

# Building a Lazy-Susan Cabinet

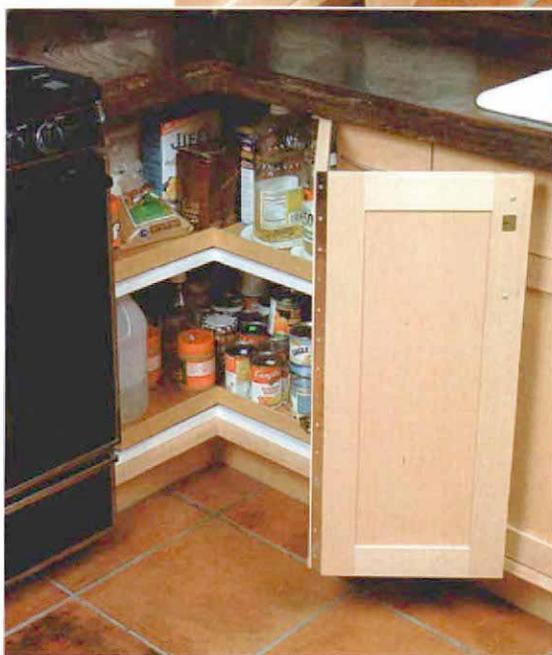
Revolving shelves on heavy-duty carousel hardware make the most of a kitchen corner

BY REX ALEXANDER



**I** have no idea who dreamed up the lazy Susan, but I bet a Hoosier had something to do with it. Indiana, after all, is the birthplace of the famed Hoosier cabinet, and Indiana is where I came across a lazy-Susan corner cabinet for the first time. I had just started working as a cabinetmaker, and I landed a kitchen-remodeling job that included the removal of every cabinet but one, a corner cabinet that housed two lazy Susans. It was a primitive affair that probably had been built on site, but the owner loved it.

Made of standard lumberyard plywood, the cabinet took up a 36-in. sq. space with a cutout in the corner. Both the bottom and center shelves supported 32-in. rounds of plywood that revolved on



**Two ways to hang the doors.** When clearance is not a problem, the author hangs doors on 165° cup hinges so that they meet at the center of the cabinet (photo above). If the cabinet is next to an appliance (photo left), the two doors are joined by a piano hinge at the center and hung so that they swing away from the obstruction.

low-profile bearings. Even though I've upgraded the materials and hardware, and added solid-wood edging to the carousels, my lazy-Susan cabinets are virtually the same (photos facing page). There wasn't much in that design to improve.

These cabinets hold a lot, and the 1,000-lb. capacity of the bearings means they work smoothly, even when the carousels are full of appliances or canned food. These cabinets eliminate wasted space in a corner, and they feature doors that open out of the way for easy access. Although I can buy factory-made lazy Susans, I think there are advantages to making these cabinets myself. My carousels are more attractive, operate more smoothly and are a lot stronger than those

flimsy trays revolving around a center pole. I can make mine any size. The 12-in. bearings of galvanized steel I use are inexpensive (about \$7 each) and readily available from woodworking-supply dealers and catalogs.

### Start by cutting out pieces for the cabinet box

Although I stick with  $\frac{3}{4}$ -in. melamine for the cabinet box, I use  $\frac{3}{4}$ -in. hardwood plywood for the carousel pieces because it's less likely to chip. To cut melamine cabinet pieces to size on a table saw, I use a Freud LU98, an 80-tooth blade with a triple-chip grind. For ripping plywood, I use a thin-kerfrip blade. I don't get fancy with joinery on these cabinets. A simple dado joint cut on the table saw works fine. I use zero-clearance table-saw inserts with all these blades.

After squaring and cutting the top, the bottom and the shelf panels, I mark out 90° corner cuts on each piece. I start these cuts on a



### Finish with a jigsaw.

With the workpiece on a pair of sawhorses, the author completes the cut with a jigsaw. A blade with downward-pointing teeth reduces splintering in the brittle top layer of melamine.

### Stop cut short of the line.

Cabinet top, bottom and shelf pieces are cut from  $\frac{3}{4}$ -in. melamine. To avoid overcutting the 90° corner, the author stops the saw before the blade reaches the layout line.

### Cut off the cabinet's back corner.

To make installation easier and to eliminate wasted interior space, the author nips off the back corner of the cabinet top, bottom and shelf. This table-saw maneuver is safe, providing the fence is long enough. If not, clamp or screw an auxiliary piece to the stock fence.



table saw (photo top left, p. 99), but I'm careful not to cut too far and finish the cuts with a jigsaw (photo top right, p. 99). Bosch makes a 4-in., 10-tpi jigsaw blade (model T101BR) with its teeth facing down instead of up as in a standard blade. It reduces splintering in wood and chipping in melamine.

To eliminate wasted interior space in the back of the cabinet and to make installation easier, I cut a 10-in. piece off the top, bottom and shelf pieces (bottom photo, p. 99). This cut is easily done on the table saw with the points up against the fence.

After the pieces for the cabinet have been cut to size, I then build the carousels for the lazy Susan. The 32-in. dia. circles are cut from

$\frac{3}{4}$ -in. maple plywood. I use a plunge router and a solid-carbide spiral bit to make them.

### Carousel pieces are made with a template or a trammel

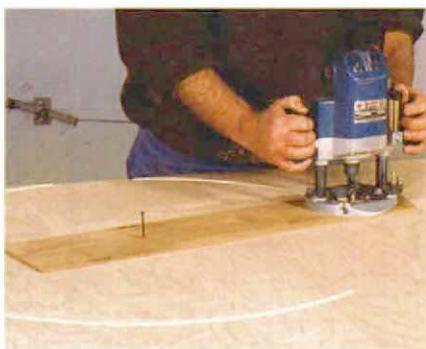
Because I make lazy-Susan cabinets frequently, I have a 32-in. dia. plywood template for cutting out the circular carousel pieces. I screw down the template to the plywood (photo top left) and make a half-dozen or so shallow cuts around the edge to produce a carousel piece (photo bottom right). If you will need a template only rarely, it may make more sense to use a trammel of  $\frac{1}{4}$ -in. plywood to make the carousel pieces. The trammel should be about 20 in. long and the width of your router base (photo bottom left).

To mark the 90° cutouts, I place the carousel pieces on the top, bottom or shelf piece, adjusting them so that they are evenly spaced,

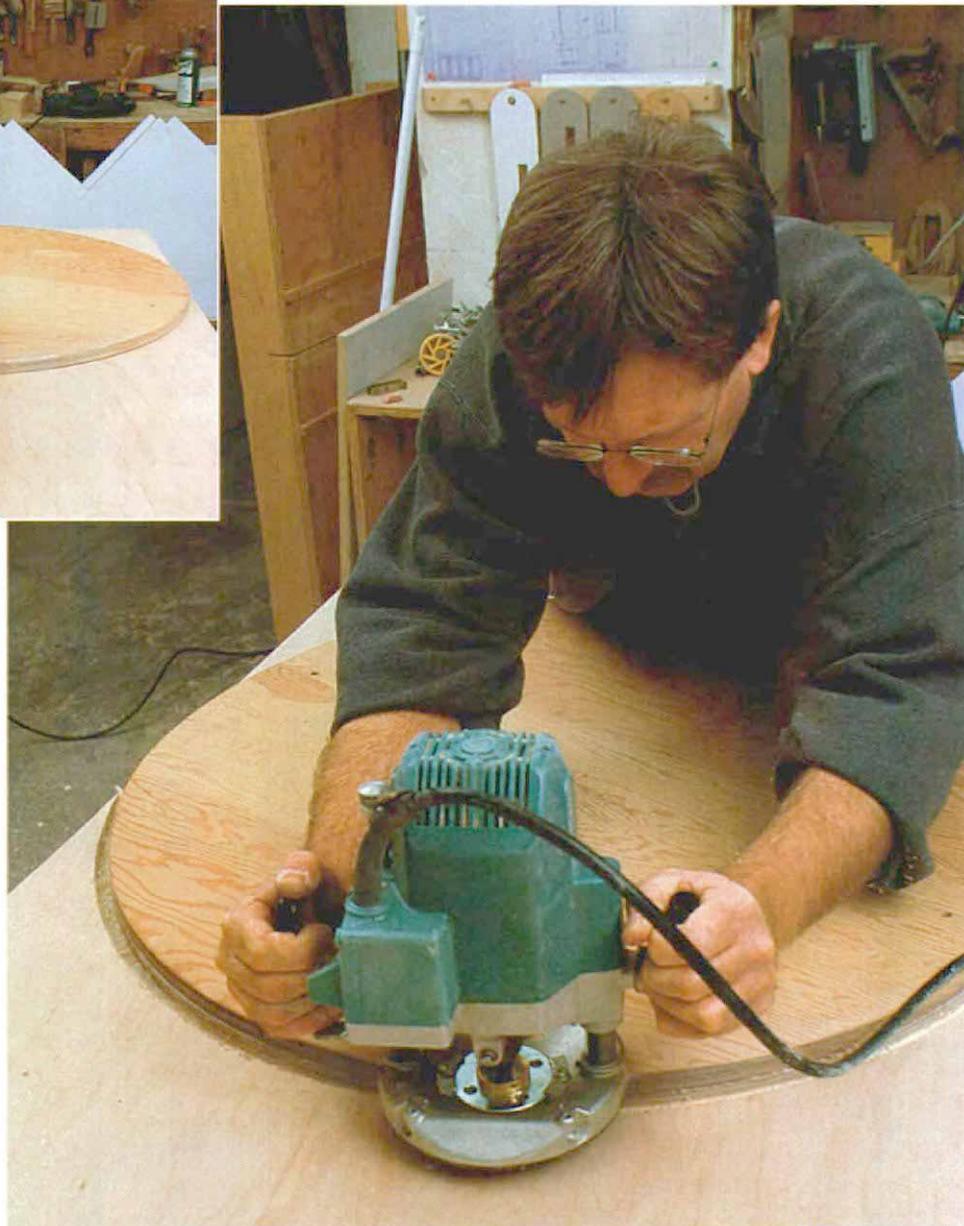


**A template makes the work go faster.** To make plywood carousel pieces, the author starts with a 32-in. dia. plywood template that is screwed to  $\frac{3}{4}$ -in. maple plywood. If you don't want to make a template, try a trammel attached to the router (photo below).

#### MAKING A PERFECT CIRCLE



**A trammel made from  $\frac{1}{4}$ -in. plywood that pivots on an 8d nail is a good substitute for a circular template. To cut a 32-in. dia. carousel, set up the router so that the distance between the nail and the inside of the router bit is 16 in.**



**Use a guide bushing and light passes.** With a solid-carbide spiral bit and a guide bushing, a router makes a clean cut in maple plywood around this reusable template. Cuts should be light—about  $\frac{1}{8}$  in. per pass.

and then mark the cut from below (photo top left). I use a jigsaw to make the pie-shaped cut (photo top right) and clean up the cut with a low-angle block plane and a chisel.

Plywood carousels are banded with a thin strip of wood. This edging piece must be high enough to keep the contents of the lazy Susan from falling off as it is rotated, and thick and low enough to resist splitting if it is bumped. After a lot of experimentation, I now use clear, straight-grained maple  $\frac{7}{32}$  in. thick and  $1\frac{1}{2}$  in. wide. A piece  $88\frac{1}{2}$  in. long gives me enough to wrap around a 32-in. dia. carousel with a little bit to spare. A band clamp with a rapid-action ratchet, available from Woodcraft Supply (800-225-1153), works

well for gluing (photo bottom left). I apply a bead of aliphatic (yellow) glue to both the plywood and the maple edging. C-clamps or spring clamps can be used to hold the edging in place while you put the nylon webbing in place. Glue squeeze-out should be cleaned up with a damp cloth.

### Finish up the edging, and attach the bearings to the carousels

I leave the band clamp on for 24 hours to make sure that the glue bond is good. Then I square the ends of the edging, cutting them close to flush with a dovetail saw and trimming them flush with a

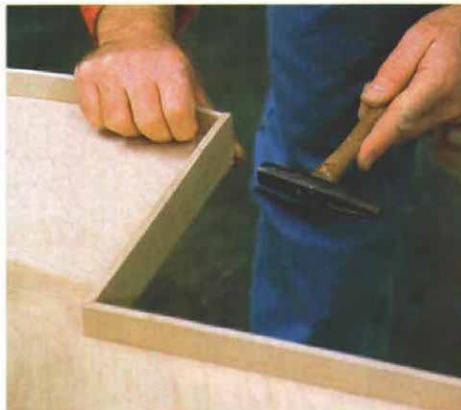


#### Mark and cut the carousel.

The author centers a plywood carousel on a cabinet top, bottom or shelf piece. Before marking it for the 90° cutout, he moves the carousel toward the front of the cabinet  $\frac{1}{4}$  in. to compensate for hardwood edging. A splinter-free blade is a good choice for taking out the pie-shaped piece on the carousel. The author finishes with a low-angle block plane and a chisel for a clean edge.



**Add the edging.** Straight-grained maple  $1\frac{1}{2}$  in. high is glued to the perimeter of the carousels to create a lip that prevents contents from sliding off as shelves are turned. The author uses yellow glue and a web clamp to attach the edging.



#### Outside corner is reinforced with brads.

A potential trouble spot is the outside corner of the carousel, where edging pieces meet. Here, the author adds some  $\frac{3}{4}$ -in. brads. Drilling pilot holes will prevent splitting.

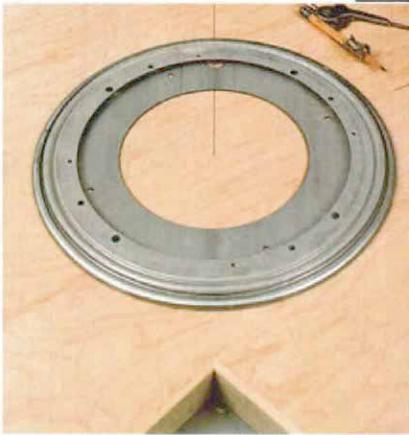
low-angle block plane. The two remaining pieces of the edging can then be glued and pin-nailed to the 90° cutout. I think that it's a good idea to nail the outside corner where the edging meets with a 3/4-in. brad as a further guard against separation (photo bottom right, p. 101).

For added strength, I apply preglued veneer to the outside edges of the carousels. The veneer covers and strengthens the butt joints, making them look mitered, and it gives the edging a full 1/2-in. thickness. I apply it with a household iron set between "cotton" and "wool," and press it down with a J-roller. It can be trimmed with a utility knife.

Carousels should be finished before they are mounted on the waiting cabinet parts. I apply as many as six coats of precatalyzed lacquer, a tough and wear-resistant top coat. Precatalyzed lacquer is a highly flammable, solvent-based finish that should be applied in a spray booth. Whenever possible, I spray outside. If you don't want to bother with this kind of finish, I'd suggest Enduro poly (800-696-0615), a water-based finish that can be brushed on.

### Assembling the carousels and completing the cabinet

Installing the lazy-Susan bearing is a two-step process: Start by attaching the hardware to the carousel, then screw that assembly to



#### Lay out hardware location.

With the carousel upside down, the author centers the lazy-Susan hardware. A line drawn through the centerpoint is used to locate a hole for mounting the carousel.



**Drill an access hole.** Once hardware has been attached to the bottom of the carousel, the only way to screw that assembly to the cabinet will be through a 3/4-in. access hole in the carousel.



**Attach hardware to bottom of carousel.** After the carousels have been finished, the author flips them upside down on a padded bench and adds the lazy-Susan hardware.

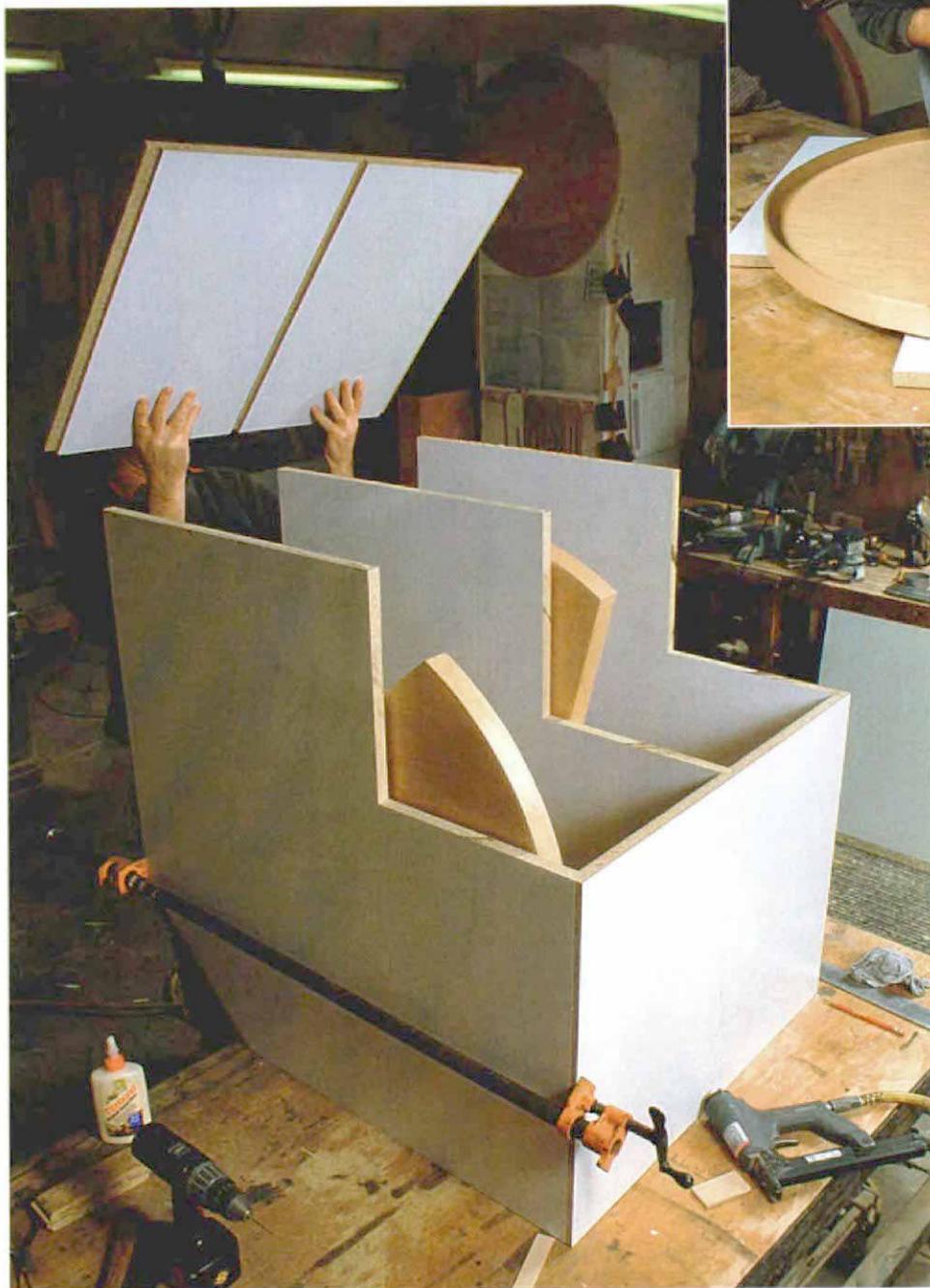
the cabinet shelf or cabinet bottom. When both bearings are attached, the cabinet can be assembled. The bearings I use have a 6½-in. hole in the center, plus a ¾-in. access hole in the bottom flanges (photo top left, facing page). With a compass at the center of the carousel (use the hole left from the template or trammel), I draw a 6¾-in. circle. Then I draw a straight line from the point of the 90° opening to the carousel's centerpoint. I line up the bearing with the circle and set the access hole over and centered on the bisecting line. I mark the access hole with a pencil and drill halfway through with a ¾-in. spade bit (photo bottom left, facing page). Finish the drilling from the other side.

After screwing the bearing to the bottom of the carousel (photo right, facing page), I flip over the piece and place it onto the bottom cabinet panel. I make sure the carousel spins evenly, and then screw it into place through the access hole (photo right), turning the carousel until the access hole exposes an empty screw hole below.

After that, assembling the cabinet goes quickly. I use yellow glue on the dado joints and fasten the pieces with narrow-crown 1-in. staples in a pneumatic nailer (photo left). When I'm gluing on the back, which is a melamine-to-melamine joint, I make sure to use a glue made specifically for this material.

I finish by ironing on preglued polyester tape to the 90° cabinet opening and trimming any excess with a utility knife. Doors are hung on cup hinges. □

Rex Alexander, a frequent contributor to *Fine Homebuilding*, is a cabinetmaker in Brethren, Michigan. Photos by Scott Gibson, except where noted.



**Now mount carousels on cabinet parts.**

Working through the access hole, the author attaches a carousel to the cabinet shelf. After inserting a screw, the author revolves the carousel until the next screw hole appears below the access hole.

**Putting it all together.**

Dado joinery is simple and strong, and makes for speedy cabinet assembly once all the pieces are ready. The author will cover raw particleboard edges in the cutout by ironing on preglued polyester tape.