

# MAKE THIS PAIR OF CLASSIC RACE CARS



## CHASSIS



Prepare the chassis blank. This can be approached either as a split-turning, or as a single block which is later sawn in half, as shown here.

In figure [1], a single block of walnut is marked up and mounted accurately between centres on the lathe. 8.5mm through-holes for the axles and 25mm stopped holes for the cockpits have been pre-drilled, as it's much easier to position them accurately with the block "in the square".



Sketch the chassis profile on the block. If done with a dark marker then the outline will be visible when the blank is spinning.

Shape the chassis profile, as in figure [2], and part the waste wood almost through. Use sharp tools and try to avoid tearout on the firewall face behind the cockpit. Don't bother sanding at this stage.



Cut off the waste and separate the two chassis – figures [3] and [4].





Figure [5]: Drill 6mm holes for the exhaust pipes at this stage, before final shaping of the rear chassis. A brad-point drill makes starting the hole on the sloping face a little easier.



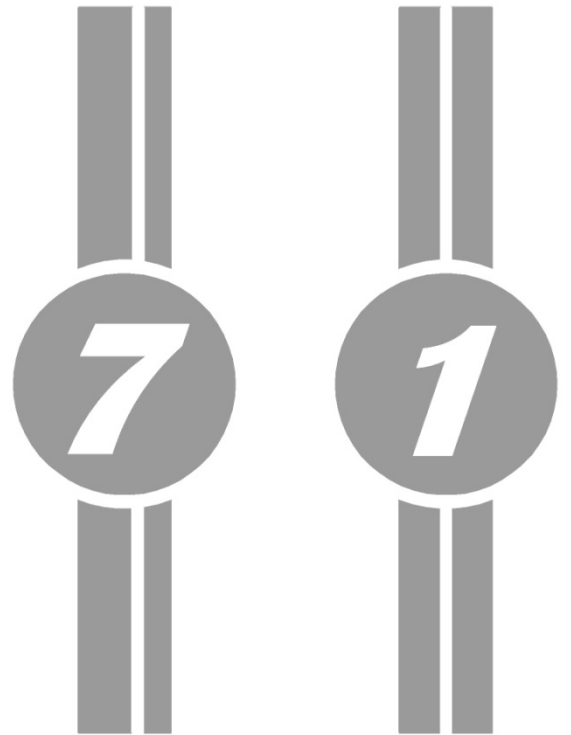
Figure [6]: Shape the chassis to final form. A sanding disc makes short work of this job. Aim for nice, flowing curves in plan and profile to give them that classic racer look, but take care as it's easy to remove too much material.

Finish sand by hand, working through the grades of paper to 400grit.

Fit and glue in the 6mm dowel exhaust pipes. A touch on the sanding disc when dry will even up the ends.

You can finish the chassis at this point, applying any decoration. I chose to stencil racing stripes and numbers directly onto the bare timber, using masking tape and acrylic paint applied by brush. Once the paint had dried, two coats of walnut oil brought up the colour in the timber. Finally, a spray coat of clear gloss plastic was applied over the cured oil to seal and protect the surface.

Driver figurines were turned from a contrasting timber and similarly decorated and finished. Leave a spigot on the figurines to allow them to be glued into a suitable hole drilled in the base of the cockpit.



## Wheels

If you have a favourite method for producing wheels, feel free to use that. Here's my approach which I found to be reasonably quick, accurate, and repeatable.

Prepare the wheel blanks. Mine were 40mm squares of 5-ply, drilled 6.5mm in the centre to be a snug fit on my pen mandrel. All eight blanks were stacked onto the mandrel for roughing to round, and final sizing to 36mm diameter, as shown in figure [7].



One wheel at a time was then mounted back on the pen mandrel, using spacers for support as required. The tires were then rounded over and sanded to a smooth profile, as in figure [8].



A scroll chuck with 35mm spigot jaws was then fitted to the lathe. Each wheel went into the jaws for shaping of the wheel rim and hub (see figure [9]).

The line between rim and tyre was defined using the point of a skew chisel. I also dished the wheel hub for a more refined shape. Finally, the hub was bored out to 8mm for a snug fit on the axle.



Finish the wheels as you see fit. Figure [10] shows the approach I took – black and silver acrylic paint, over-sprayed with a clear gloss plastic finish.

Size and finish 8mm dowel axles. I chose to round over the end of each axle and have them sit proud of the wheel to look like part of the hub.

Finally, glue and assemble the axles and wheels onto the chassis. Once dry, you're ready to race!



**CLASSIC RACE CAR**

By: Peter Clemett

Christchurch Woodturners Association

