Roll up for fun!

This SA Pine road roller will help kids to smooth the way for racing their favourite toy cars.

Do your children or grandchildren love playing in the dirt with their toy cars? Don Jordaan shows you how to make the ideal toy to smooth the 'road surface' and keep the little ones occupied for hours.

The road roller is a favourite toy with kids who use it when they are pretending to make roads for their toy cars. This solid and heavy toy is ideal for pushing over the road material, usually dirt, to make the road flat and even. Follow this simple step-by-step guide to make the road roller's fun a reality for your children or grandchildren.

Body preparation

- Mark the cut-out portion of the engine, to accommodate the front roller wheel, as indicated in graphic 1.
- Remove the cut-out portion with a band saw.
- Mark the two 10mm holes, making sure that they are centered 10mm from the side as well as from the rear of the engine. This will leave sufficient space to accommodate the cab pillars.
- Drill the holes to a depth of 10mm, using a 10mm spade bit mounted in a drill press.
- Mark the 6mm dado on the cab floor piece and cut the dado on a table saw. Before starting the cut, lower the saw blade so that it protudes by 6mm.
- Use a pencil to mark two 10mm holes centered 10mm from the side as well as from the rear to accommodate the two rear pillars. Drill these holes to a depth of 10mm with a 10mm spade bit mounted in a drill press.
- Mark and drill the four 10mm holes in the roof to a depth of 10mm in such a way that they correspond with the holes in the engine as well as those in the cab floor.
- Clamp the seat piece in a vice and shape the seat with a tenon saw.
- Sand all surfaces to a smooth finish.

Body construction

- Apply glue to the underside of the cab floor and pressure fit it on the chassis.
- Now apply glue to the underside of the engine and pressure fit it on the chassis.
- Remove any excess glue with a damp cloth and leave it to dry.
- Dry-fit the pillars and the roof to check for accuracy. If the dry-fit is in order, disassemble and apply glue to the holes. You can now assemble the pillars and roof.
- Remove any excess glue and leave the roof and pillars to dry.

Making the front wheel roller

- Use a pencil to divide the 660mm x 110mm piece of SA pine into six equal squares of 110mm x 110mm.
- Now mark the exact centre of each square, as this is where the axle hole will be drilled.
- Insert an adjustable circle cutter into the drill press and adjust its setting to an exact radius of 45mm. It is important to make sure that the long edge is pointing inwards so that the bevelled scrap is not left on the edge of the wheel.
- Clamp the wood onto a wooden facing on the worktable of the drill press and adjust it so that the pilot bit of the cutter is exactly in line with the centre of each square.
- Set the drill press to a slow speed and carefully cut six disks to a depth of about 10mm. Do not try to lower the cutter too quickly.
- Turn the wood over and adjust the position of the worktable so that the pilot bit of the cutter fits into the pilot hole. Clamp it in position and drill the rest of the way through.
- Apply glue to five of the disks, align them on the 6mm rod and then clamp it tightly in a vice.
- Wipe off any excess glue and allow the rod to dry.
- Sand the surface of the roller to a smooth finish.

Making the rear rollers

- Use a pencil to divide the 280mm x 140mm piece of SA pine into two equal squares of 140mm x 140mm.
- Now mark the exact centre of each square, as this is where the axle hole will be drilled.
- Insert an adjustable circle cutter into the drill press and adjust its setting to an exact radius of 60mm. It is important to

make sure that the long edge is pointing inwards so that the bevelled scrap is not left on the edge of the wheel. *Note:* the pilot bit must protrude at least 20mm more than the long edge of the cutter.

- Clamp the wood onto a wooden facing on the worktable of the drill press and adjust it so that the pilot bit of the cutter is exactly in line with the centre of each square.
- Set the drill press to a slow speed and carefully cut two disks to a depth of about 25mm. Do not try to lower the cutter too quickly.
- Turn over the wood, adjust the position of the worktable so that the pilot bit of the cutter fits into the pilot hole, clamp it in position and cut the rest of the way through.
- Sand the surface of the rollers to a smooth finish.

Making the steel holder

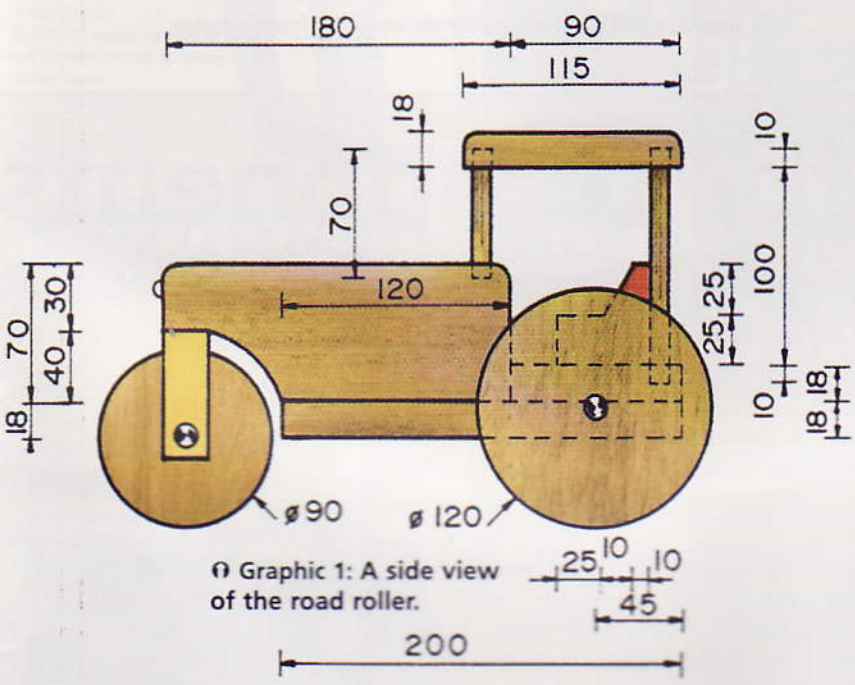
- Mark the holes to be drilled on the flat bar.
- Clamp the steel bar onto a wooden facing on the worktable of the drill press and drill the two axle holes, using a 6mm steel drill bit. Remember to set the drill press at a very low speed.
- Drill the other four holes with a 4mm steel drill bit, using the same procedure as described above.
- Clamp one end of the steel bar to a depth of 60mm into a steel vice and bend the bar to a 90° angle. Do the same with the other end.
- Use a steel file to smooth the steel holder.

Finishing

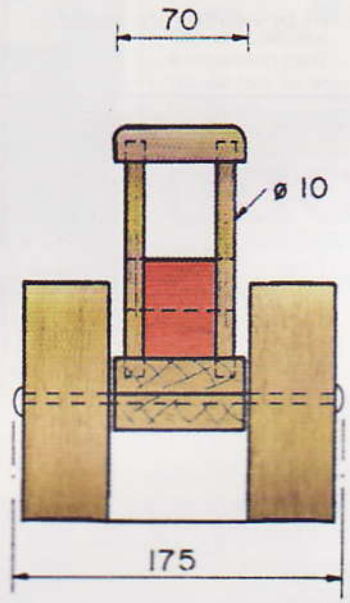
- Apply two coats of sanding sealer to all wooden parts and allow these to dry.

Tools & materials

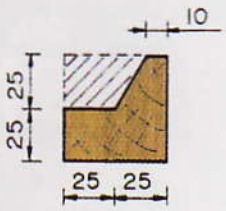
- Band saw
- Drill press
- 10mm spade bit
- Table saw
- Vice
- Tenon saw
- Pencil
- Cloth
- Adjustable circle cutter
- 4mm & 6mm steel drill bits
- Steel vice
- Steel file
- Pencil
- Adjustable circle cutter
- 150-grit sandpaper
- Paintbrush
- 4 x 6mm chrome domed capped star locks
- 2 x chrome upholstery nails
- 4 x 25mm #8 Pozi drive screws
- Cold glue
- Sandpaper
- Sanding sealer
- Undercoat paint (for the steel holder)
- Bright yellow non-toxic paint



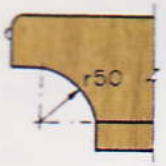
Graphic 1: A side view of the road roller.



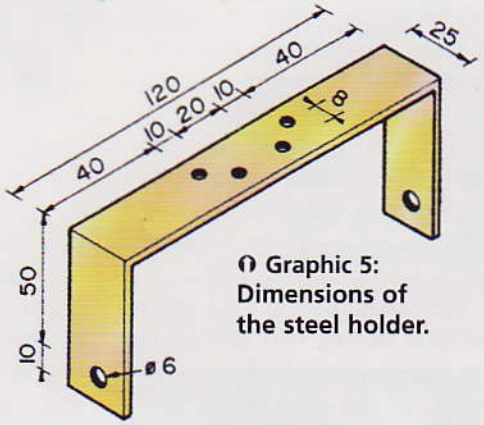
Graphic 2: Dimensions from the rear.



Graphic 3: A side view of the seat.



Graphic 4: Detail of the roller arch.

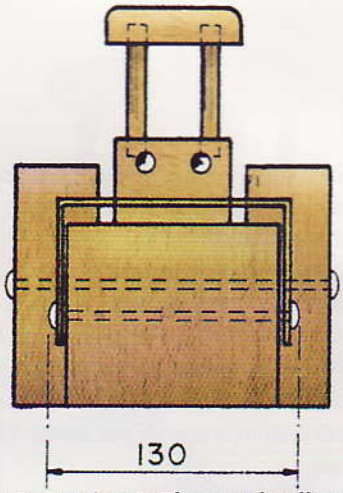


Graphic 5: Dimensions of the steel holder.

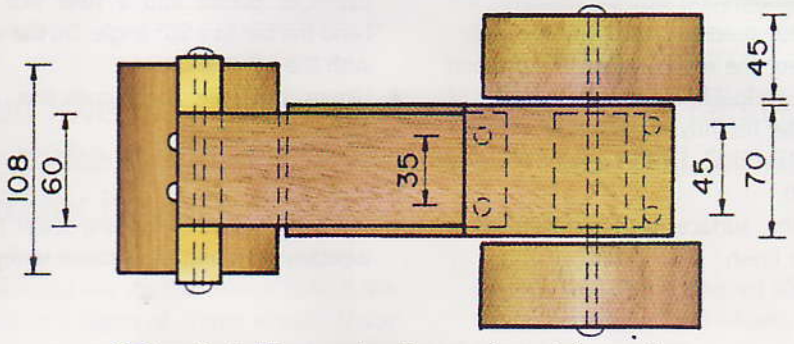
- Sand the articles slightly with 150-grit sandpaper to a very smooth finish.
- Use a quality undercoat paint on the steel holder.
- Once the holder has dried, sand it lightly.
- Apply one or two coats of non-toxic, yellow paint to all parts of the roller and then allow them enough time to dry.

Assembling the rollers

- Place the steel holder in position and drill the four pilot holes to a depth of 20mm.
- Use the four 25mm pozi-drive screws to fix the steel holder into place.
- Insert one end of the 130mm round bar into a dome capped star lock, then push the other end through the 6mm hole of the steel holder. Now fit a washer onto the round bar and then feed the bar through the front roller. Put another washer into place, feed the bar though the hole in the steel holder and finally, close the bar off with a dome capped star lock.
- Fit the rear rollers by inserting one end of the 175mm long round bar into a dome capped star lock, followed by a roller (wheel) and a washer. Make sure that you push it through the axle hole of the road roller. Insert another washer followed by a roller, which can then be closed off with a dome capped star lock.
- Insert the two upholstery nails as shown in graphic 3.
- Apply some glue to the bottom of the seat and place it in position.
- Allow the glue to dry properly.



Graphic 6: The road roller as seen from the front.



Graphic 7: The road roller as viewed from above.

Shopping for components

If you are in search of welding equipment and accessories there is a new shopping concept on offer to make the experience simpler and more enjoyable.

The popularity of the Afrox Sales Centre concept among DIY welding enthusiasts, small fabricators and repairmen has been enormous, with the result that Afrox has opened 36 centres in the past 18 months.

"Afrox Sales Centres are a new shopping experience for DIY'ers, enabling them to enjoy well-lit and laid-out stores displaying a comprehensive product range," said Afrox retail marketing manager Dipak Madhav.

The stores stock welding electrodes, fluxes, hoses and accessories, gas equipment, arc welding machines and safety equipment and are backed by a central warehouse supply.

"The traditional welding and cutting products supply outlet, with all welding equipment and consumables being stored behind a counter, has been turned on its head in the Sales Centres. The purchaser can now have a close-up look at our vast range, in much the same way as if he were shopping in a hardware store," Madhav added.

"Users of small quantities of welding and cutting equipment and gases, who today are confronted by a wide range of welding and cutting equipment options, require a buying environment where they are able to compare products best suited to the various processes," Madhav said. "The Sales Centre concept enables the purchaser to explore the different welding and cutting product options, with advice on hand from our sales specialists," he added.

Although Afrox Sales Centres are currently concentrated in the northern and southern parts of the country, plans are afoot to upgrade another four stores by the end of the year and to extend the centres throughout the country.

For more information, contact Dipak Madhav on (011) 876-1000.