

# Through-axle wheels

let the right point touch the wood. Use a skew chisel flat on the rest to create the tenon. Squeeze the bevel side gently into the end grain to get a wispy ribbon of a shaving. The cut should leave smooth end grain that barely needs sanding.

If you want your wheels to have smooth sides, omit the tenon and have the jaws close around the rim. Use a skew chisel's long point to turn one or two small V-grooves for the jaws. The grooves look like those on real car tires.

**Lay out the wheel width**—Use dividers for this, then remove the wheel with a parting tool. Cut straight in about  $\frac{1}{32}$  in. to the left of the line you scored with the dividers. Once you have removed the first wheel, make the rest.

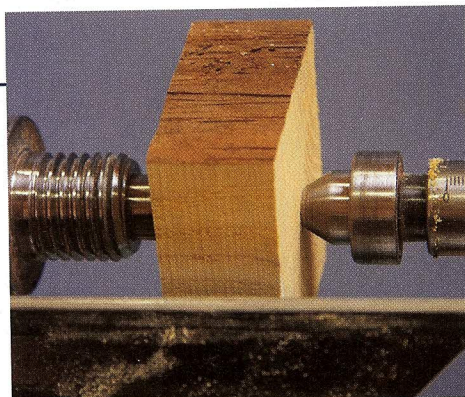
**Reverse-chuck the wheel**—With the wheel settled in the chuck, turn away the waste, working back to the scored line, using a skew chisel long point down. Use the width of the skew chisel to locate and mark the diameter of the detail, measuring in from the rim of the wheel.

**Sand and finish**—Sand and polish the second face. You can leave the tenon on one face of the wheel, or turn it away and make both faces match. For the second option, you'll have to sandwich the wheel between the chuck and the tailstock.

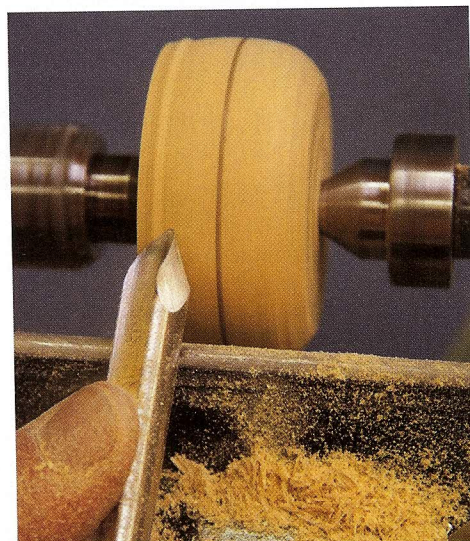
## How to turn wheels between cones

If you want absolutely plain wheels or don't have a suitable chuck, you can mount a blank with a hole through the center between a solid drive cone in the headstock and a revolving conical tail center. If you don't own a drive cone, you can easily turn one from hardwood. By working between cones, you can see the whole wheel as you are turning. And if you need to adjust the diameter of a wheel or add detail well after it was originally made, just pop it back on the lathe.

**Turn the square to round**—You can use a standard  $\frac{1}{2}$ -in. spindle gouge, but I prefer to use a skew chisel. Keep the tool



**Holding without a chuck.** For wheels with a through-axle, drill a hole through the center of the blank. A solid cone center in the headstock drives the blank, while a revolving center in the tailstock pushes the blank against the drive.



**Mark and roll.** Make a pencil line at the center of the wheel, then use it to help make uniform roundovers on the edges. Use the gouge just as you would to turn a bead.

flat on the rest and slowly raise the tool handle to bring the blank to round. Then use calipers to size the wheel.

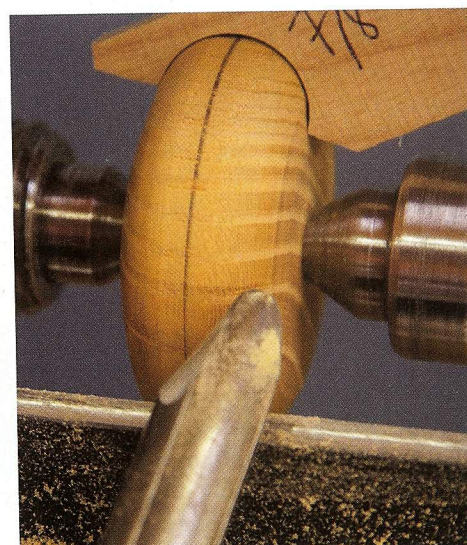
**Clean up the sides**—Use a skew chisel's long point or a gouge. Using a gouge lets you cut right to the cone, but each time you do so you'll need to tighten the tailstock very slightly to take up the slack.

**Round the rim**—If you want a rounded wheel, mark the middle of the blank, then remove the corners with a spindle gouge, working away from the mark. If you don't trust your eye to get the roundovers uniform, use a template (see photo above).

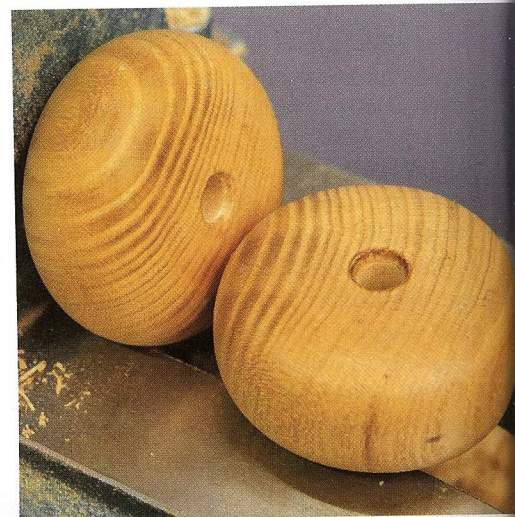
**Add details**—Swing the rest around to support the tools better. It's easiest to add simple detailing with a skew. Grooves are



**Square to round.** To make the wheel blank round, take peeling cuts with a skew chisel.



**Tire gauge.** A simple template like the one shown here makes it easy to create uniform roundovers on the wheels.



**Finished pair of wheels.** The dark burnish mark on the rightmost wheel will be hidden by putting it next to the car body.

## Online Extra

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