A Good Place to Start: Getting Your Kart Setup

These are settings and tips that have been found to make the Spec Clone karts a little better.

Relocate the seat to a conventional position. There is a flat section molded into the bottom of the seat. This should be parallel to the ground and 1/4" below the bottom of the main frame rails. This will set the angle of the seat. The left front edge of the seat should be about 24 3/4" back from the rear edge of the front axle just above the left front pan tab. The right front of the seat back 25" from the rear edge of the front axle just above the right front pan tab. The seat should now be back as far as possible against the rear seat mounts that are already welded to the main frame rails. The rear edge of the seat should be about 8 ½" from the rear axle. You will need about 1 1/8" of spacer for the left front seat mounting bolt, and about 1 1/4" of spacer for the right front mount. You can use a stack of large diameter fender washers to make the spacers plus the urethane washer that originally was on the front mount. The front seat mounting tabs will need to be bent down (with a large crescent wrench) to match the angle of the seat where it will now be mounted. The left front seat mounting tab will also need to be twisted slightly anti-clockwise when looking at the kart from the rear. When the seat is in position, reach through the front mounting tab holes with a pencil to mark where the hole will be. Take the seat out and drill a 5/16" hole at each front mount hole. Mount the seat back in the kart with only the front bolts, spacers and urethane washers. When the seat is against the rear mounting tabs and the bottom is 1/4" below the main frame rails, drill the left rear seat mount hole and put the bolt in. Be sure the seat isn't twisted and mark the right rear seat mounting hole from the outside with a short pencil. Remove the seat, drill the remaining hole and remount for good. Check your dimensions at each step, it's hard to undrill a hole.
If you're going to run the optional seat struts, be sure they don't twist or bind the seat and that they go to the rear bearing hangars as straight as possible.

You might now find it a reach to the steering wheel. Try it in both the up and down position by flipping the upper steering mount over. If this isn't enough, try an up to 2" steering wheel extension (spacer.)

The down side of using low priced tires in karting is inconsistency. The tires are not always the same circumference. They can be stretched a little with a tire band designed for the purpose (never stretch a tire without a REAL tire band. With out a tire band the tire will stretch more in the middle making the contact patch rounded and probably break cords in the carcass. Straps or other home remedies just don't work and are very dangerous.) If you can't make matched pairs of your tires, try talking to others and maybe swap to try and make matched pairs out of a pool of tires.

20 psi is a good place to start for tire pressure. Always check tire sizes with the tires at the

pressure you are going to race them at.

Be sure the rear tires are the same circumference. More than 1/8" difference in rear tire circumference will be detrimental to the karts' speed.

Check the front tire circumferences as well. While not as important as the rear tire sizes, it makes the setup a lot easier if they're the same.

When checking camber, toe or any other setup work, make sure the front tires are pointed straight forward. Hook a tape measure inside the rear wheel and measure up to the rear edge of the front wheel on both sides. This is a lot easier with the side pods off. Because of caster, king pin inclination and Ackerman, a lot of things change when the front wheels turn. Having them straight ahead every time makes setting up the kart more consistent. Using a steering lock makes this very easy.

0 to -1 degree camber on both front wheels. The use of eccentric "pills" makes this possible.

Less Ackerman effect in the steering. Longer tie rods (10.25" - 10.5") allow the tie rods to be located in the center pivot hole on the steering shaft steering arm. Be sure the tie rods do not bind when using the center steering shaft arm hole. The tie rods should always be able to swivel at lease a little in all positions.

0 to 1/8" total toe out. Make a sharp mark on each front tire, something like a cross. Put both marks at the rear of the front tires, measure across the kart from one mark to the other. Be sure the tape measure is straight, not bending around the steering shaft, gas tank, pedals, etc. Roll the kart forward so the marks are on the front edge of the tires and measure again. The difference between the two measurements is the toe in or out. Always check toe with the kart on the ground. Having weight on the tires takes any play out of the king pins and makes checking the toe more consistent. If you want to go another step, have the driver in the kart when checking toe. It does change with weight in the kart. But experimenting with toe to find what works best for you does not depend on how you measure it. Just measure it consistently.

Only go to the next step after the camber and toe in have been set. You will probably need some flat washers to adjust the spindle height here. The stepped washers that come with the kart are a royal pain. Make you're life easier by changing the washers between the spindle and the spindle yoke with 5/16" grade 8 washers. Leave the stepped washers above and below the spindle yoke though, they center the king pin in the yoke. The 5/16 grade 8 washers measure .350" inside, .700" outside and are .073" thick. A washer with a larger center hole or outside diameter will not work, it won't fit the king pin bearing right. The outside can not be smaller than 5/8" or it will not cover the hole in the spindle yoke right.

Inflate the kart tires to the desired pressure and set the kart on a very flat piece of floor. Be sure you have sized the rear tires and they are mounted with the smaller circumference one on the inside of the track. (i.e. anti-clockwise track, smaller tire on left.) Lift the kart in the center of the front bumper until the front tires leave the floor. If one tire leaves the ground first there is a preload, or twist, in the setup. This causes evil handling things to happen like snap loose. If the front tires are the same circumference, you'll need to move one or both spindles up or down to get the tires to leave the ground at the same time. If the front tires are different circumferences try swapping them and see if that'll make it closer. If not, just move washers to move the spindles up or down until you get the front tires to leave the ground at the same time. Reset the toe in and you're ready to go.

Don't be afraid the change the oil regularly. There's no filter in the system, so the only way to get contamination out of the crankcase is to change the oil. Place a drain pan under the drain plug at the front of the engine and remove the plug. Oil will run down the motor mound and frame rails, but it's unavoidable. Replace the plug when it's done draining and clean up the oil on the motor mount. Remove the rear oil filler plug, place a funnel in the hole and pour in 16 ounces of Mobil 1 10w-30 oil. Replace the filler plug and you're done. If the oil looks pretty clean you can extend your oil change interval. If the oil is getting really dark or showing metal, start changing it more often. If you're at the kart track, there is a waste oil dump tank behind the impound area. Please keep the area clean.

The air filter that comes with the kart is a K&N look alike. Any single element filter is allowed, foam or paper. Oil it with good air filter oil per the instructions on the can, you'll save a lot of engine wear.

The brakes on the Road Rat karts use DOT 3 brake fluid.

Starting the engine. These engines seem to all be hard to start, hot or cold. Be sure the kill switch is on and the fuel valve on the carburetor is on. (If the fuel lines are empty, it will take a while to get gasoline pumped up to the carburetor.) Remove the air cleaner to start first thing in the morning. Turn the choke lever back towards the air cleaner. Choke the carburetor by placing your palm over the air cleaner cup while pulling the starter rope. When the engine fires, remove your hand and then turn the choke off. Let the engine warm up a minute or two then turn off by turning the kill switch to off. Replace the air cleaner. The rest of the day the engine should start with two or three pulls with the choke closed. When the engine starts, open the choke, let the engine warm up a minute or two and off you go.

If you need to add weight to make the class weight minimum, it's preferable to add it to the seat. The kart will go over bumps better than if the weight is mounted rigid to the frame. Diving weights work well, just be sure to distribute them evenly around the seat and use large washers on the inside of the seat to help keep from damaging it. Remember that all weight bolts must be cotter pinned or safety wired.

Some drivers have a problem bending the throttle stop tab on the pedal. A small tab welded between the throttle off tab and the full throttle stop tab will help. The tab will be about 3/8" x ½" x 3/32" thick.

The leg room on these karts can be a problem, they pedals are a bit far away. There are aftermarket pedal mounts that fasten to the floor pan and will move the pedals rearward. Pedal spacers are a popular way to reduce leg room also. For more leg room, a longer brake control rod will be needed. Be sure it is a quality steel with good threads. Do not cut it and weld in a piece. If you must change pedals, make sure they are professionally welded and of sound design. They are your main connection to the braking system.

Drill the high speed jet in the carburetor to .038"(#62.) After removing the float bowl, use a straight blade screw driver to remove the main let and emulsion tube. Predrilled jets are available, or have someone that has done this before drill it, it's easy to mess up.

Drill the low speed jet to .018"(#77.) Remove the idle speed adjusting screw and pop up the low speed jet tube. The hole in the end is the one to be drilled. Have someone that has done this before drill it, it's easy to mess up.