

Pro Kart Tour in Kansas!



# CHASE'N RACE'N

## ILLUSTRATED

A Publication of P&R Photos

[www.chasenracen.com](http://www.chasenracen.com)

Vol. 8 Iss. 5

June '12

55

**HYDRA RETURNS TO CAROLINA CREEK**  
NOTHING SCARE ABOUT BEHAVIOR'S S.F.O.L.!



**MOTHER NATURE CAN'T STOP PDKS AGAIN**  
NORTHEAST RACERS TACKLE BIG TRACK AT TRAILWAY



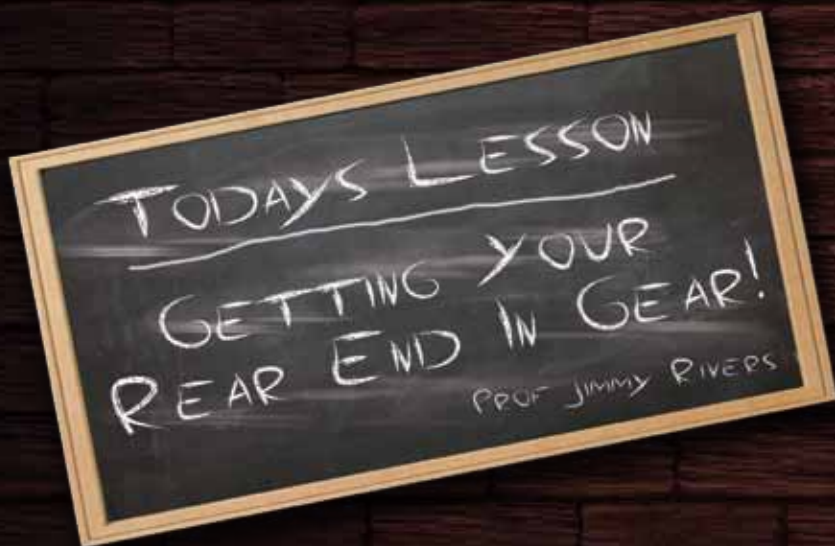
Speed Shop Scholar  
Getting Your Rear End in Gear

enTire Truth  
Working with Burris Tires

Introducing **KID**  
**KID**

**Bonus Coverage:**

Blue Ridge Rumble @ Providence Raceway  
Western KY Dirt Kart Series @ Hillbilly Raceway  
Plus More!!!



## SPEED SHOP SCHOLAR

Welcome to another edition of the “Speed Shop Scholar.” This month we are going to focus our attention to the rear of the chassis. We will address the rear axle assembly, as well as engine and chain alignment.

With some racers, the rear axle assembly is overlooked until it screams out for attention. Bearings worn out



and full of grit, misaligned chain, and lateral movement are all issues I see on a regular basis. Each one of these items individually are enough to create a major problem, but add up a few and it all goes downhill in a hurry.

Let’s address the bearings first. Free rolling axle bearings are imperative for a kart to achieve maximum speed. Drag or resistance in the bearings is the equivalent of a dragging brake. To keep and maintain a free rolling axle assembly, the bearings need to be maintained weekly and replaced on a regular interval.

For a racer that has never removed a bearing from the cassette, sometimes this is a puzzling task. There is a trick to this. Simply rotate the bearing 90 degrees to the cassette face and align the bearing with the two slots and pull it out. Now you can replace the bearing and re install the axle assembly.

While on the subject of axle bearings, let’s discuss

care. Several methods are popular. Some racers use the bearing until it makes noise or shows signs of wear. Their maintenance is limited to blowing it dry after washing and spraying a bit of lubricant inside. Some use the removable shields and flush the bearing and reapply the oil as necessary. Others choose to remove all the shields and run the bearing open. They wash out the bearing and re oil every time they exit the track. The method you choose is yours, however, I completely disagree with running an open bearing and exposing it to the dirt. Washing the grit out does not eliminate the problem, the damage to the bearing is done by the abrasiveness of the dirt eating it up. I will leave it at this, if you chew on a mouthful of dirt for five minutes, then brush your teeth, are your teeth still in the same condition they were before you started? Think about it.

Any movement of the rear axle is counterproductive to going fast and winning races. The axle must be secure in the frame without any movement side to side. The setscrews on the axle bearings are not enough to keep it positioned. Two locking collars are needed to keep the axle in place. I prefer to encapsulate the right rear bearing with the two collars, however if you choose you can use one on the outside of each bearing or one on the inside of each. As long as the axle cannot



move either direction, you are safe.

Now that we have our axle locked into place, and free spinning bearings, we need to align our chain. Make sure you are using a quality motor mount that will securely and accurately sit upon the frame rails. Misalignment at the motor mount cannot be adjusted out. If you are using a clone engine, take note that these engines have baseplate holes drilled for metric fasteners, which are slightly larger than standard fasteners. This requires you to align the engine base with the mounting plate to insure alignment.

With the clutch and the rear gear installed, Adjust the chain tension, allowing approximately 1" upward movement of the chain, and snug up the butterfly clamps on the mount. Visually align the gear hub with the rear gear. Now, spin the axle and grab it to stop it. We are looking



for an equal amount of space between the opening in the chain link and the gear on each side. Adjust to the gap, and repeat. Do this until you have equal gap repeatedly.



Tighten the hub and recheck. If you want to go a step further, there are some very handy laser alignment tools that do a really accurate job. Securely tighten the motor mount clamps to finish.

While on the chain subject, if you do have the misfortune of slinging a chain, toss it and replace. More often than not, the chain twists and is much more likely to remove



itself from your gears again. The cost of the chain is much less than the potential loss on the track.

Hopefully, this will help you in your quest to have a successful race day. Take notes and measurements before any disassembly and don't be afraid to ask for help if you are unsure. See you next month, literally!