

DIY skateboard ramp



A skateboard ramp is a project mum and dad can build on a weekend with lots of kid help too! Remember that skateboard ramps can be dangerous so users must wear all the safety gear necessary - helmet, wrist, knee and elbow pads.



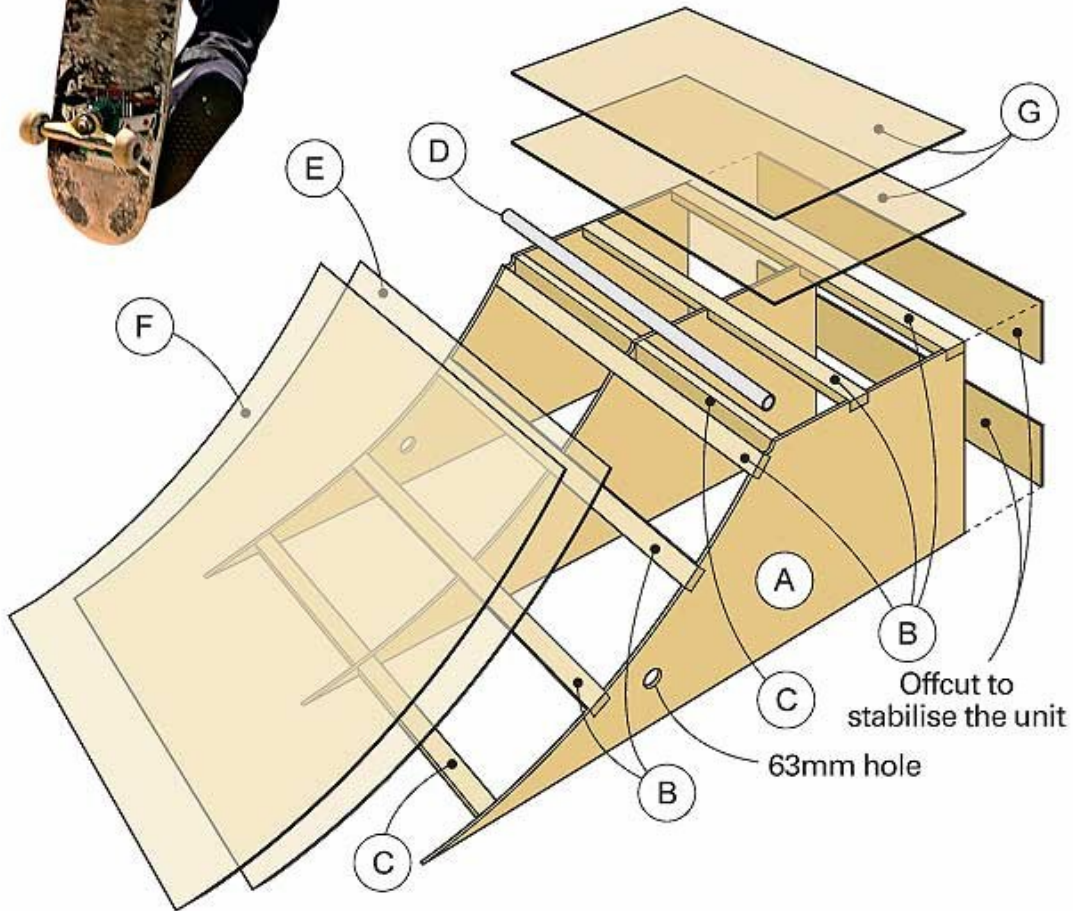
The skateboard ramp is made from 17mm and 7mm plywood and 70mm x 35mm pine which is easy to get from a timber supplier or hardware store. All the cutting of the plywood will be done with a jigsaw and the pine with a drop saw. Some cutting of a metal pipe may be necessary using an angle grinder or pipe cutter, or your hardware store could cut it to length for you.



Ramp it up

The kids will be stoked with their very own skateboard ramp, complete with grind rail and enough curve and height to let them fly

Skateboarders always push the envelope. So whether your kids are goofy or regular, this skateboard ramp will give them hours of goofy or regular, outdoor fun. The ramp is 2.4m long with a 2.1m arc, so the riders won't hit it like a brick wall or go screaming over the top and land in hospital. Pine ribs support the ramp, which is made of a 7mm thickness of plywood. As skateboarders like to grind (slide the trucks; these hold the wheels) the top edge of the ramp is fit with a tough galvanised steel pipe that won't get thrashed (worn). Cost of materials is \$250-\$300, and you can make it in a weekend especially if you get the kids to pitch in and help.



Gather your supplies

- A*** Uprights (3) 2400 x 750 x 17mm exterior plywood
- B** Ribs (5) 70 x 35 x 1200mm pine
- C** Spacers (4) 70 x 35 x 574.5mm pine
- D** Grind rail 38mm ID x 1200mm galvanised steel pipe
- E**** Lower ramp surface 1840 x 1200 x 7mm exterior plywood
- F**** Upper ramp surface 1900 x 1200 x 7mm exterior plywood
- G**** Deck surface (2) 770 x 1200 x 7mm exterior plywood

*Two of the uprights can be cut from 1 sheet of 2400 x 1200mm exterior plywood

**Check the length of your ramp surface and deck before cutting as some variation is possible due to the curve.

You'll also need

42 x 19 x 2400mm timber to make a 2.1m radius compass;
timber offcuts for making temporary construction stand (see step 7); construction adhesive (eg Maxbond or Liquid Nails);
1200mm wide plywood offcuts for bracing the back

Ramp up the safety

Riding skateboard ramps is potentially dangerous so it's important to wear the correct safety gear. For minimum protection always wear a helmet, wrist guards, and knee and elbow pads. It's also a good idea to learn the basic skills first from a professional skate coach so that you know the basic moves and how to get yourself out of trouble.

Here's how



STEP 1 To make an upright (A), you can work on the ground or on a bench. If you are working on a bench, set a 2400 x 1200 x 17mm sheet of plywood at right angles to the bench, supporting the free end at the same height as the bench. Along a 42 x 19 x 2400mm, or similar size timber batten, mark points at 100mm and 2200mm. At the 2200mm point, drill a hole large enough to fit a pencil through it. At the 100mm point, drive a nail just through the timber to form a pivot point to make a large compass. Align the pencil hole with the top corner of your sheet of plywood, then align the batten so it is parallel to the short edge of your plywood. Prop the other end of the batten on an offcut of plywood to bring it to the same height, pin in place and draw the curve for your upright.



STEP 2 Measure 750mm up from the bottom edge of your plywood at both ends, then draw a line along the upright for the platform level. Use a jigsaw to cut the curve (as the curve feathers out to nothing, you will lose a little of the 2400mm length of upright). Use a circular saw to cut along the straight line for the platform support.



STEP 5 To make the cradle for the grind-rail pipe, pin 2 small offcuts of the 7mm-thick decking plywood to both the platform and ramp edges where the pipe will sit. This gives you the final height of the surfaces of the ramp and deck for the next step.



STEP 6 Set a combination square to act as a butt gauge by having 5mm protruding from the body of the square. Use this space to ensure the grind-rail pipe is 5mm proud of the plywood surface at both the platform and ramp surfaces. Pencil around the pipe, ready to cut with a jigsaw. Remove the spacers, then cut out the cradle for the pipe and the housings for the ribs, except for the bottom rib, with a jigsaw. Use this upright to mark out the other 2 uprights and cut out to match.



STEP 9 Add the spacers (C) between the uprights at the bottom and behind the grind-rail pipe cradle, and screw in from the sides. The top rails are screwed in place, edge up. You will have to skew screw the last 2 screws at the centre.



STEP 10 If you haven't already cut the grind-rail pipe (D) to length, use an angle grinder with a metal cutting disc or hacksaw. File it smooth so there are no sharp edges. Place the grind-rail pipe in the cradle. Drill 4 evenly spaced holes through the backs of the top spacers, at an angle to meet the side of the pipe. This will mark the pipe. To fix the pipe, take the pipe out of its cradle and drill 4 holes (using a drill that is about 90 per cent of the diameter of the self-tapping screws) where the marks are. Drive in the screws to cut a thread while still off the ramp, then undo, put in position and screw in place.



STEP 13 Using clamps in the holes in the 2 exterior uprights, pull down the sheet of plywood, then drive in the edge screws, working from the top down at about 100-120mm centres. Mark the centre line for the ribs and the centre upright, then drive screws into the holes. The screw heads should be just flush with the surface of the plywood to avoid pulling through, while still providing a smooth surface for the top layer of ply. Remove the clamps.



STEP 14 Cut the top ramp surface (F). It is longer than the bottom edge, which has to be feathered to give a smooth entry to the ramp for the board rider. Use a plane to bevel the underside of the bottom edge. Plane over a width of about 100mm until you are left with a thickness of 2 veneer layers in the plywood. This will give the ramp reasonable wear. If the front lip wears or becomes ragged in the future, fit a 3 x 150mm metal strip to the leading edge.





STEP 3 Spin the cut-out section around, then mark out a second upright on the remaining half of the sheet. Cut out the second upright as before. Repeat for a third upright with another sheet of plywood.



STEP 4 Hold an offcut of 70x35mm pine at the bottom of the curve of 1 of the uprights, so the top surface will be flush with the curve and the bottom front edge flush with the bottom of the upright. Draw around the timber for the position of the rib. Mark another rib position about 60mm from the top, then 2 more positions equally spaced between the other 2 positions. Finally, mark 2 housings along the top platform edge for the top ribs.

STEP 7 To help assemble the uprights and ribs, build a simple stand to hold the first upright in a vertical position. The stand is simply a vertical prop screwed to a base with a brace to hold it square, but its size is not important, but it needs to be square to the work surface. Screw or clamp the outside upright to the stand, then bring in the other 2 uprights and hold with a rib (B) across the top.



STEP 8 Apply glue to all the housings, predrill pilot and clearance holes for the screws, then screw the ribs in place, making sure they are aligned. Once the ribs are in, check the height of the ribs against the slope of the uprights, and plane down if necessary. To do this safely, either make sure the screws are driven well below the surface of the timber, or wait for the glue to dry and temporarily remove the screws while planing.



STEP 11 Find the halfway points along the curves of the 2 exterior uprights, measure 100mm towards the bottom and mark. At these points, use a hole saw to cut a 63mm or similar diameter hole. These holes will allow you to use a clamp to pull the plywood for the ramp into the curve and also provide lifting points later on. You can add an optional second lifting hole below the fluid pipe on each side. Drill from one side until the centre point comes through, then work from the other side to avoid breakout.



STEP 12 The ramp surface is made of 2 layers of the 7mm-thick plywood as this is much easier to bend than thicker sheets. Check the length of the ramp by holding a measuring tape along the surface of the slope. Given the loss of length in the curve (see Step 2), the ramp will be about 1800mm, but allow an extra 40mm. Cut the lower ramp surface (E) to a length of 1840mm. Apply construction adhesive to the surface of the ribs and the edges of the uprights, then push the sheet hard up under the pipe and drive in 2 screws.



STEP 15 Apply glue to the lower ramp surface and screw on the upper ramp surface as before, starting at the top, clamping down and screwing down to the uprights. Add 2 layers of 7mm-thick plywood for the deck surface (G) in the same way, although this is easier as the plywood does not have to be curved. To stabilise the unit, screw offcuts from the ramp surface to the back edges. And now it's time – drum roll – put on your safety gear, hush in the crowd, and build another ramp so you have a half pipe!