

Building a Toy Car

Project Level: **Intermediate**

This project is intended primarily for adults to share with children—a family project which can be used to teach woodworking skills and the proper use of tools. Of course, you can build the car for any reason you'd like. Maybe you fancy cars, or maybe someone in your family does. This swoopy coupe would make a great gift. It looks great sitting on the mantel and is sure to draw attention. An intermediate level woodworker with normal shop tools should be able to fashion this car in a few hours.



Classic design from the heyday of the American auto industry is sure to please.

This project is designed to be constructed in layers from laminated 3/4" boards. For a small investment, quality shelving boards, often called "whitewood" boards, are available and easy to work with for this project. For the ultimate in classic wooden toys, naturally finished hardwood can't be beat. The design lends itself to using contrasting woods; oak fenders against a creamy aspen body would look great. If you plan to paint your coupe, the quality of the wood is less of a factor than if you plan on using the material's natural beauty. The prototype was built completely from a scrap piece of 2x4 left over from a framing project. Lowe's is happy to provide this information as a service to you.

Tools	Materials
- Jig saw ⓘ, Band saw ⓘ - Drill/driver ⓘ with bits - Files - Clamps ⓘ - Rasp - Palm sander ⓘ (optional but oh so nice!)	1— 3/4"x 6"x 3' board (or its equivalent) 1— 6" piece of 1" dowel 1— 2" piece of 1/4" dowel - Sandpaper ⓘ - Finishing materials

Layout

Two sets of full size drawings are provided for this project. (Set 1 and Set 2.) Print both of them and you will have the templates necessary to layout the pieces on your wood.



1. Transfer the patterns to the wood stock. There are several ways you can do this. You can, for example, place carbon paper face down under the patterns and trace them onto the wood. Some people prefer to glue the patterns directly to the wood with rubber cement, and then remove them after the cuts have been made. Make the cuts as accurately as possible to save yourself time matching the pieces after they are assembled. *The swoopy coupe looks great from any angle.*
2. Cut out the car components. Notice that this car is built from sandwiched layers of 3/4" lumber. If you are cutting out the component pieces with a jigsaw or scroll saw, it will be best to cut them out as individual pieces and then laminate the subassemblies. If you are using a band saw, however, you may want to laminate the stock for the fenders and inside body into 1 1/2" pieces before cutting out the patterns. The band saw should be able to handle the extra thickness without any problems, and this will ensure that the pieces match each other well. If you use this approach, skip to "The Main Body" after cutting out the pieces.
3. Laminate the fenders. You will then have two fender blanks, each 1 1/2" thick.
4. Laminate the two inside body pieces together into a single piece, 1 1/2" thick.

The Main Body

1. After the glue dries on your inside body assembly, shape the seat, floorboard and dash with a file so they match exactly. Sand the area inside the cockpit to the desired finish—once the outside body pieces are glued to the car you won't be able to reach these areas.
2. When you cut out your components, you should have cut out two outside body pieces, each 3/4" thick. Glue one to each side of the inside body block you've just completed. This will enclose the car cockpit and complete the main body assembly. Be sure to clean out any glue that squeezes into the cockpit.
3. The main body is now ready to be carved:
 - a. Sand the bottom flat and round the edges of the

top of the car body. Use the rasp, files and sandpaper to achieve a shape you like.

- b. File and sand the top of the bumper extension area until it is flat. This area will support the hood assembly, but some of it will be visible between the front fenders and radiator, so make it look nice.
- c. Round off the front bumper.
- d. The firewall should make a 90 degree angle with the bumper extension area. Do not round the edges around the firewall. The car hood will butt against it.

4. Assemble and carve the car hood:

- a. Glue and clamp the three hood assembly pieces together side by side to form a block. Allow the glue to dry.
- b. Use the hood top view template to transfer the outline to the top of the block.
- c. Trim the hood to the basic shape using a saw.
- d. Sand the bottom of the block flat to fit against the bumper extension on the main body. Also adjust the back of the block with a file until it fits against the firewall with no gaps.
- e. Round the edges of the top of the hood. Match the curvature of the hood to that of the main body at the firewall, and extend the curvature to the area where the radiator will be attached.
- f. Glue and clamp the car hood to the bumper extension area.

The Swoopy Fenders

The shape of the fenders on this car define its character. Study the top view of the car to get an idea how the running boards and fenders relate to each other.

- 1. Take some time to shape the fender blanks to be well-rounded and curvy. Also assure that they match each other as much as possible.
- 2. Prepare your fenders for the headlights and taillights. Refer to the drawings to determine placement of the lights.
 - a. Drill 1" holes in the front fenders for the headlights. Use a Forstner bit or hole saw and be careful not to drill completely through the fender.
 - b. Drill 1/4" holes in the rear fenders to accept the tail lights.
 - c. Make your headlights from 3/8" thick sections of a 1" wooden dowel. Slightly round one face of each dowel and sand it to the desired finish. Make your tail lights in the same fashion from 3/8" sections of 1/4" dowel.

- d. Check the fit of the lights and adjust as necessary. If you are planning to paint your car, you may wish to wait and glue your lights in place after it is painted.
3. Glue and clamp the fenders to the car. If you make your fenders from a contrasting colored wood, you will automatically have a two-tone coupe when the car goes together. If you are planning on painting the car, however, resist the urge to paint the fenders before gluing them to the body. It seems like the most natural thing in the world to do, but you will need the extra holding power the glue will provide by sticking raw wood to raw wood.

Tying Up the Loose Ends

Because of the low-slung design of this car, the wheels can't be made to roll without hollowing out the centers of the fenders. This would require a good bit of work. You may do it if you wish, and then connect round wheels to the car body using nails as axles. Otherwise, you can use the plans as presented to create wheels which are glued to the insides of the fenders

1. The wheels were cut out of 3/4" stock with the rest of the car components. They are not round, as the tops of the wheels must be fitted to the inside of the fenders for gluing. Do this first, then round the edges of the tires for a more realistic look.
2. Using the same 1" bit you used to drill for the headlights, drill a 1/4" hole in the wheels where the wheel covers should be. (If you use a hole cutter, you will have to chip the wood left in the center, remove it with a small chisel.) The ink in permanent black markers dries to a dull black finish suitable for coloring tires. Blacken your tires before inserting the wheel covers which will be made in the next step.
3. Cut 1/4" slices from the 1" dowel. These slices can be sanded and glued into the 1" holes in the wheels to create attractive, perfectly round moon wheels.
4. Glue the wheel assemblies to the insides of the fenders in the proper places.
5. Cut and sand your radiator. If you'd like to paint it, you may do so before gluing it in place at the front of the car.

There You Have It

If you are painting your car, do it now. Then glue your headlights and taillights in place. If you are building your car from contrasting hardwood components, completely assemble it and finish it with your favorite clear finish.

This project allows you to add as much detail as you would like. You may wish to paint instruments on the dashboard and add a steering wheel. You can carve grooves into the radiator and

outlines for the doors and trunk lid. You can add a hood ornament and script your name across the radiator grill. You may want to carve a figure to put into the car. It's up to you.



