

In this plan you will be getting:

- Step by Step construction instruction.
- A complete bill of materials.
- Exploded view and elevation drawings.
- How-to photos with instructive captions.
- Tips to help you complete the project and become a better woodworker.

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Weekend Toy Box



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Weekend Toy Box

S afe and sturdy, stylish and practical, this weekend project is easy to build. Butt joints covered by simple fluted moldings create a classic toy box that stores tons of fun, even if it all tends to stay in the living room and in full view. Eventually, this project transforms easily into a keepsake chest and even doubles as extra seating.

Toys are a lot more than mere playthings. They represent everything from a child's dreams for the future to a parent's paradise lost. But even with such wonderful esoteric values, the reality is that most of the time they're just a huge mess all over the house. That's particularly true nowadays, when a kid seems to own every toy that's ever appeared on TV.

The rules are a little different these days, too. Kids are often allowed to set up fun shops in the middle of the living room. On the other hand, you may have memories of your old toy box relegated to a bedroom because it didn't "go" with mom's decor.

So, here is a toy box for today. It's designed to look great in the living room or basement, featuring basic construction with elegant results. Purchase or have the cushion made, and you have a toy box that will easily convert to a blanket chest or perhaps an extra seat for the big game.

Whether you're an old hand at woodworking or a raw recruit, this project is manageable with just the

AS EASY AS 1-2-3...4



Step 1: Cut the plywood panels to size, machine four rabbets and test the fit.



Step 3: Attach the lid and add the hardware: two child-safe lid supports and a simple piano hinge hold it securely.



Step 2: Add the edge banding, fluted molding and plinth blocks.



Step 4: Add the finish of your choice, a few strips of Velcro[®] and a nice cushion.

barest array of tools. All you'll need are a table saw, router and a few basic hand tools. A circular saw might come in handy, but it isn't absolutely essential.

Keep two things in mind when choosing the wood for your toy box. First, look for a species your lumberyard stocks in both 3/4"-thick hardwood stock and 3/4" veneered plywood. We found both in cherry for the box shown here. Second, think about how your choice will match your room decor.

Cutting Major Components to Size

Dimensions for the top, sides, front and back (pieces 1, 2 and 3) are given in the *Material List* on page 145. All five parts can be cut from a single sheet of



Plywood Cutting Guide

(Note: You don't have to cut the bottom piece from your expensive plywood.)



veneered plywood, as shown in the *Plywood Cutting Guide*, above. When laying out these cuts, pay special attention to grain direction, so the lines run horizontally around the box. You'll find some helpful pointers on handling large sheets on page 148. The bottom (piece 4) can be squeezed out of your nice plywood, but since it won't be seen, you're better off cutting it from any halfway respectable-looking sheet stock you have laying around. Most hardwood veneered sheets come with an A (or A2) and a B side. The A side is a better quality veneer, and it should be facing out on the finished project. Make sure the blade always enters the good side and exits the B side, to avoid splintering. So, if you're using a circular saw to cut a full sheet to size, the A side should be facing down. On the table saw, the orient it so the A side faces up instead. Either way, use a sharp, fine-toothed blade.

Milling Rabbets for the Bottom

The bottom is secured to the sides, front and back by setting it in matching rabbets. These can be cut on the table saw using a dado head, or with a router using a 1/2" straight bit. For the table saw method, just set the fence and blade according to the dimensions shown in the *Rabbet Detail Drawing* on the next page, and make the cuts. If you choose to go with a router (either portable with a clamped-





This table saw safety switch is simple to make, and the only hardware items you'll need are two 3" butt hinges. Any scrap hardwood will do equally well to build the framework. Then screw the swinging frame to the underside of the table and pad the "off" paddle with extra foam to ease pressure on the switch.







Figure 1: Form a simple rabbet at the bottom of the sides, front and back for the bottom piece. There's no need to stop the cuts, since molding will cover the corners.

on guide, or table mounted), make each rabbet in two passes to lessen the strain on the router bit.

drilling the trim every six inches so it won't split (chuck one of the nails in your drill and use it instead of a drill bit).

Set the nail heads after the glue dries, then fill and sand them.

If the trim is minutely wider than the plywood, make sure the outsides (appearance sides) are absolutely flush. You can belt-sand the inside faces with 220-grit after the glue dries. Go slow: you don't want to sand through the veneer.

Assembling the Box

The box carcass is held together with glue and screws driven through simple butt joints. Refer to the Exploded View on page 145 to orient the parts properly. With the bottom in place, butt the joints together and hold them temporarily with clamps (or an extra pair of hands if they're available). As you work, make sure the carcass is square and plumb. Measure diagonally across the top in both directions: when these measurements are identical, your assembly is

Disguising the Plywood Edges

Although veneered plywood is an excellent building material, and it does a wonderful job of replicating wide boards, it has one minor drawback: The edges of a cut sheet reveal the alternating layers or plys within the board. There are a couple of ways to deal with this. One is to apply an ironon veneer tape, but with the usage this toy box may see over the next several decades, strips of hardwood edge banding (piece 5) would be a much more durable edging.

Rip enough 1/4"-thick stock to cover both the top edges of the carcass and the outer edges of the lid. This stock should be the exact width of the plywood thickness. Trim it to length (create mitered corners on the lid pieces), and apply it with glue and clamps. If you're short of clamps, you can use 11/4" hardened trim nails, pre-



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square. Adjust clamping pressure to tweak the box for squareness.

Pre-drill for the screws (pieces 6), using a bit about half the thickness of the screws in the second piece, and the full thickness of the screws through the first piece. This will ensure the screws pull the joints tight as they are driven home. Be sure to countersink for the

QuickTip

heads so they'll lie flush with the wood. Apply glue to both joint surfaces, set the bottom in its rabbet, and drive the screws home.

Keep a damp cloth handy to wipe off any excess glue. If you miss some glue spots, wait until they become rubbery, then clean them up with a sharp chisel, using the blade as a scraper.

Adding Fluted Corners

A simple molding application takes this project from a mundane cube to an elegant toy box. We used a fluted molding, created by milling a pair of large grooves (called flutes) in one face of 1/2"-thick pieces of stock (pieces 7 and 8). The best way to do this is with a table-mounted router (see *Figure 2*),

Create Your Own Expanding Mandrels

If you like to make napkin rings and other hollow turnings, here's a way to hold your work securely: cut a number of plywood discs—depending on the length of the mandrel—then thread them on a hex-headed machine bolt and turn them to the exact inside diameter required. Now cut discs from an old inner tube and re-assemble the mandrel as shown below. Tightening the nut squeezes the rubber discs so the mandrel expands and grips the turning. If the mandrel is longer than about 2" it will need end support. Create this by countersinking the exact center of the bolt head, and then mount a live center in the tailstock. You may find it best to draw a reference line on the plywood discs so they can be re-assembled in the original order.



SPLINTER-FREE CUTS ON LARGE SHEET STOCK



Keep two 2 x 4s close to your cut.

packing tape

Clear

Using a Circular Saw

When cutting a full sheet of plywood into components, lay a few 9'-long 2 X 4s on the floor. Since the best face of the stock should face down (the exit side of a cut is more likely to splinter), glue thin carpet to one face of each of the 2x4s to protect the plywood's veneer. We also recommend applying 3M-brand clear packing tape along the path of the cut (both sides) to reduce splintering. To get a perfect cut every time, make a jig by gluing an 8"-wide length of 1/4" ply to a straightedge. Trim through this piece with your saw against the straightedge. Until you get a new saw, that's where your blade will always cut. Just line up that trimmed edge with your pencil mark and clamp the jig in place.

Using a Table Saw

In this case, the best face of your plywood must face up as you cut. Full sheets shouldn't really be handled alone on a table saw-you're just a bit too far from the shut-off to be safe. And if your stock is more than a couple of feet long, be sure to provide a solid outfeed support; roller stands or a large outfeed table are two good options. Take care when cutting thin sheet stock like laminate...it may slide under the fence and go out of alignment, causing binding on the blade. And speaking of blades, a blade with a reverse hook angle (a melamine blade) works much better than a crosscut version on veneered panels. Score through the veneer on cross-grain cuts, setting the blade at about 1/32" for the first cut, then turn the sheet over and raise the blade to about one and a half times the thickness of the stock for your second cut.

Keep the plywood's back edge slightly elevated as you start the cut to prevent it from "walking up" on the blade.

When you're on the outfeed end, just support the material, don't guide it.

Splitter



Keep those little fingers safe with a quality support like the one used for this project, approved for use on toy boxes by the Consumer Product Safety Commission.

using an inexpensive 1/4"-radius core box bit to form 1/2" flutes. Refer to the *Elevation Drawing* on page 145 for the dimensions, and make the cuts in two passes.

After the grooving is complete, use your table saw to create a 45° chamfer on one edge of each piece of the front molding. The rear moldings need not be chamfered. Now use the same saw angle to chamfer one edge of each of the front plinth blocks (pieces 9). Again, since the back is flush, it's not necessary to chamfer the rear plinth blocks (pieces 10). Glue and clamp the blocks in place, using the *Exploded View* for orientation. Now trim the lengths of molding to fit snugly between the blocks and glue and clamp them in place. Clean up any glue squeeze-out, and set the project aside to dry.

Applying a Finish

The most important step in any finish is the preparation that goes into it. Fill all the nail holes and any minute gaps that appear in the mitered joints, then let the filler dry thoroughly. Sand the entire project with 120-, then 180-, and finally 220grit paper. Chisel out any minor accumulations of glue in the corners and you're ready to apply a finish. Many furniture builders like to wipe on a matching stain (in our case, medium cherry), to even out any tonal differences between the plywood veneers and the solid hardwoods. This is also a great way to achieve instant aging that magnificent patina cherry develops over the years due to exposure to light and air.

Since this toy box will receive heavy usage over the generations, we suggest applying three or four coats of non-toxic clear finish over the stain, sanding all but the final coat with 400-grit wet/dry sandpaper.

Installing the Hardware

After the finish is dry, attach the lid with a continuous piano hinge (piece 11), pre-drilling for the screws. Piano hinges are durable, strong and will provide years of service for a reasonable price. You can rout a mortise for this in the bottom of the lid if you like, but it isn't necessary. To save little fingers from getting pinched (a real hazard with large doors or lids), install a pair of child-safe lid supports (pieces 12) which regulate the speed at which the lid closes. Installation instructions are included with this hardware.

Now all that's left to do is to convince a houseful of boisterous kids that those scattered toys belong in their brand new, fluted, cherry toy box when not in use. You're on your own for that job!

