

## Improved One Person Racing Go Kart Stand

Racing karts weigh approximately 200 pounds and are very low to the ground. Most racers have a stand that places the kart at a convenient height for working on the kart and also moving the kart around at the track. It is obviously a two person (back breaking) job to lift the kart from the ground onto the stand. The other operation involving the stand is removing the kart from the vehicle used to transport the kart to the track and replacing the kart back into the vehicle after competition. These operations also usually involve two persons. A third operation is stowing the kart stand for transportation.



(Yes it does fit inside the Van)

Most kart racers use the standard stand shown above because the one person stands that are available are heavy, bulky and very expensive. The following links show some existing one person stands.

<http://www.youtube.com/watch?v=MG3NijNPBBA>

<http://www.youtube.com/watch?v=SdhUIASOVu8>

[http://www.youtube.com/watch?v=H5ezF\\_rv4cI](http://www.youtube.com/watch?v=H5ezF_rv4cI)

<http://www.kartraiser.com/video's.htm>

[https://www.youtube.com/watch?v=nPSIg3bVpHE&feature=player\\_embedded](https://www.youtube.com/watch?v=nPSIg3bVpHE&feature=player_embedded)

So the purpose of this project would be to develop an improved single person kart stand. The improvements over existing models should include:

1. Less expensive. Current models cost between \$600 and \$1000
2. Lighter and more convenient to fold up and stow for transport.
3. More stable. Some of the existing stands are kind of flimsy especially to side loads.
4. Well balanced. The stand can never tip over (you do not want to drop a \$6000 racing kart). Some of the tracks have fairly rough terrain that must be negotiated between the pits and the track. Some of the existing stands are not well balanced and can tip if care is not taken.
5. One person should be able to lift and lower the kart to the ground as well as remove and stow the kart in the transportation vehicle.
6. One person should be able to easily mount the stand to the trailer hitch at the back of the vehicle for transportation. Note the kart stand is not towed by the vehicle but the kart stand is mounted to the trailer hitch.
7. The stand should be absolutely reliable. If the stand fails you are done racing for the day.

A group designed a stand a few years ago with somewhat different design criteria. The lift mechanism they chose was not reliable. However components from this stand may be utilized in the new design.