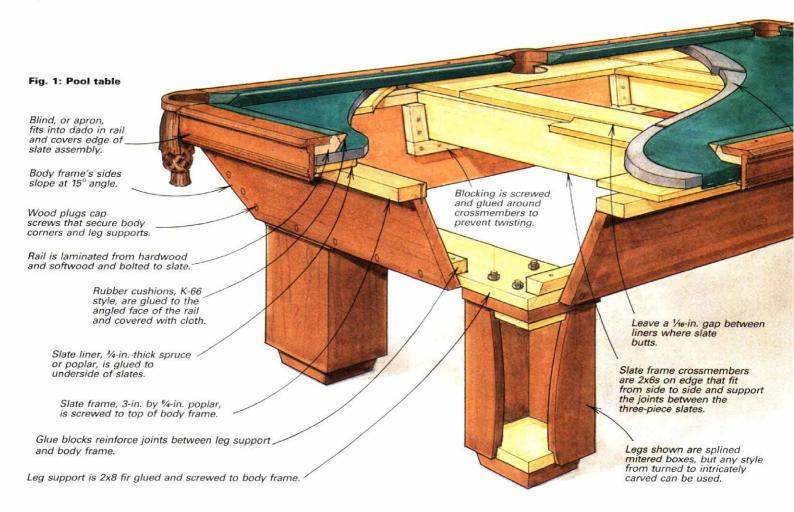


## Building a Pool Table Starting from scratch with nuts-and-bolts joinery

by Paul M. Bowman

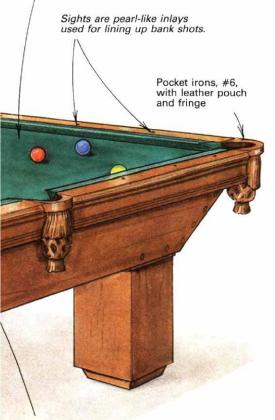


▼ he distinctive crack of the break, brightly colored balls rolling across the expanse of green and the "plop" of the ball dropping into the pocket-these are the sights and sounds of satisfaction to pool afficionados. But, few of them have the satisfaction of sinking balls into pockets on a table they've built themselves.

Building a pool table is somewhat intimidating, because of the size of the table and the weight it must support. In addition to the 400-lb. slate playing surface, a pool table must be able to support a person sitting on the edge while attempting a behindthe-back shot. On the other hand, aside from the compound angles, building a pool table doesn't involve anything that's beyond a competent weekend woodworker with the gumption to take on a large project.

The table described here is constructed much like many highend commercial pool tables (see figure 1, above). Each section of the three-piece slate is glued to a wood liner and then screwed, but not glued, to the main table body, a box whose sides incline down and in at 15°. A 2x8 leg support is screwed and glued between the sides at each end of the box. The four legs are attached to these supports with lag screws or hanger bolts. Bolted on top of the slate are six rails, which support the cushions and pockets. An apron, or blind as it's called on pool tables, surrounds the rails and covers the edge of the slate assembly.

The choice of wood, the carving or other decoration on the table and the style of legs can be custom designed to suit an individual's tastes. But one thing is certain: The table must fit the slate, so buy the slate before you begin working. The slate comes from Italy or Spain, where it is cut to size and the pocket cutouts and holes are drilled for assembly hardware. The chart on the facing page lists common slate sizes, weights and playing areas. Unless you're buying 100 or more sets, you'll need to locate a local pool-table dealer in your area who is willing to sell you a single set. Don't buy slate that is not predrilled. You'll also need a set of #6 leathercovered pocket irons, type K-66 rubber cushions and facings, plastic sights for the "dots" in the rails and various hardware. After the table's built, you'll need cloth to cover the slate, balls, a triangle, Cloth, 75% wool, 25% nylon blend, is stretched over the slate bed and stapled to the edge of the slate liner.



The three-piece slate is ¾ in. thick to 1 in. thick and comes with pockets cut out and assembly holes predrilled. Height from top of slate bed to bottom of leg should measure 29¼ in.



This walnut pool table, built by the author, has sloping sides and leather-and-fringe pockets, which are indicative of an antique-style table. The legs were purchased from a company that specializes in carving pool-table legs, and the relief-carved blinds are from a millwork-supply house. Once you've located the slates and accessories, there's nothing about building a pool table that's beyond the abilities of a competent weekend woodworker.

Figuring rail lengths					
3-piece slate				Rail lengths (in.)	
Size	Weight (lbs.)	Slate description	Playing area between cushions	Side rails (4)	End rails (2)
1x45x85	398	Oversize 7 ft.	40x80	361/2	371/8
%x51x95	422	Oversize 8 ft.	44x88, std. 8 ft.*	401/2	411/8
1x51x95	484	Oversize 8 ft.	44x88, std. 8 ft.	401/2	411/8
1x53x99	528	Oversize 8½ ft.	46x92, oversize 8 ft.	521/2	431/8
1×57×107	612	Oversize 9 ft.	50x100, oversize 9 ft.	461/2	47%
* The description of the slate size sometimes differs from the description of the playing area.			Formula for calculating rail length:  Side = Playing length - side pockets (5 in.) -21/4 in.		
To determine if your room is large enough, take the desired playing area and add 57 in., the length of a standard cue, to all four sides. In tight spots, you can always use a shorter cue.			2		
			End = Playing width - 2% in.		

cues and a bridge. The retail price of the slate and other supplies will come to about \$800. Methods for covering the table and rails with the cloth are explained in the sidebar on p. 43.

Slate liner-The slate liner reinforces the brittle slate, anchors the staples holding the cloth and distributes the effects of the shims used to level the slate. You should use spruce or poplar 1x8 liners on the long sides of the table so there will be enough stock to accommodate the pocket cutouts. The rest of the liner can be from 1x4s. Be sure all the liner material is planed to the same thickness, or you'll be adjusting for the difference later. Butt the pieces together and glue the liner to the underside of the slate with Titebond glue or contact cement, as shown in the top, left photo on the next page. Hold the liner back about 1/16 in. from the edges where the slates butt so they can be pushed tightly together. Cut out the pockets in the liner by running a sabersaw blade along the slate cutouts. The 7/8-in.- or 1-in.-dia. holes along the slate's edge are for the bolts that will be used to attach the rails. These holes should be drilled

through the liner, along with the smaller countersunk holes for screws to hold the slate to the body.

**Legs**-There's no end to the design possibilities for pool-table legs: They can be square, tapered, turned or carved. The only limitation is that you leave a way to bolt or screw them to the table. The legs on the table in the photo above were purchased from a dealer who specializes in duplicating intricate carvings (see sources of supply, p. 43). The cross section in figure 1 shows the basic construction of simple, square legs. An official pool table should measure 29½ in. from the bottom of the leg to the top of the slate. For the table described here, the legs should be about 15½ in. tall.

**Body frame-**The body sides are made from 11½-in.-wide 6/4 flat and straight hardwood lumber. If you need to plane the pieces to flatten them, leave them as thick as possible. To determine the frame's dimensions, measure the slate's overall size and subtract 7 in. from each dimension, so the slate will overhang the body by 3½ in.

Drawings: Kathleen Creston March / April 1989 39



The ¾-tn.-thick poplar slate liner is glued with Titebond glue and clamped to the underside of the slate. The slate's sides are lined with 1x8s to overlap the pocket cutouts, then 1x4 crosspieces are butted between them and held back ¼6 in. from the slate edges that will butt together.

all around. The incline of the sides is common, especially on antique tables. Joining these angled pieces, however, requires compound miters, so I initially crosscut the parts a couple inches longer than the final size to allow a little leeway for cutting these miters.

I prefer to cut the compound miters with a sliding tablesaw. However, a radial-arm saw will do. The arm of the saw should be swung 17° to the right of its normal, square position, and the blade should be tilted to 431/4°. Because the blade may wander in bevel cuts, I cut each end twice: I first cut about 1/4 in. past my mark, then slowly trim to the line. You can cut the compound angle on both ends of each piece without changing the saw-arm setting. First, place the board to the left of the blade, with its bottom edge against the fence and its outside face down on the saw table. After cutting this end, roll the board over and slide it to the right of the blade. Measure and mark the long, top edge of the board and cut to length. After the angles are cut, rip the edges of all four box pieces at a 15° angle so the edges will be parallel to the floor when the slope-sided box is assembled. If you're using a scalloped bottom edge, shown in the photo on the previous page, saw the pattern now; be sure to leave the first 10 in. from each end square for the legs.

Assembling the body frame-Many commercial pool-table builders join the parts with nails, which are set and hidden with wood filler or molding. I prefer the additional strength provided by screws; the wood plugs covering the screws also add a nice detail. I drill plug holes for the screws that secure the corners and leg supports at the locations shown in figure 1. Then, I drill pilot holes through for the screws. I sand to 120 grit with a belt or stroke sander and use a vibrating sander after assembly for finer sanding.

I assemble the body frame on custom-made 20-in.-high sawhorses with 2x8x48-in. tops that can support the weight of the table and slate. The wide tops make it easy to assemble the sides, and the low height makes it easier to lift the heavy pieces of slate onto the completed body. Set the sawhorses where the body will be assembled, and level them in place, shimming beneath their legs, if necessary, to ensure that the body can be assembled square and true.

To assemble the four sides, I place the parts upside down on the sawhorses and brush a liberal amount of glue on the miters of two adjacent ends. Then, I carefully hold the corner in alignment and use a power screwdriver to run a  $1\frac{1}{2}$ -in. #10 screw into one hole in the side and one in the end. I draw the corner tightly together with the rest of the screws, being careful not to strip out the end-grain holes. Repeat this process until the body is complete.

The next step is to cut and install a kiln-dried 2x8 leg support at each end of the body. Crosscut the ends with opposite 15° bevels so the supports fit snugly side to side. Then rip one edge of each at 15° to fit against the ends of the body. If you scalloped the bottom



To complete the body, the slate frame is screwed to the top edge of the body frame, and the crossmembers are installed to support the joints in the slates. Glue blocks, screwed below the crossmembers, add support. The slate frame stops short of the corners to allow pocket clearance, and a ¾-in. block ties the comer together.

edge of the body, bandsaw the leg support back away from the scalloped portion of the end so the support doesn't show. Screw and glue the supports in place, running  $2^{1}$ /4-in.-long screws through the predrilled holes in the body frame and into the leg supports. Glue wooden plugs in all the screw holes, and sand them flush.

To drill for the lag screws or hanger bolts that attach the legs, make a plywood template the same size as the top of the legs and drill four evenly spaced 5/6-in.-dia holes. Place the template in the corners of the leg supports and drill through the template and the support. Use the same template when drilling the tops of the legs. Before I turn the table over, I round over the bottom, outside edge of the body and the four outside corners with a 3/6-in.-radius piloted router bit. With a helper, I turn the body over and reinforce the leg supports by gluing and screwing in hardwood glue blocks cut from scraps from the table sides (see figure 1).

A frame to support the slate completes the table's body. It's made from 3-in.-wide 6/4 stock and should overhang the body frame by 11/4 in. all around. Cut off the corners of the end pieces at 45° for pocket clearance, or let the parts come up short of the corner, as shown in the photo above, right. Screw and glue this frame to the top of the body. Install two crossmembers to support the joints in the slate. The crossmembers should be at least  $1\frac{1}{2}$  in. by 51/2 in. (a standard 2x6) and cut to fit on edge from side to side. Glue them to the frame, and run a long screw into each of their ends from the outside of the frame. Screw and glue a block under the ends of each 2x6 crossmember for support. I usually also glue in side blocks to prevent twisting. With a sabersaw, cut out 6-in.-dia. arcs tangent with the body for the side pockets. Finally, round over the inside edges on the top of the frame so it's easier to insert wedges between this frame and the slate liner when leveling the slate. Now, set the slates on the body and slide them around until they're tightly together and centered on the frame.

The rails—The rails, more than anything else, make a slate-top table into a pool table. They can be made from a single piece of clear, straight hardwood, but hardwood and softwood laminated rails, shown in figure 2 on the facing page, reduce the possibility of warping and provide softwood for stapling on the cloth.

The most critical rail dimension is the cushion height. According to the Billiard Congress of America, the point of the cushion should be 1<sup>13</sup>/<sub>32</sub> in. from the bed of the slate on a standard table with 2<sup>1</sup>/<sub>4</sub>-in.-dia. balls. The balls tend to climb a lower rail and be forced down under a higher rail. This height is determined by the 1<sup>3</sup>/<sub>4</sub>-in. thickness of the rail in conjunction with the 15° angle of its face. If you vary the thickness of the rail, you must adjust the face angle to provide the proper cushion height, as shown in figure 2.

To make the laminated rails, you'll need six 13/4x31/4x48-in.

softwood boards (I prefer poplar because of its stability) and six ½x3½x48-in. hardwood boards. Mill enough for one extra rail for tool setup and test cuts. Saw out a ½4-in. by ½6-in. rabbet in each piece of the softwood by making two cuts on the tablesaw. Glue the hardwood segments into this rabbet, and when dry, plane the hardwood flush with the softwood. Begin shaping the rail by ripping the 15° and 45° angles along the length of each rail's cushion face. On its top, cut a ¼-in. by ¼6-in. groove about ¼6 in.back from the 15° angled face. This groove is for the feather strip, which secures the cloth to the top of the rail. On the bottom of the rail, saw a shallow ½-in. by ½2-in. rabbet where the rail cloth will be stapled. Finally, set the dado blade to just skim the back edge of the softwood as you cut a ¼-in.indep dado for the blind into the hardwood. Mold the top edge of the hardwood with a router or shaper to add a detail and break the sharp corner.

Use the chart on p. 39 to determine rail lengths for your playing area, and crosscut the rails to length. These lengths are figured for #6 pocket irons, so be sure that's what you use. Bore ¾-in.-dia. holes in the rail ends; 2 in. should be deep enough for the pocket "ears" (see the left photo on p. 42). Center the hole 2½ in. back from the point created by the 15° and 45° angles of the angled face and ¾ in. down from the top of the rail. I drill the holes with a spade bit in an electric hand drill, using the bit's long shaft to align the hole.

Assemble the rails and pockets on the slate to check your playing area. Be sure the pockets are tight in the ear holes, and check the whole assembly for squareness. Tape pieces of cushion rubber onto rails across from each other, using double-faced tape, and measure the distance between their "noses." The measurements should be your desired playing area. If your measurements are long, you can trim the ends of the rails to leave the proper playing area.

Now you can cut the pocket angles on the rail ends with the radial-arm saw. The angles and sizes for the pocket openings are shown in figure 3 on the next page, The ends of the rails that border the corner pockets are cut with the blade tilted to 10° and the arm set at 52°. For the side pockets, the arm is reset to 15°. The

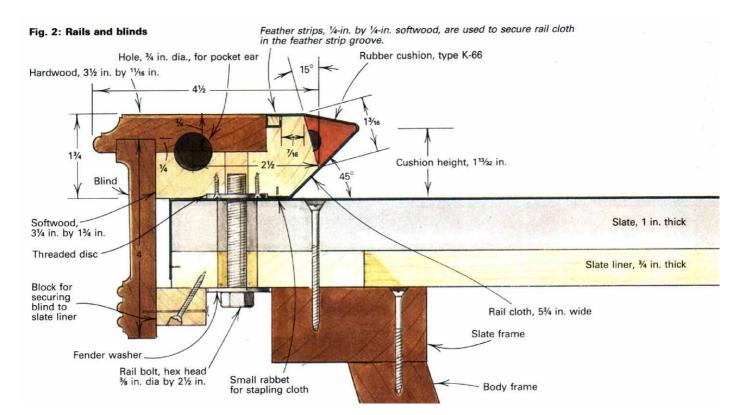
angle in the rail's horizontal plane creates the correct-size opening for the pockets. The angle in the vertical plane serves to extend the cushion's nose around the ends of the cushions.

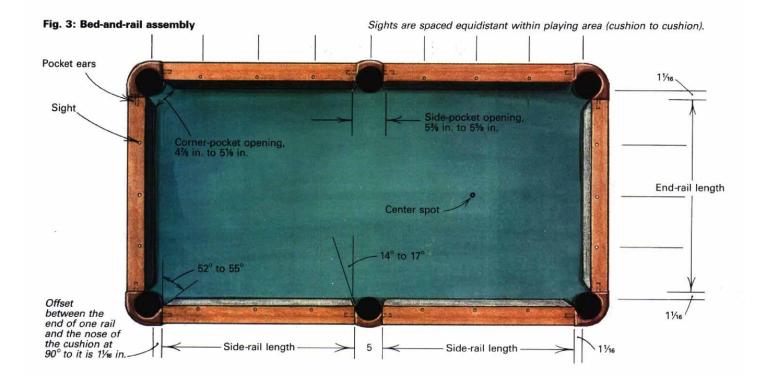
Cutting the pocket angles is much like cutting the opposite compound miters for the body: Cut one end, roll the board, move it to the other side of the blade and cut the other end. However, all the pocket-angle cuts should begin at the back of the feather-strip groove. So, cut the first rail to the right of the blade, with it's outside edge against the saw fence and its top side up so you can see where to begin the cut. The opposite cuts are made to the left of the saw blade with the top side of the rail face down. This makes it difficult to line the cut up with the feather-strip groove, so line up the first rail you cut with the other rails, bottom to bottom, to mark the location of the top-side-down cuts. The end rails get the 52° corner-pocket angle cut at both ends (in opposite directions), while the four side rails have one of their ends cut at 52° and the others cut with the saw arm reset to 15° for the side pockets. After the angles are cut, use a router to extend the shallow rabbet on the bottom of the rails, along the angled ends, for stapling the cloth.

The cast pocket irons are anchored in the ear holes with ½6-in. by 1-in. bolts run up through the rail. Drill 1-in.-dia. holes, deep enough to countersink the bolt heads and washers, directly below the threaded holes in the pocket ears. Then, drill a ½-in.-dia. hole through to the ear hole. The bolt should screw into the ears when the pocket is snug to the rail, and it should have enough play for minor adjustments during final assembly.

Attaching the rails-There are several different ways to attach the rails to the table: lag screws, mortised nuts, threaded inserts and threaded discs. Threaded discs, often referred to as metal rail plates in billiard-supply catalogs, are used most often, but they may be hard to find. I'll describe how to use them, but the same basic procedures apply for the other methods as well.

To locate the threaded discs, assemble the rails and pockets tightly together on the slate. Center the assembly by lining the









Above, left: The pocket 'ear' is inserted into the hole in the rail's end, and a bolt is then run up from the bottom of the rail into the ear's threaded hole. The rails and pocket are upside down in the photo above, right. The '16-in. by I-in. bolt anchors the pocket ear in the rail, and the 3/6-in. by 2½-in. rail-bolts screw into the threaded discs under the rails to secure the rails to the slate. The cloth is stapled and trimmed closely behind the pocket angle for a tight fit between the rail end and the pocket leather.

side pockets up with the slate cutouts and measuring the rail assembly's overhang all around the slate. Eye the side rails to see that they are straight, and double-check the whole assembly for square. Then, reach under the slate liner, and with a pencil, trace the holes in the slate onto the bottom of the six rails. Disassemble the rails, turn them over and mark the centers of the holes. The side rails, as well as the end rails, should be interchangeable with their counterparts.

Drilling for the threaded discs is done with a fence clamped to the drill-press table set for the holes' front-to-back alignment. First, countersink for the discs by drilling a shallow hole the disc's diameter. Then, change to a 7/6-in.-dia. bit and drill 1 in. deep in the center of each countersink for the shaft of the rail bolt. Use one of the discs, its flat side facing and parallel with the cushion side of the rail, to locate the pilot holes for the discs' attachment screws. Then, screw the discs in place (see right photo this page).

Inserting the sights—The last step in preparing the rails is locating the sights used to line up bank shots. Figure 3, above, shows their placement. Divide the playing area's width by four, or its length by eight, to get the distance between the three sights on each rail. The end rail has one sight in the center and one, the calculated distance, on each side of the center. Place them halfway between the feather-strip groove and the back of the rail. The center of the side rails falls in the middle of the side pockets, so measure from that point

Sights come in various sizes, shapes and materials. The round, plastic ones are the easiest to use. Just drill a hole the proper diameter and deep enough that the sight will stand just proud of the rail. Then, brush in a little glue and drive them in with a hammer and a wood block, to protect the sight. Once the glue is set, sand the sights flush using 120 grit on a belt sander.

The blinds-The blinds, or aprons, trim the rails and hide the edge of the slate assembly. They're about 4 in. wide and the same length as the rail they'll be attached to. If you bandsaw the ends with the curve shown in figure 2, they blend nicely into the pocket fringe, but you'll have to cut them long to allow for this curve. The blinds fit into the dado in the bottom of the rail and are held in place with blocking, which is glued to the backside of the blind and screwed to the underside of the slate liner. Glue two blocks to the back of each rail, making sure they won't be in the way when tightening the rail bolts. Drill an angled pilot hole in each one to screw the block to the liner. This makes for easy disassembly of the blinds when the rails are recovered.

Assembling the table-After the table parts have been stained and finished and the cushions have been glued to the rails and covered with cloth (see the sidebar on the facing page), you can set up the table. Place the table body upside down on the floor of the billiard room. Bolt the legs in place and then turn the table over. Level the table by using a carpenter's level and placing 1/8-in.plywood and plastic-laminate shims under the legs. Next, set the pieces of slate in place and screw them tightly to the body frame. A screw-driver bit in a hand brace simplifies this process. It's not a good

idea to screw down the center of the slates along the joints unless you need to pull down a bowed slate, which is very uncommon.

Run your fingers across the four points where the slate joints meet the edge of the table to detect any difference in height. If there's a difference, loosen the screws in the lower slate and raise it by inserting a playing card or folded paper shim between the liner and body. Repeat this until the three slates are even at the table's edge. If your body frame is straight and true, the slates should be too. To double-check this, stretch a taut string from end to end, near the edge of the table, anchored to nails in the slate liner. Slip a coin or poker chip beneath the string at each end and use another chip as a gauge to test for equal clearance along the length of the slate. Next, the joints are felt their whole length. If one piece is lower, drive a 11/2-in. by 6-in. softwood wedge, tapering up to ¼ in., between the slate liner and crossmember. One person can tap the wedge in place while a helper feels for the moment when the two pieces of slate are even. When the three pieces of slate are as even as possible, putty the joints with "Durham's Rock Hard" (available from local hardware stores) and a wide putty knife. Any gouges, scratches or screw holes in the playing area should also be puttied and sanded smooth. After the putty has hardened, use 120grit sandpaper on a block to gently sand off any excess. Putty and sand again if necessary, then brush the table clean.

The bed of the table can now be covered with the cloth, as described in the sidebar below. Then, the rails and pockets are assembled on the covered bed, as shown in the photo (right) on the facing page. The rail bolts and washers are inserted through the slate liner and slate and finger-tightened in the threaded discs. Then the pocket-and-rail assembly is centered on the slate, and the end rail bolts are tightened with a socket wrench. Sight down the side rails and adjust them until they are straight, then tighten them down. To test their alignment, roll a pool ball down the side rails. The ball should pass the side pockets without catching a point of the cushion. Nail or screw the loose ends of the woven leather pockets to the underside of the slate liner, making sure that the balls will not

escape through this opening. Lastly, slip the blinds up into the dado in the rails, and screw through the glue blocks into the slate liner.

**Fine-tuning the table**—To check the table for final leveling, hold a pool ball between your thumb and first finger about 12 in. above one of the rails. The line from your thumb to your finger should be perpendicular to the front of the cushion rubber. Drop the ball so it will strike the slate and the front of the cushion simultaneously. It should travel across the table at 90° to the cushion; if the table is the slightest bit out of level, it will roll toward the low point. As an alternate technique, grab a cue and shoot a ball slowly the length of the table, about 6 in. from the side rail. As the ball slows and stops, it will veer toward the low point, if the table's out of level.

The severity of the ball's drift, using either method, will help estimate the thickness of the shim needed under the leg toward the low point. Lift the table from the end so both legs are off the floor, and have your partner place the shims under the proper leg. If you pick up only the low corner, the torque is sure to break the puttied joints between the slates. Repeat this procedure around the table until the balls show no drift.

Paul Bowman is a freelance writer and builds pool tables on special order in Vancouver, British Columbia, Canada. For an article on turning a pool cue, consult FWW #59, pp. 66-69.

## Sources of supply

Wholesale billiard-supply houses usually won't sell to individuals, so find a local dealer or pool-table manufacturer who will sell you the slates and accessories. If that fails, you can order everything you'll need, including slates, from the following supplier:

Tucker's Billiards, 3381 Ashley Phosphate Road, North Charleston, S.C. 29406

For machine-carved legs and decorative blinds:

Adams Wood Products Inc., 974 Forest Drive, Dept. 1-3, Morristown, Term. 37814

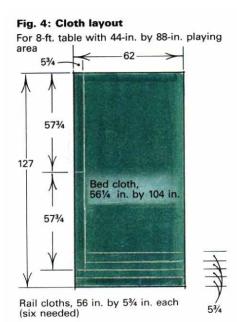
## Covering the rails and slate bed

by Eldridge Tucker

Experience has convinced me that the best cloth for pool tables is a blend of 75% wool to 25% nylon, with a weight of 22 oz. per linear yard. A purist might prefer all wool, but the nylon adds durability, and the heavy weight is well worth an extra couple dollars per yard. It comes 62 in. wide; you'll need around 3½ linear yards. Figure 4 at right shows how to cut the cloth for an 8-ft. table with a playing area of 44 in. by 88 in. Adapt this layout to the size of your slate.

Attaching the cushions: After the finish on the rails is dry, the cushions are glued to the angled face with either contact cement or yellow glue. The top edge of the rubber should be flush with the top of the rail. If you use yellow glue, use masking tape to hold the rubber in place until the glue dries.

After the glue has set, trim the rubber to length. Hold the rail so the cushion nose is down against a board or workbench, align a knife blade with the pocket angles and slice through the rubber from base to nose to extend the angle. Dip the knife blade in water for a smoother cut.



The cushion facings, made of laminated rubber and canvas, reinforce the cushion ends and cut down on the springiness of the cushion so the ball is not deflected too easily out of the pocket opening. Contact-cement them to the angled ends of the cushions and rails, flush with the beginning of the pocket angle and the top of the rail and cushion. Trim the facing's other edges to the contour of the rail with scissors or a knife. Break the top and front edges of the facing with sandpaper, as shown in the top, left photo on the next page, so a corner won't tear the cloth.

Covering the cushions: You'll need six ¼-in. by ¼-in. softwood feather strips to secure the cloth to the rails. Lay a feather strip in the groove on each of the rails so it's flush at one end, and mark the other end for length. Before removing the strip, make a line near its center, extending onto the rail and cushion, as a reference for lining up the strip when the cloth is being secured, as shown in the top, right photo on the next page. Remove the strip and cut it to length with a saw or chisel. Then, lay one of the

precut rail cloths so its edge lines up on the joint between the wood and the rubber. Place the feather strip on the cloth above the groove, align the centerlines and tap the center of the strip partway into the groove. Work toward one end, tapping the strip partway in and pulling a little tension on the cloth in the direction you're working. Continue to the side-pocket ends, but stop about 6 in. back from the corner-pocket ends. While holding the feather strip down in the groove, pull about 2 in. of cloth through the groove below the strip, as shown in the right photo this page, to create a "pucker" so you can stretch the cloth around the angled cushion. Drive the last 6 in. most of the way into the groove to secure the cloth.

With a wood block, tap the length of the strip into the groove so it's just proud of the rail's surface. Trim the excess cloth by slicing with a knife against the cushion side of the protruding strip. Flip the cloth over the feather strip and cushion, and with a clothwrapped block, tap the strip flush with the rail's surface. Stretch the cloth tightly over the corner-pocket angle, and staple it to the rail tight behind the facing and on the rail's bottom near the edge. The photo (right) on p. 42 shows where to staple. On the sidepocket ends, fold and tuck the cloth like you would wrap a gift, with the open part of the fold on the lower edge of the cushion. Pull the cloth tight and staple like you did on the other ends. Starting at the middle of the rail, stretch the cloth tightly over the cushion and staple it every 2 in. in the shallow rabbet on the rail's bottom. Trim the excess along this rabbet and close to the staples on the ends.

Covering the slate bed: After the slate's joints have been puttied, you can cover the slate bed. Start by lining the pocket cutouts with 1½-in. by 12-in. strips of cloth contact-cemented to the edges of the slate and liner. Brush the slate clean of any small particles left from sanding the putty, and lay the cloth down so it overhangs the slate evenly.

Figure 5, below, shows the steps for stretching the cloth over the slate bed. Always begin at the center of a side and staple



The cushion facing is contact-cemented to the angled rail end and cushion, then trimmed with scissors or a knife. The facing's sharp edge is eased with a sandpaper block so it won't tear the cloth when stretched tightly over the pocket angle.

the cloth every 3 in. into the edge of the slate liner. Work toward the corner pockets, pulling the cloth slightly in the direction you're working. Staple to within 2 in. of the pockets, to leave some play for stretching the cloth over the pocket cutouts.

Pocket cutouts: To stretch the cloth smoothly over the pocket cutouts, you'll need to make radial cuts in the cloth within the pocket areas, as shown below. Grasp the cloth at the pocket and pull it down gently to reveal the outline of the pocket cutout. With a razor knife, cut in the center first and then once or twice on either side to create triangular tabs. Always cut toward the cloth's edge. Again starting at the center, pull down firmly on the tabs and staple them in a neat line near the slate liner's bottom edge. Trim the cloth as close to the staples as possible, to avoid a loose flap that a hand may catch when retrieving the balls from the pocket



The feather strip is driven into the groove to within 6 in. of the corner-pocket ends. Here, about 2 in. of the cloth is pulled through the groove to create a wrinkle or 'pucker,' which helps stretch the cloth over the comer-pocket angle.

Trim the overhanging cloth around the table if it's long; if there's not too much excess, the blinds will hide it. Finally, cut circles out of the cloth with a knife for all the rail-bolt holes. If you just make an X-cut, the cloth will get caught in the bolt's threads. Now assemble the rails and pockets, and bolt them in place on the slate bed as described in the main article.

All that's left is to place the center spot for locating the rack of balls for the break. I run a string between the middle sights on two opposite side rails, at the end where the balls will be racked, and one between the middle sights on the end rails. Holding a level alongside the strings, I mark on the cloth the point where the two strings intersect and place the self-adhesive spot. Now you're ready. Rack 'em up.

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