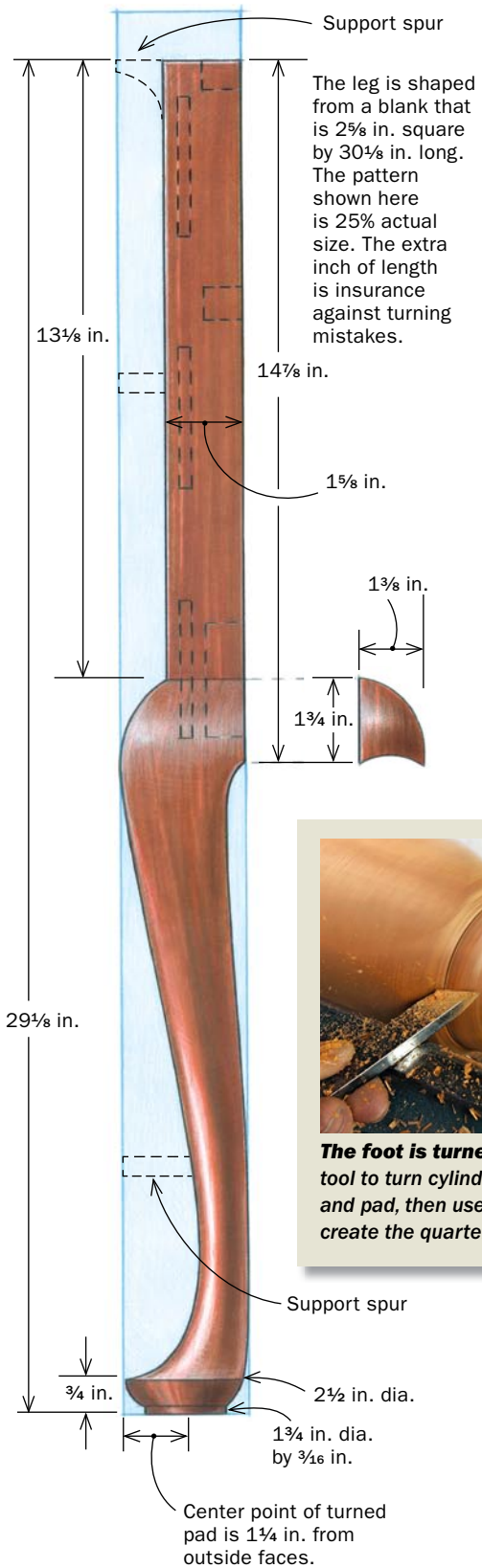
MAHOGANY LOWBOY

This small piece lets you develop your turning, joinery, and carving skills, and learn how to apply an antique-looking finish.

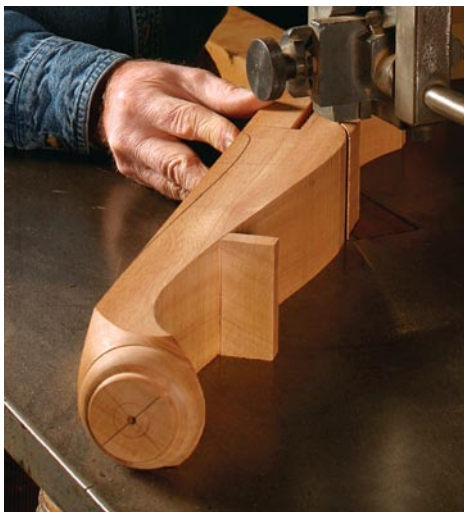


Turn and shape the legs

The legs take shape in two distinct stages. Start by laying out and turning the pad foot. Then rough out the leg's overall shape at the bandsaw and refine it with chisel, rasp, file, and scraper.

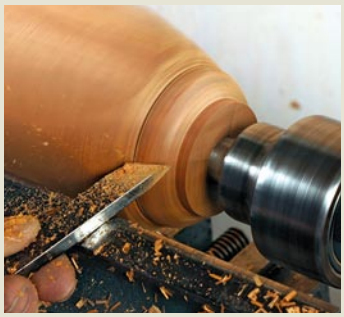


BANDSAW THE BLANK



Cut the curved profile. *Start cutting the profile by first defining the edge of the spurs. Then make cuts to complete the basic profile.*

Rotate the blank and cut again. *Save the cut-off with the pattern drawn on it and tape it back in place to guide this second cut. The spurs will steady the leg for these subsequent cuts.*



The foot is turned. *Use a parting tool to turn cylinders for the foot and pad, then use a skew chisel to create the quarter-round profile.*

together until the legs are done, so let's begin with the four legs.

It's most practical to turn the foot and cut the mortises before sawing and shaping the curved cabriole profile. The first step is to orient the leg blanks for the best figure (see Dan Faia's "Porringer-Top Tea Table," *FWW* #191). Mark the inside corners of each leg, then trace the cabriole pattern on these two adjacent surfaces. On each leg, use a cutting gauge to score a line defining the post block. Set the gauge to the dimension of the waste to be cut away. Score these lines on the tops of the legs, too; this helps keep the position of the leg clear.

To lay out the turned foot, scribe a line around the bottom of the blank to mark the top of the foot. Draw center marks on the two ends of the blank to locate the points of the lathe centers for the offset turning.

Turning and mortising—At the lathe, use a parting tool to turn a cylinder for the foot from the layout line to the end of the blank. Then turn a narrower cylinder at the very end of the blank to establish the pad at the bottom of the foot. Next, use the point of a turning skew to score a line where the square corners of the blank meet the cylinder, defining the top of the foot. Use the skew to soften the hard corners of the square and then shape the foot by rounding off the cylinder to a quarter-round. Sand the foot while it is on the lathe.

Each leg is mortised on the two inside faces to accommodate one case side and either the solid back or the front apron and rails. Referencing from the top of each blank and factoring in the extra inch, use a combination square to mark the tops and bottoms of the mortises. Use a cutting gauge and reference from the inside corner of each blank to mark the fronts and backs of the mortises. Cut the mortises at the drill press or mortiser.

Saw and refine the shape—At the bandsaw, cut the leg's curved profile into one of the laid-out faces. Tape on the waste piece at the back of the leg and cut the other face. Be sure to save the long waste piece sawn from the post. You can use this material for transition blocks. Next, with

Layout lines guide the shaping. *Start with a centerline on each face, then split the distance from the centerline to the edge of the leg with a line that runs from the knee to the ankle.*

SHAPE WITH HAND TOOLS

Chamfer the corners to form an octagon. *Use a flat chisel. To stay with the grain, always work from the convex surfaces to the concave ones.*

Shave away the remaining corners. *Use a flat-soled spokeshave to cut a second, narrower set of chamfers, effectively rounding the leg.*

Smooth the surface. *Finish rounding the profile with a rasp and a smooth file.*

the leg held in a bar clamp and vise, use a spokeshave to remove the bandsaw marks and smooth all four surfaces.

After cleaning up the sawcuts, finish shaping the leg by cutting a series of chamfers at the corners to round the profile. File the leg smooth and scrape with a card scraper. Then trim the post blocks and cut the posts to length.

Precise joinery ensures a square case

Building the case is a challenge in precision. There are no steps or reveals to mask inaccuracies where the sides, back, or rails meet the corner posts. Everything is flush.

With the mortises already cut in the posts, the next step is to lay out and cut the tenons on all of the mating pieces. I begin with the back and the front rails. These pieces must match exactly in overall length from tenon shoulder to shoulder. This helps ensure that the case comes together squarely and cleanly, with no gaps.

It's also crucial to locate all of the tenons correctly on the thickness of the stock so that the outside case surfaces are flush with the posts when the joint is assembled. To do this consistently, scribe the end grain for both cheeks using the outside face as a reference for your marking gauge. Set the gauge for ¼ in. to scribe the outside cheeks and ½ in. to scribe the inside cheeks.

To cut the cheeks, set the stock face-side down on the tablesaw and raise a dado

Trim the post. *Dimension the post block with a pair of stopped cuts on the tablesaw. These cuts are made to the right and left of the fence so that the inside corner of the post block is against the fence. The untrimmed waste just above the knee is removed after glue-up.*

MULTIPLE TENONS MADE EASY

Lay out matching tenons. *Clamp one of the front rails to the back panel and scribe the shoulder lines for both pieces simultaneously. Clamp the scribed rail to its mates and scribe shoulders on the remaining pieces.*

Cut the joinery with a dado set. *For consistency, cut face-side tenon cheeks on all of the pieces before adjusting the setup—if needed—to cut the opposite cheeks.*

cutter to just under the lower scribe line on the end of the first workpiece. Adjust the rip fence for 1/32 in. less than the tenon's length and use the miter gauge to help control the workpieces. For the intermediate front rail, use a 1/2-in. dado stack to remove the waste from between the twin tenons. Hold the piece vertically against a miter gauge. Use a sacrificial backer block and use the miter fence as a stop. Raise the blade to just below the scribe line before making the cut.

At the workbench, use a shoulder plane to fit the tenons to their mortises. To help keep the outer surfaces flush, avoid paring too much stock from either tenon cheek. After paring to the shoulder lines with a chisel, cut the multiple tenons from the full-length tongues on the back and side panels.

Before you can start gluing up, you'll need to dovetail the top rail, then mortise the front rails and the case back for the kickers and runners that will support the drawers. Then, with the case dry-fit, locate and fit the dovetailed vertical partitions. Finally, bandsaw out the shape of the front apron and clean up the profile.

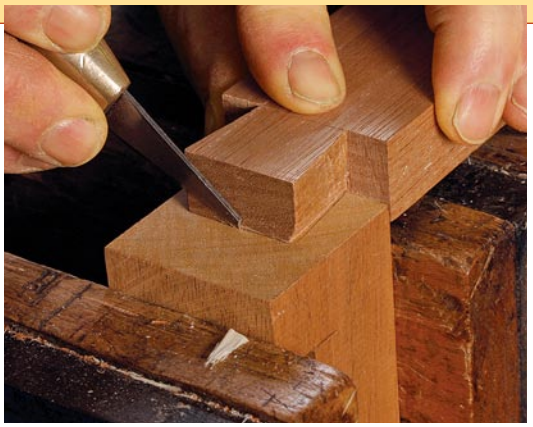
Mark out and cut the tenons. *For the sides and back panel, you need to fashion multiple tenons from the full-width tongues. Hold each panel against its mating post and scribe the mortise locations on the tongue (above). Remove the waste with a coping saw and chisel (right), leaving a little room for the tenons to move in the top and middle mortises. This allows room for seasonal expansion of the sides and back toward the top. The transition blocks prevent downward expansion.*

Transition blocks marry legs to case

Start building the case by gluing up the back and front assemblies separately. The legs transition into the case with blocks that are glued on and shaped to match the curved profile. It's much easier to apply and shape the two blocks on the front apron now than when the case is fully glued up.

Begin by holding each block in position to see whether it is flat against the apron and the back of the knee. If needed, plane the block to fit. When this is done, draw the pattern on the front and saw the front profile, saving the offcut. Now return to the bench, hold the block in position again, and trace the

MORTISE FOR THE RUNNERS AND KICKERS



Dovetail the top rail to the legs. *The top rail is dovetailed into the tops of the leg posts. Lowe rabbets the tail to enhance accuracy when transferring the layout.*

Locate the kickers and runners. *They are tenoned into the front rails and apron, and those mortises can be cut by machine, but the back panel's width means its mortises must be cut by hand. The mortise locations are picked up from the dry-fit front assembly (left) and marked on both faces of the back panel. Use a ¼-in. chisel to chop the through-mortises, working in from each surface (right).*

shape of the leg onto the surface of the block that mates to the leg. To bandsaw this profile, set the transition block back onto the offcut and saw, staying 1⁄16 in. from the line.

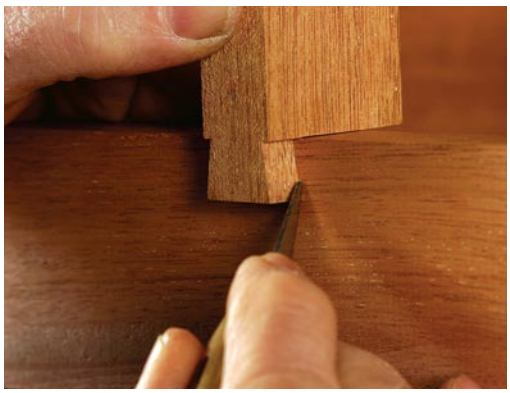
Glue the two front transition blocks in place using a rub joint and hold them with a spring clamp if needed. Use a chisel, rasp, and scraper to shape the blocks (see "Porringer-Top Tea Table," *FWW* #191). The side transition blocks are attached and shaped in the same way, but are installed after the case has been glued up.

Dry-fit the case for layout

The next step is to add the sides without glue and clamp the case snug so you can accurately fit the crossmembers that span the interior. These are the runners that support the drawers from underneath and the kickers that sit above the drawers and prevent them from tipping downward when pulled out. In the space separating the upper and lower drawers, the crossmembers serve both of these functions. Rip all of the runners and kickers and crosscut them to a little over final length.

Measure from the back side of the apron and middle rail to the inside of the back. Use a knife to mark these distances on the parts. Cut the tenons with a dado blade and fit them. On the center runners and kickers, make handsaw cuts ¼ in. from the edge and ¼ in. from the shoulder to accept wedges for the through-tenons in the back panel. The left and right runners

LOCATE THE DIVIDERS



Measure to locate the drawer partitions. *The whole case is dry-fit at this point (above). The vertical drawer partitions are dovetailed into the top of the apron and the bottom of the intermediate rail. The clamp helps hold the partitions in place while you knife the profile on the front surfaces of the apron and rail (left). Now disassemble the case, saw the mortise, and chop and pare to fit.*

The case comes together

GLUE UP THE FRONT AND BACK

Apply yellow glue to both mortises and tenons. *Once each assembly is in clamps, lay a straightedge across both post blocks to make sure they don't twist out of square. On the front assembly, check the diagonal dimensions and adjust the clamps to bring it into square. Glue the partitions in place after the front assembly has dried (below).*

and kickers are notched to fit around the post blocks.

20 mortises, 20 tenons, one glue-up

The case is ready to come together. With clamps ready, apply glue to the mortises in the back legs and to the corresponding tenons on the sides. Seat the sides. Next, glue the center runners and kickers into their mortises in front, then apply glue to the front leg mortises and matching side tenons. Gently lower the front into place, taking care to seat the unglued tenons of the runners and kickers in the rear-panel mortises. Stand the assembly upright and use bar clamps to seat the joints. Before the glue sets, check the diagonals for square. When all is square, drive the wedges into the through-tenons at the back of the case. Clamp the side runners in place, drill into them through the back, and drive wooden pegs to secure them.

Drop finials adorn the front apron

In order to create a 1-in.-square platform for each drop finial and collar, glue ¼-in.-thick backer blocks to the rear of the ¾-in.-thick front apron, matching the latter's profile. Drill a ½-in.-dia hole into the center of each platform and into two

ADD THE TRANSITION BLOCKS

The blocks are shaped in place. *After cutting the basic curves in the bottom and front of the block, glue it in place with a rub joint (above left). With the block in place, pare away excess material to reach the final, rounded shape. Start with a chisel, making a series of side-to-side passes (above right). Then use a carving gouge with a shallow profile in a series of bottom-to-top passes to blend the curve further (right).*

The final glue-up. *Back and front assemblies are joined by gluing the side panels into the rear posts, gluing the interior kickers and runners into their mortises in the front, and then settling the front assembly into position.*

Wedge the tenons. *The center runners are secured in back with wedged through-tenons. Glue the wedges and tap them home. When dry, saw them off and plane them flush.*

blanks for the collars. Turn and sand the finials, including the ½-in.-dia. tenon.

To mark the size of the collar, slip it over the finial's tenon and insert the tenon into the apron. Using a 3⁄32-in.-thick spacer held against each edge of the platform, scribe a line around all four sides of the collar. Handsaw to these lines and then clean up the edges with a block plane. To create the bead, bevel all eight edges, moving the piece across the bottom of a plane, then refine the curve with sandpaper. Lastly, glue the collar to the platform and the finial into the apron.

Crowning touch: a hand-shaped top

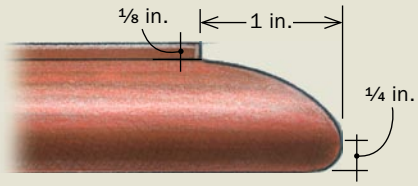
The two-board top has a thumb-molding profile that is characteristic for this period, and I enjoy creating it with hand tools. The top is fastened with screws through the front rail, the two top kickers, and the cleat on the top inside surface of the back panel. Elongate the screw holes in the back to accommodate movement.

Stain and shellac for a flattering finish

I finished the piece with a water-based stain (Cuban mahogany from www.wdlockwood.com) and shellac. This approach evens out variations in the color, shows the figure well, and yields a richer tone than the brassy color that natural mahogany sometimes has. Next, I applied dark grain filler to help show the pore structure and followed with a few more coats of shellac. The last step is to rub out the finish with 0000 steel wool and apply a coat of paste wax. □

Philip C. Lowe restores period furniture and teaches at the Furniture Institute of Massachusetts (www.furnituremakingclasses.com).

HAND-SHAPED EDGE PROFILE



No router in sight. *Start by using a dado blade to cut a ⅛-in.-deep rabbet. Then use a handplane to shape the profile (top). A shoulder plane allows you to work all the way into the corner (bottom).*