

# SPEED SHOP SCHOLAR

Welcome to the first official installment of the "Speed Shop Scholar". As explained last month, we are



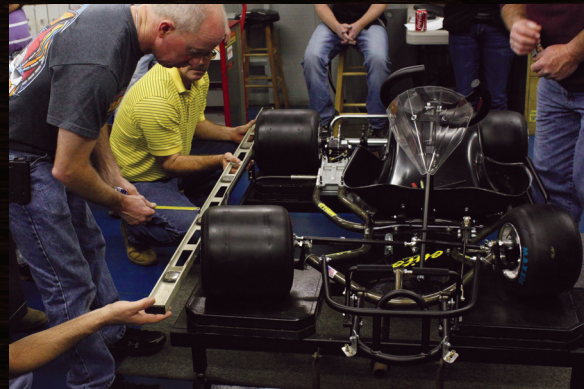
taking our time together down a new path. I wanted to offer a more hands on approach to delivering the column's message each month. The combination of a seminar and a written column offers the best possible explanation of the subject matter.

This month, we are covering basic chassis setup using basic tools and methods. Discussion will also cover establishing a baseline for weekly reference.

Setup work and adjustments should always be done in as close to an "as raced" condition as possible. This means setting the kart onto a level platform or on level

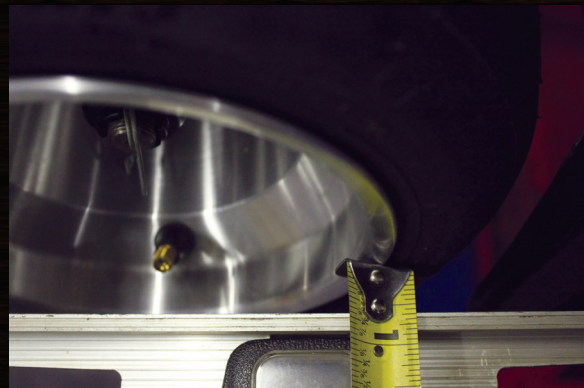


scale pads. This will allow the weight to settle the chassis. If possible, it is also preferred to have the driver in the seat as well. Tire pressure and stagger must also be set if accurate results are to be achieved. Back to that level part; It is absolutely imperative that the setup work is performed on a level surface. Anything less, and your time is wasted and



your values will not repeat.

Whether you're using electronic scales or bathroom scales, take the necessary time to establish a level setup area. If the shop floor is the setup area, Mark the location of each pad, and always use the same pad in the same corner of the chassis. Making an outline on the floor with racer's tape works very well. Shim as necessary with cardboard or



copy paper until you are happy with the results. File folders are a great way to keep track of any shims for the next time. Extra time spent here will reap rewards with accurate readings and repeatability.

Toe setting is a very basic, however very important part of your setup. Not only do you not want your front tires working against each other, if the toe setting is out of ad-



justment, all your other front end settings will be incorrect as well. Squaring the chassis is part of the toe setting process and these settings set the baseline for everything else on the front end. This is why we square the chassis and set the toe first.

There are many methods and tools to set the toe. From lasers to plates, fixtures and bars, choices abound. However, the budget of many racers simply do not allow for that luxury. Therefore, we will cover the basic method.

Before starting, align the pitman arm on the steering shaft into a vertical position and tighten the steering lock with the pin installed.

Using a straight edge, we are going to set the toe and square our chassis. It is imperative to have a good metal straight edge, and wheels that are straight and free of dents and dings on the outer lip. Have a helper firmly



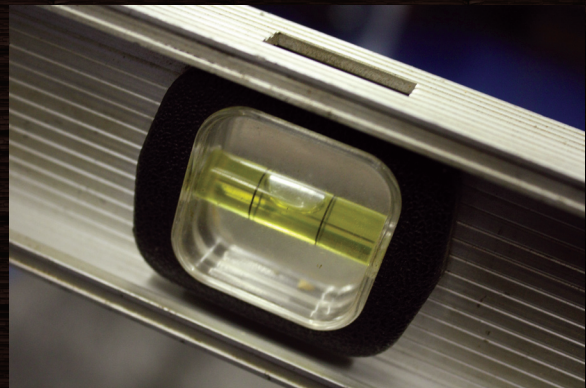
hold the straight edge against the rear wheel, and adjust the right tie rod until you have the exact same measurement on both points of the front wheel. Tighten the jam nuts and verify the setting.

Moving to the left side of the chassis, move the left rear hub out on the axle so the straight edge can project a

line without interference from the bodywork and be outside the left front wheel. Repeat the procedure from the right side to achieve your desired toe setting. Again, verify your settings once the jam nuts are tight. Toe and square should be checked every week. Movement of your toe setting is an indicator of possible damage and deeper inspection is necessary.

Camber is another important adjustment on the front of the chassis. Camber gauges are available at a reasonable cost, however if you do not have one, a digital level against the wheel face will offer you the ability to track your settings. Depending on the tool, it may be necessary to subtract your reading from 90 to establish the true setting.

While some of the numbers you see may not be as accurate as using specialized instruments, they will provide you with a baseline that you can refer to on a weekly or regular basis. Just as with the toe, if you see an area where



the values differ from your previous setup, take a closer look and find out why. This can lead you to a damaged or worn part that will certainly do you no favors on raceday.

Just as I have stressed many times before, take the time to check and recheck your adjustments and settings. If you experience any problems, ask for advice before proceeding.

The date for the next onsite installment of the "Speed Shop Scholar" will be announced very soon via our website at [www.jrpwracing.com](http://www.jrpwracing.com) and our facebook page JRPW Racing, Inc. You are also encouraged to submit your suggestions for future sessions as well. Mark your calendars and make plans to attend, everyone is welcome, this is all for you, the racer. See you next month, literally!

