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Classic Chessboard

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Classic Chessboard

This heirloom chessboard was inspired by a James Krenov design that ingeniously tackles the wood movement problems inherent in using two wood species. If you're a chess junkie as well as a woodworker, you'll be smiling from the first cut through the last check mate with this clever project.

A SHORT HISTORY OF CHESS

Chess is a derivative of a sixth-century game from India called chaturanga, although the modern format emerged in Europe around 1400. The first serious strategist was Ruy Lopez de Segura, a 16th-century Spaniard. But the game really came into its own with Francois Philidor's "Analysis of the Game of Chess," published in France in 1749. The first international grand master was Adolf Anderssen of Germany.

In 1972, the world was transfixed by two men playing a board game for the unprecedented prize of $250,000. Bobby Fischer, who at the tender age of 14 had won the U.S. Chess Open, was locked in combat with the venerable Soviet, Boris Spassky. That event brought chess to main street America, accounting for a massive surge in this ancient game's popularity. Fischer was the last American to become international grand master, and even though he forfeited his title a couple of years later, enthusiasm for the game has remained high.

If you're a fan of combining two great hobbies—woodworking and chess—here's a perfect project to satiate your leisure pursuits. Although the design looks complicated, it's primarily made up of simple moldings. And the clean lines, reminiscent of Art Deco pieces, actually hold two delightful secrets: For one, a pair of almost invisible drawers stow the chesspieces. The other surprise is a more subtle design theme that we'll reveal at the end of this article (if you haven't already guessed by then).

Making the Squares

Chess players are known for their patience, an attribute that will come in handy when making the squares of the chessboard grid (pieces 1 and 2). Begin this task by ripping two 60"-long pieces of stock, one in a dark species—we opted for wenge—and the other light colored, such as the maple used here for contrast. A simple table saw jig equipped with a toggle clamp makes crosscutting 64 identical 1⅝" squares safe and easy (see *Figure 1*).

To accentuate the space between the assembled squares, their edges are slightly chamfered on the top and bottom. The only safe way to do this on such small pieces is on a router table with a 45° chamfering bit. You may have to clamp a thin auxiliary fence to your router table's fence if the opening in the machine's fence is large enough to engulf one of these small pieces. Chamfer each square on the top and bottom faces so that, when you assemble the grid, you can choose the best face for the top.

Addressing Wood Movement

We all know how wood expands and contracts with the seasons, so you can imagine our concern when we started discussing the chessboard for this project, which features two distinct species. To avert a potential disaster, we employed a technique we came across in a book written by renowned woodworker James Krenov: A series of

dowel pins (pieces 3) are used to assemble the grid.

A drill press is essential when drilling for these pins, because if the holes (see the *Pinup Shop Drawings* for locations and depths) are the slightest bit off, the assembled grid will not be flat. A simple jig (see *Figure 2*) clamped to the drill press table lines up each square with the bit. As you drill, make sure there is no chip build-up in the jig, or the holes will be off center. The squares along the outside edges are drilled three times, while those on the corners are only drilled twice (on adjacent edges). The squares in the field, however, receive four holes each.

Making the Grid Assembly

Dry-fit the grid of squares, picking the best faces for the top. Put a light (maple) square in the right-hand corner closest to each player. Run the grain of both species in the same direction to help with wood movement problems. You'll notice that the 1"-long grid pins are too short to bottom-out in the holes. This is intentional—it allows the wood to move and the spacers to set the correct gap.

Make any corrections during your dry fit because, with the chamfer on the squares, you won't be able to sand the grid flat later. Use a straightedge and several plastic laminate spacers (see *Figure 3*) to keep everything in line and spaced perfectly, then glue up eight strips of alternating dark and light squares. When they're dry, glue the strips together to form the complete chessboard grid.

Milling the Corners

The corners (pieces 4) of the chessboard case are milled from one 12"-long piece of 1¾" square stock that receives decorative fluting and chamfering on two adjacent faces (see *Pinup Shop Drawings* for dimensions and locations). These chamfers are the same as those you already milled on the grid squares, so return to the router table to create them. The flutes are also cut on the router table, using a 1/8" core box or round nose bit. Mark the centerline of each cut (see *Pinup Shop Drawings*) on the end of a piece of 1¾" square scrap, then set your fence and make practice passes on the scrap for each flute before milling the workpiece.

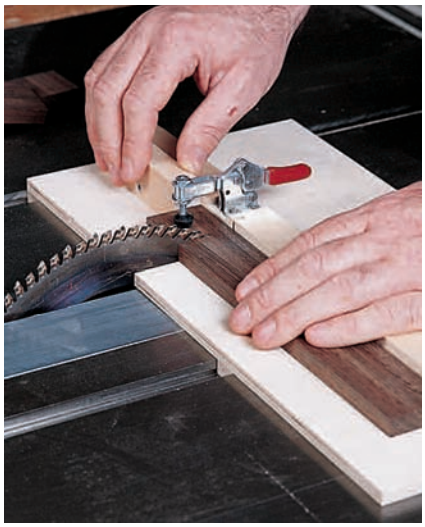


Figure 1: *This crosscutting jig rides in the miter gauge slots of your table saw and is equipped with a toggle clamp to keep your fingers out of harm's way.*

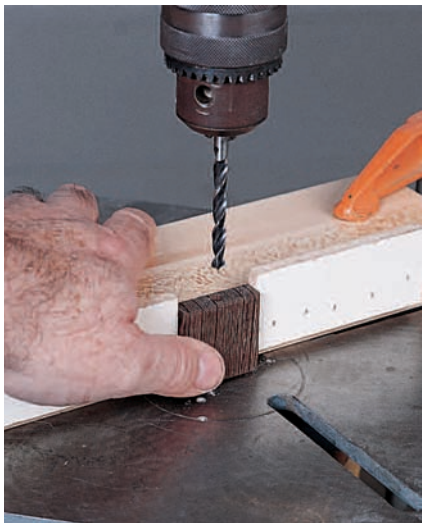


Figure 2: *A simple jig facilitates drilling a series of accurate holes for the dowels that hold the chessboard grid together.*

The inside is formed on the table saw, using a 1/4"-wide dado set. To reveal the stepped profile of this piece, make several passes for both safety and quality reasons. Wrap up by cutting the corners to length.

Building the Case Sides and Drawer Fronts

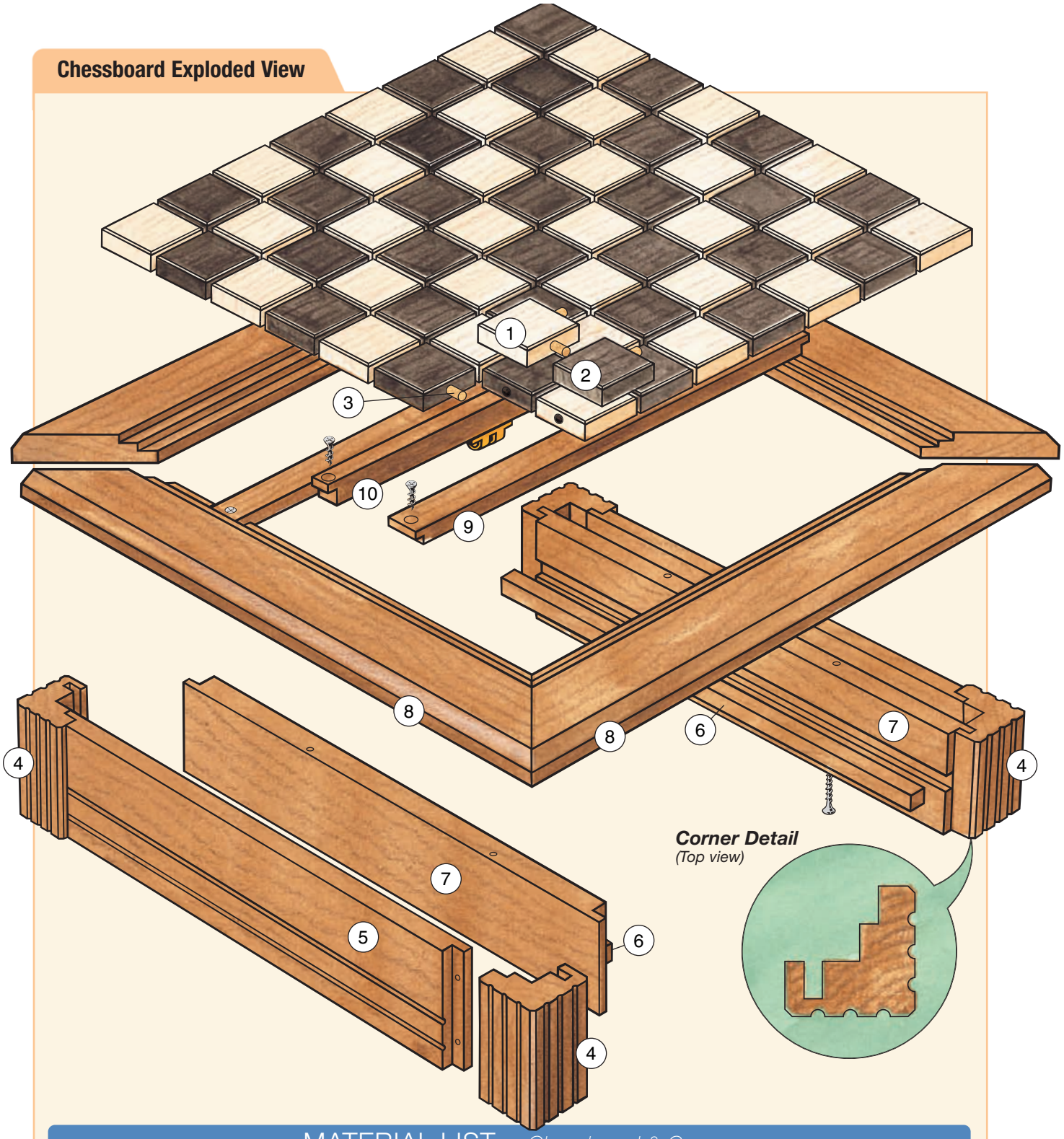
The case sides (pieces 5) and drawer fronts (pieces 11) are made from the same molding. To make this molding, rip your stock to 2⅞", then head for the router table. Use your core box bit to cut the two flutes in the molding, then crosscut the molding to the correct lengths and rip the drawer fronts to 2¾". Finally, go back to the table saw dado set to cut the rabbets on the ends of the sides (see the *Pinup Shop Drawings*).

On to Drawer Slides and Supports

The outside edges of the two drawers are quite a distance from the case sides. This presents a problem in that there is nowhere to attach the drawer slides (pieces 6). The solution is to attach supports (pieces 7) to the insides of the corner moldings. Each of these boards features a groove into which the drawer slide is inserted, and both boards can be made at the same time as a single piece of molding.

Making this molding is relatively uncomplicated. Simply cut the stock to the dimensions given in the *Material List*, then create the grooves and rabbets (see *Pinup Shop Drawings* for dimensions and locations) on the table saw using the dado set.

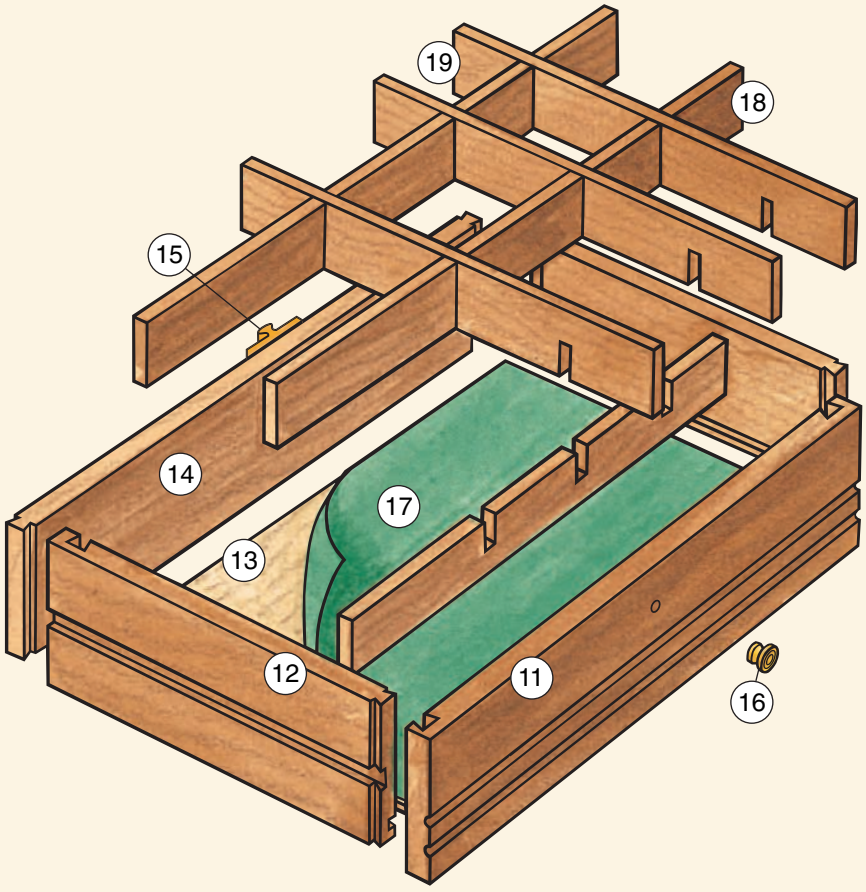
Chessboard Exploded View



MATERIAL LIST – *Chessboard & Case*

		T x W x L			T x W x L
1	Light Squares (32)	1/2" x 1⅝" x 1⅝"	6	Drawer Slides (2)	1/2" x 1/2" x 15½"
2	Dark Squares (32)	1/2" x 1⅝" x 1⅝"	7	Drawer Slide Supports (2)	3/4"x 2⅞" x 16⅜"
3	Grid Pins (112)	1/4" x 1" Dowel	8	Frames (4)	3/4" x 2 ¾" x 17"
4	Corners (4)	1¾" x 1¾" x 2⅞"	9	Braces (2)	1/2" x 1" x 12¼"
5	Sides (2)	1/2" x 2⅞" x 14⅜"	10	Drawer Catch Support (1)	1/2" x 3/4" x 12¼"

Drawers Exploded View



MATERIAL LIST – *Drawers*

	T x W x L		T x W x L
11 Fronts (2)	1/2" x 2¾" x 13¼"	**16** Pulls (2)	3/8" Dia. Antique Brass
12 Sides (4)	1/2" x 2¾" x 7⅞"	**17** Liner (1)	12" x 24" Green Felt
13 Bottoms (2)	1/4" x 12¾₁₆" x 7⅞"	**18** Long Dividers (6)	1/4" x 1" x 11⅝"
14 Backs (2)	1/2" x 2¼" x 12¼"	**19** Short Dividers (6)	1/4" x 1" x 6¾"
15 Catches (2)	1/4" x 1¾" Brass		

Mill the drawer slides, then dry-fit the corners, sides, drawer slide supports and drawer slides together. If everything fits properly, glue and screw the case together (see *Pinup Shop Drawings* for screw locations). You probably won't need clamps to hold this small assembly together when assembling the parts.

Building the Grid Frame

The frame that surrounds the chessboard grid is not only decorative, but also functional. This frame is used to attach the grid to the case.

Start making the frames (pieces 8) by ripping stock to size, then set your table saw blade to 45° to create the chamfer on the outside edge (see *Pinup Shop Drawings*). Switch to the dado set to cut the two rabbets on the inside edge, then return to your router table to mill the slight chamfer above the top rabbets (also shown on the *Pinup Shop Drawings*). Cut the frames to length at a 45° angle using your table saw's miter gauge, then glue up the frame (make sure it is square by measuring both

Figure 3: *Use several plastic-laminate spacers to assure proper alignment when gluing up the squares of the chessboard. Cut a recess in each spacer to fit around the grid pin dowels.*

Figure 4: *Use a 14° dovetail bit to form the joints on the drawer sides, fronts and backs.*

Figure 5: *The drawer dividers are ripped and jointed to the correct width and thickness, then held together by half-lap joints.*

diagonals and adjusting clamps until the measurements are equal).

The two frame braces (pieces 9) and the drawer catch support (piece 10) are ripped to size, then small rabbets are cut on their ends with the dado set (see *Pinup Shop Drawings*). Drill pilot holes and countersink for 1/2" screws, then glue and screw the braces and catch support in place. When the glue is dry, drill four 3/8"-diameter counterbores for 2½" screws in the bottom of the drawer slide supports (see *Pinup Shop Drawings*), then screw the side assemblies to the frame.

Constructing the Drawers

You've already created the drawer fronts, so now you can cut the rest of the drawer parts to size. Install the dado set on your table saw to make the drawer slide grooves (see *Pinup Shop Drawings*) in the outside faces of the drawer sides (pieces 12). Now cut a 1/4"-wide groove on each inside face of the sides and on the drawer fronts for the drawer bottoms (pieces 13). The backs (pieces 14), receive no grooves for the bottoms. Switch to your router table to make the dovetail joints that hold the fronts and backs to the sides, using a 14° bit (see *Figure 4*). Before using the dovetail bit, however, use a straight bit to remove most of the waste—it prevents overstressing the dovetail cutter. And test your setups on scrap before milling the workpieces.

You can now glue and clamp the drawers together. The drawer bottoms just slide into their grooves and are then tacked to the drawer back with a couple of 3/4" brads, making them replaceable if necessary.

Finishing Up

After sanding the entire project thoroughly, apply three coats of Danish oil. When your finish is dry, install the drawer catches (pieces 15) and pulls (pieces 16). The catches are simply screwed in place (see the *Pinup Shop Drawings* for locations), though you will need to drill holes for the pulls (these are also shown on the *Pinup Shop Drawings*). To make the drawers glide smoothly, apply friction-fighting Nylo-Tape in the four drawer slide grooves. Or, apply some paste wax to the bottom edges of the drawer sides.

The inside of each drawer is lined with self-adhesive felt (piece 17), that comes in a sheet. This is simply cut to size and stuck in place. Apply the felt just to the bottom of each drawer. To divide the drawers into individual storage compartments, you can make simple dividers (pieces 18 and 19) spaced out to fit your particular chess pieces. Use your dado set to create half-lap joints where the pieces cross, as shown in *Figure 5*.

Finally, we promised earlier to reveal a second secret: If you look at the completed project, the overall impression is of a boxing ring, complete with ropes and padded corners. So find a worthy opponent and get ready for round one.

MATERIAL LIST

		T x W x L
1	Light Squares (32)	1/2" x 1⅝" x 1⅝"
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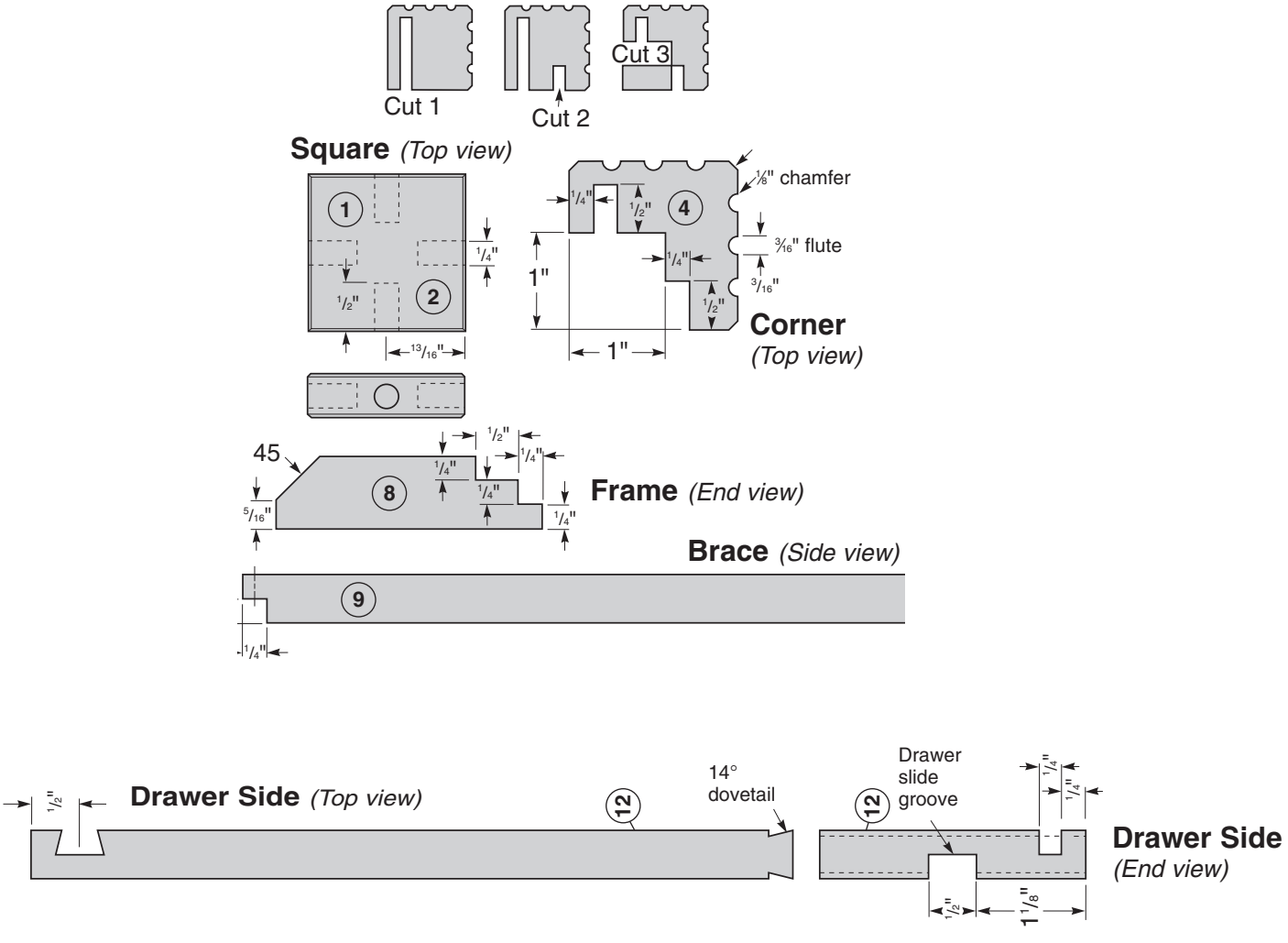
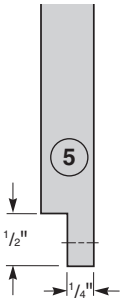
3	Grid Pins (112)	1/4" x 1" Dowel
4	Corners (4)	1¾" x 1¾" x 2⅞"
5	Case Sides (2)	1/2" x 2⅞" x 14⅜"
6	Drawer Slides (2)	1/2" x 1/2" x 15½"
7	Drawer Slide Supports (2)	3/4" x 2⅞" x 16⅜"
8	Frames (4)	3/4" x 2¾" x 17"
9	Braces (2)	1/2" x 1" x 12¼"
10	Drawer Catch Support (1)	1/2" x 3/4" x 12¼"
11	Drawer Fronts (2)	1/2" x 2¾" x 13¼"
12	Drawer Sides (4)	1/2" x 2¾" x 7⅞"
13	Drawer Bottoms (2)	1/4" x 12³⁄₁₆" x 7⅝"
14	Backs (2)	1/2" x 2¼" x 12¼"
15	Catches (2)	1/4" x 1¾" Brass
16	Pulls (2)	3/8" Diameter Antique Brass
17	Liner (1)	12" x 24" Self-adhesive Green Felt
18	Long Dividers (6)	1/4" x 1" x 11⅝"
19	Short Dividers (6)	1/4" x 1" x 6¾"

Pinup Shop Drawings

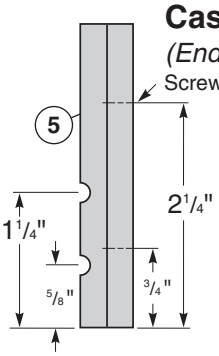


Pinup Shop Drawings

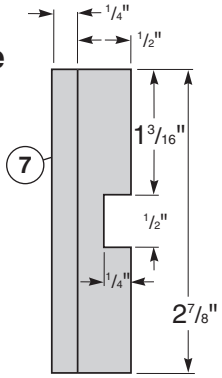
Case Side
(Top view)



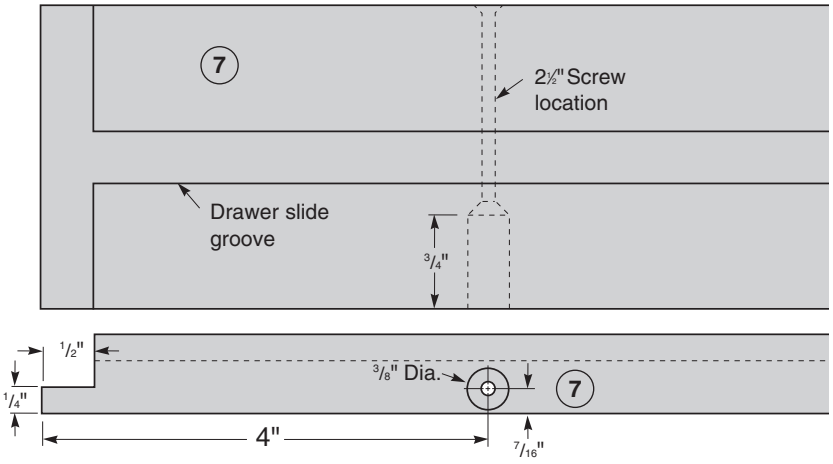
Case Side
(End view)



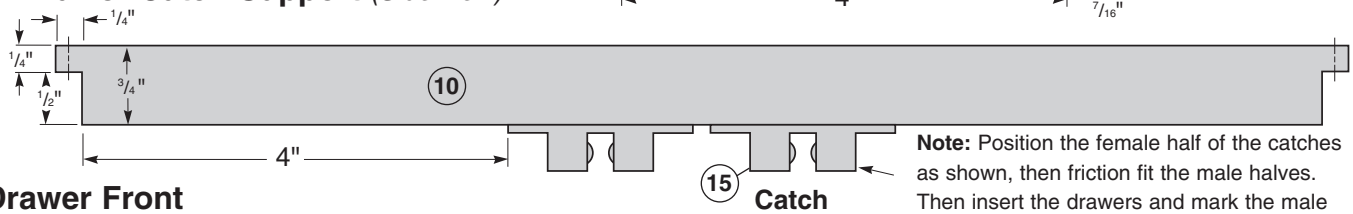
(End view)



Drawer Slide Support *(Side view)*



Drawer Catch Support *(Side view)*



Note: Position the female half of the catches as shown, then friction fit the male halves. Then insert the drawers and mark the male halve locations on the backs.

Drawer Front
(Front view)