

DIY Go Karts

Simplified Building Plans For Go Karts and Mini Bikes



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Basic Frame Design

How to Build a Go Kart Frame

Go kart frames vary in shape in size as much as the weather. If you can think it up, you can make it. People have made all kinds of wacky frames. We'd love to post pictures of your frame, contact us!

Basic Frame Design

You'll want to take plenty of time to design the frame. A well designed frame will be customized to your size. Don't rush here — if you get something wrong now, it will take twice as long later.

Frames are often designed for two riders, and if so need to incorporate hand holds for the second rider. Most frames have a width between 1/3 and 2/3 the wheelbase — on the wider end for best stability.

To design your custom frame length and width, sit on some clean concrete and imagine yourself in your go cart. Using chalk, draw the frame's dimensions to the size and shape you want so that your legs are comfortable and it is wide enough. Draw where your feet will rest. Record your personalized dimensions.

Materials

Tubing (round or square) may be used, or angle iron. For angle, use a thicker size than if you're going to use tubing. Pipe isn't recommended because it's much too heavy, and weight hurts performance.

If you don't have a tubing bender, angle has the benefit that making bends is easy. Simply notch one side, heat the material and bend as necessary. When it's bent to shape just weld in some filler material.

The most efficient solution is some mixture of types. We like round for the rear axle support, and square for the rest, with angle intermixed as needed for support. Use thick wall tubing for the axle. See our [full discussion on materials](#) for more information.

Can You Over Build?

Keep in mind the weight of the rider, and let your design choice reflect their needs. If the kart is for a 100 pound kid, then the frame can be less stout than if the frame is for a 200 pound man. What we mean is that it's easy to over-build until you've got supports everywhere and no flex, but unfortunately all that weight will kill the performance. The trusty 5 HP motor is a good engine, but it can't push a tank.

Roll Bar

Roll bars are great additions to karts. If you're putting one in, a bar that starts in the front and terminates above the rider's head is the best design. This helps ensure that if the kart crashes into something like limbs, the bar will help push them up and out of the way. A roll bar that only extends above the head but doesn't have this front guard isn't as useful.

Ground Clearance

Our one seat plans suggest lowering the frame to within 2 inches of the ground. That's fine if you've got a lot of open and safe asphalt to drive on. But you'll lose so much ground clearance that it would have to be an on-road-only kart.

Alternatively, too much clearance raises the center of gravity. The higher that center, the easier to flip over, so make sure roll bars are used.



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