

DIY Go Karts

Simplified Building Plans For Go Karts and Mini Bikes


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Don't Steer Yourself Wrong

Make Steering Components for a Fraction of Cost

Steering components can be purchased off the shelf, but you can save a lot by [making your own steering parts](#) if you have the tools. Otherwise these parts are all readily available from any of the parts houses.

Steering Assembly

The steering assembly must be tight and secure. Use Locktite and/or retainer keys on the nuts and bolts to prevent failure.

Steering Shaft and Pitman Arm

Your steering shaft connects the steering wheel to the Pitman arm, and runs through a protective tube. See Fig. 2 for the schematic.

We used 3/8" steel rod and sheathed it in iron water pipe that was 1/2" ID.

To use a tube, you'll need some sort of bearing surface that the rod will turn on. We used a simple but effective brass bushing. Figures 3 and 4 show how these were fabricated from water faucet seats. They made a very tight press fit with the pipe. The bushings were then drilled out to 3/8" to fit the steering rod.

Fig. 2 shows where the steering rod terminates into the Pitman arm. Our arm was made from 1.5"x1/4" stock, but we found that 3/4"x1/4" would have been more appropriate.

Tie Rods

Tie rods are very simple to make, and expensive in comparison.

The tie rods that connect in the diagram are also 3/8" rod, with 3/4"x1/4" flat stock used to make the ends. A galvanized bolt holds the entire assembly together.

To make your own tie rods, simply take 1/4" x 3/4" x 1.5" flat stock and make the "U" shape in the Fig. 5. Use an inside diameter of about 7/16" to allow movement and the inclusion of an adjustment nut.

At least one end of your tie rod needs to be adjustable so you may align your steering properly. Once you've completed the "U", drill a 1/4" hole in the short side and weld a 1/4" bolt inside. (See Fig. 5).

You may now cut your actual rod to length. Measure very carefully how long the bar stock should be. When the wheels are aligned perfectly straight ahead, allow for at least 1/2" of threads for adjustment in or out.

The non-adjustable side of the tie rod is where you'll connect to the Pitman arm. Again use 1/4" x 3/4" stock at 2" length.

Adjust The Steering

You can get better handling through the proper alignment of the steering. The Fig. 7 shows the correct alignment.



Fig. 1

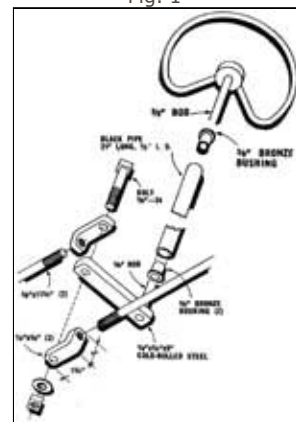


Fig. 2



Fig. 3



Fig. 4



Fig. 5



Fig. 6

By adjusting the alignment to a slight toe in (as suggested by the diagram) you'll get better turning. However you'll also eat up the tires faster since the wheels don't run perfectly straight. This isn't really needed for fun karts, but is used widely in the racing world.



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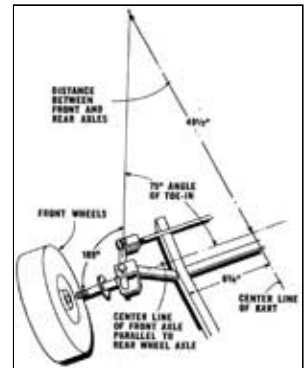


Fig. 7



Fig. 8



Fig. 9