



## SPEED SHOP SCHOLAR

Welcome to another edition of the "Speed Shop Scholar." We spent last month discussing some of the foundation work necessary to prepare your new or existing kart for action in this new racing season. We mounted our seat, checked out our front end, and covered our nerf bars. This month we are going to cover a few more bases. Let's get rolling.

Continuing our direction around the chassis, next item is the rear axle assembly. First, give it a spin. Listen closely for any hint of drag or rub. Use



a good flashlight to ensure adequate clearance between the brake disc and the brake pads and verify the disc is centered.

A new kart will have new bearings, but if you are working on a previously raced chassis, check out the axle bearings. Noisy bearings need immediate attention. Roaring, or grinding sounds are never good, and if they are noisy unloaded, imagine the drag once the bearing loads up in the corner. No amount of oil or lube will overcome the damage already done. Replace at once.

If it is necessary to remove the axle and replace the bearings, always take a little extra time and clean all your parts thoroughly. When you re-install the axle, leave everything loose to allow the axle to float. Then, engage the brakes. This will relocate the axle as it was before removal.

If the axle shifts under load, we compromise speed and run the risk of doing damage to other parts and components. The setscrews in the axle bearings are simply not enough to keep your axle positioned without assistance. The method of choice here varies by whom you ask, but I prefer to encapsulate the right rear bearing with an axle lock collar on each side. One keeps it from moving left, the other from moving to the right. Tighten securely and evenly. The gap between the collar halves should be even when finished; this will spread the load more evenly.

Wheel hubs need to be checked for position and securely tightened to the axle. Be certain the right rear hub is of sufficient design to hold its position under racing load, or add an axle collar behind it for security.

While you are going over the axle assembly, take a close look at the fasteners involved. From the wheel studs to the bearing setscrews, a rounded out socket head is nothing but trouble and takes time to repair that often cannot be spared. Keep a few



spares in your track box and keep an eye on the tools used. A badly worn tool will continue to create problems.

Now that we are satisfied with our axle assembly, let's make sure the gear hub is properly aligned with the clutch. My personal method to align the two is to spin the axle for a few seconds, then grab the tire to stop it. Eye-



ball the position of the rear sprocket in relation to the chain links. When the gear is properly aligned, it will be in the direct center of the chain link, leaving a little side clearance left and right. Repeat as many times as necessary, slightly adjusting the gear hub position, until you get the desired result.

Let's get a body on this machine. I begin by bolting the body sides to the nose cone. Have your kart ready with tires mounted. Then, with the kart on the floor, or a large



table, slide the body onto the kart. Pull the body sides up to the bottom of the nerf bars, or use spacer blocks for assistance. Position one side until the rear wheel opening is

just forward of the rear tire, then mark the mounting holes for that side. Repeat the procedure for the other side, and drill the marked holes.

Once the side panels are attached to the nerf bars, check the position of the nose cone and mark the mounting holes for it as well. Be sure to pull the nose forward and up before marking the holes, this will keep the front edge of the nose from dipping down and acting as a scoop on the track.



Tighten all body fasteners to the point of contact, and make certain the body hasn't placed anything into a bind.

We are getting close to track ready, it won't take much now. The secret is, there aren't any secrets. It is all about taking the necessary time and care to be sure every task is done right. Never compromise the time or effort you take in working on your kart, it will reflect in your on track results. Be observant, be patient, and be aware, it will pay huge dividends on race day. See you next month!

