

there. (Refer to the pattern sheets to see where the cleats **(B,C)**, wedge blocks **(D,E)**, and saddles **(I)** will attach to the faces of the body panels.)

Bringing it together

To start the assembly process, use glue and 1¼ inch screws to attach the body cleats **(B)** and seat cleats **(C)** to the inside surface of each body panel as shown.

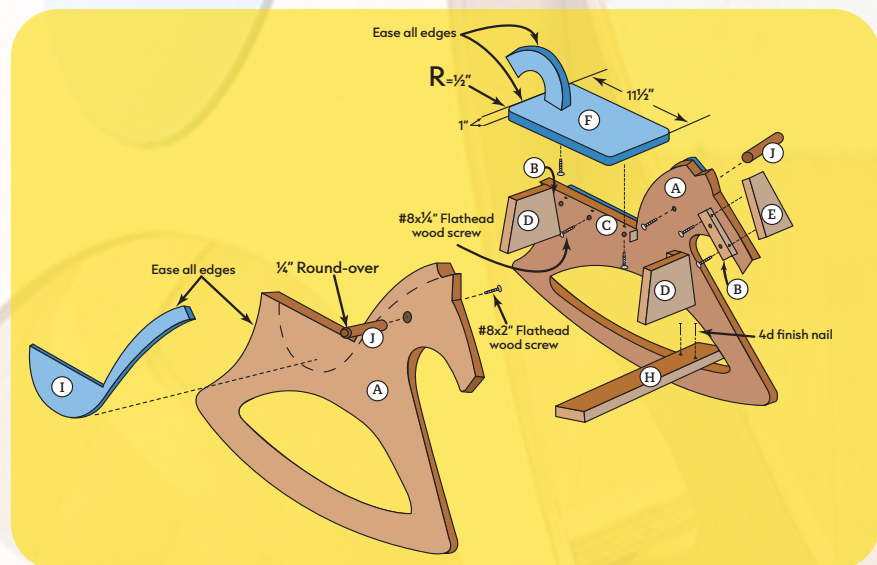
Next, use glue and 1¼ inch screws to attach the body wedge blocks **(D)** and the head wedge block **(E)** to one of the body panels as shown, fastening through the support cleats. At this time, also fasten the handles **(J)** to each body panel with glue and 2 inch wood screws — you want to do this before the two body panels are connected because you won't have clearance to drive the screws. (Make sure the handles are sanded or routed at the ends so they don't have any sharp edges.)

Apply glue to the edges of the wedge blocks that will abut the second body panel and fit the panel into place, taking care to align it with the first panel and with the marks transferred from the patterns. Drive screws through the support cleats to secure

the joints. The top of the assembly should be fairly rigid at this point, and the parts will lock together even more firmly after you add the footrest **(H)**. If you are hand-nailing this piece, test fit it to mark where it will rest on the body panel edges and drill ⅛ inch pilot holes for the finishing nails — be sure to account for the slight angle created by the splayed panels so the nails don't exit on the inside faces (this also holds true for pneumatic nailing, so watch the angle of your nail gun when fastening). Reposition the footrest and drive the nails to attach it as shown.

Now you are ready for the final touches — the tail, seat and saddles. Attach the tail **(G)** to the seat **(F)** as shown, using glue and 1¼ inch screws to secure it. Then position the seat onto the body panels and drive 1¼ inch screws up through the support cleats to fasten it as shown.

Finally, apply glue to the saddles **(I)** and clamp them to the body panels as shown. Because these saddles are made from ¼ inch plywood there's not much total depth for nailing, but glue alone should hold fine if you use plenty of clamps and leave them in place until the glue is cured.



Here's a mod mare for the tyke who's going places. Scandinavian-inspired forms bring this centuries-old toy racing into the 21st century.

Before You Start: Pattern-Routing

Projects such as this rocking horse provide a great opportunity for almost any woodworker. For a shop veteran, it's just challenging enough to be interesting, and it can be easily built in multiples if you have a lot of grand-kids or want to donate your efforts to a local children's charity. For beginning woodworkers, the project offers

a chance to work with some unusual angles and contours and to practice a useful technique called pattern-routing.

Pattern-routing involves making one durable master pattern, or template, that is the exact shape you want to make the project parts. Depending on the project, templates can sometimes be painstaking to make, but they offer big advantages in accuracy and efficiency once the project construction is underway.

Patterns often involved arcs, curves or other irregular shapes, and they are usually made using a band saw, portable jigsaw, router, power sanders and/or hand tools such as coping saws, rasps, files and sanding blocks. Typically, the shape is cut very close to the traced outline and then sanded or filed to its finished form. It can then be secured to a workpiece blank with clamps or attached to a jig

that helps hold the workpiece blank in position.

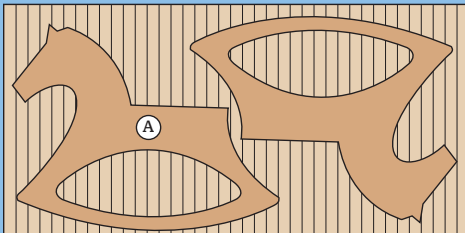


To produce your actual project parts, it's often best to lay the template onto the workpiece blank, trace the outline, then remove the template and rough-cut the part so no more than 1/4

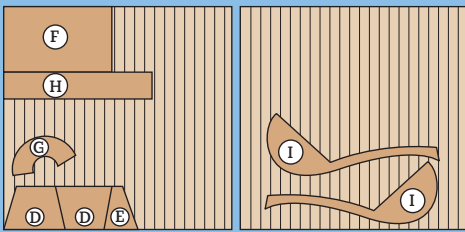
inch of waste material remains outside the pattern lines. Then, use clamps (or screws if holes in your workpiece won't matter) to re-attach the template (or jig) to the workpiece, and you're ready for routing.

There are two kinds of router bits commonly used for pattern-routing, and both rely on a ball-bearing guide that rides along the edge of the template while the bit's cutting flutes trim the workpiece to match. The most common is a *flush-trim bit*, which has the guide bearing at the end of the bit and the cutting flutes above, nearer to the bit shank you secure in the router collet.

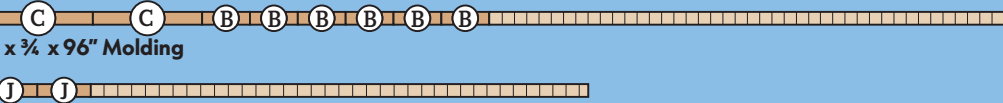
Cutting Diagram



3/4 x 24 x 48" Baltic Birch Plywood



3/4 x 24 x 24" Baltic Birch Plywood 1/4 x 24 x 24" Baltic Birch Plywood



3/4 x 3/4 x 96" Molding



3/4 x 3/4 x 96" Molding

The cutting stresses can be substantial, so use a 1/2 inch *shank bit* if your router will accept it. This style bit typically has carbide cutting flutes from 1 inch to 1 1/2 inches long and the same cutting diameter as the shank, so it can cut fairly thick material and follow very tight curves. When cutting with this bit, you'll have the workpiece on top and the template underneath.

SKILL LEVEL: *Intermediate*
COST ESTIMATE: \$66
FINISHED DIMENSIONS: 22" (h) x 28.5" (l) x 15" (w)

- Tools You'll Use**
- Tape measure
 - Angle square or combination square
 - Portable circular saw with straightedge guide
 - Table saw
 - Portable jig saw
 - Router with 1/2-inch flush-trim bit
 - Corded or cordless electric drill
 - Drill bits: 1/8-inch twist drill; 3/16-inch with countersink bit
 - #2 Phillips screwdriver or driver bit
 - Assorted clamps
 - Sanding block with medium-grit abrasive
 - Paint brushes
 - OPTIONAL: *Pneumatic finish nailer and air compressor*

- Lowe's List**
- 1 (3/4x24x48-inch) sheet Baltic birch plywood (#6209)
 - 1 (1/4x24x24-inch) sheet Baltic birch plywood (#6196)
 - 1 (3/4x3/4x96-inch) pine molding (#7871)
 - 1 (3/4-inch) dowel (#19384)
 - 1 pkg. #8x2-inch flathead wood screws (#57236)
 - 1 pkg. #8x1-1/4-inch flathead wood screws (#57233)
 - 1 box 4d (1-1/2-inch) finish nails (#69144)
 - Wood glue (#218256)
 - Wood filler (#221374)
 - Paint Valspar 'Splish Splash' (CI 267)

Getting Started

Your first step should be to create the body panels (**A**) or a routing pattern for them. If you prefer, you can cut and shape one panel and use it as a template for routing the second, but once you have the project together you'd have to start again from scratch if you ever wanted to build another one. So if you think you might ever want to build more of this project, fabricate a template from scrap plywood and hang onto it for possible future use.

Print out the patterns and use them to trace the outline of the body panels onto the template. Cut and sand the template to shape, then use it to trace the outlines for the two body panels onto the 3/4 inch birch plywood. Rough-cut the parts, staying just outside the pattern lines, then clamp them (one at a time) to your master template and rout them to final shape.

Re-position the paper patterns on the inside faces of each body panel and mark the locations of the cleats you'll need to add later.

After your body panels are routed to shape, cut out the remaining parts as shown. For the support cleats (**B** and **C**), drill 3/16 inch holes for mounting screws as shown.

After you have all of the parts cut, sand any sharp edges or corners to remove splinters and then paint any parts you might want colored — pay attention to edges or surfaces that will need gluing and don't apply paint

Material List

Part	T	W	L	Material	Pcs
A Sides	3/4"	22"	28 1/2"	BP	2
B Body Support	3/4"	3/4"	3 3/4"	M	6
C Seat Cleats	3/4"	3/4"	8 1/4"	M	1
D Body Wedge Block	3/4"	4 1/4"	5 3/4"	BP	2
E Head Wedge Block	3/4"	4 1/4"	3"	BP	1
F Seat	3/4"	7"	11 1/2"	BP	1
G Tail	3/4"	3"	6"	BP	1
H Foot Rest	3/4"	2 3/4"	15 1/2"	BP	1
I Saddle	1/4"	8"	9"	BP	2
J Handles	3/4" Diametre		3 3/8"	Dowel	2

Material Key: BP – Birch Plywood
M – Molding