



# 2017 QUARTER MIDGET CAR SETUP MANUAL

Thank you for your recent purchase of an RSR race car. We hope you find the following information helpful in achieving success. Races are won in the shop during the week and proper preparation is essential. The information provided here is a basic guide in ensuring your RSR car performs as it should. In this setup manual, we will show you the following RSR car maintenance and setup techniques: squaring the rear axle and birdcages, squaring the front axle, setting the caster/camber/toe, setting the wheelbase, and scaling your car. We wish you the best of luck and if you have any questions, please do not hesitate to contact us.

## Meet the Team



### Andy Loden

As the owner of Robbie Stanley Racing, Andy is responsible for sales and technical support for RSR customers. Andy brings a lifetime of racing experience. Including three championships at the famed Hickory Motor Speedway. He was the handler for his children, Nick and Caroline, for many years in Quarter Midget racing. Together the Loden Family earned several wins and multiple USAC national championships, racing both RSR and ARC racecars.



### Dale Raber

As the Quarter Midget Manager for Ultimate QM, Dale is responsible for sales and oversight of the Quarter Midget Racing Program. Dale brings nearly 20 years of racing experience, including several national championships and over 100 feature USAC wins as crew chief at the national level. He has 17 Battle at the Brickyard wins. Dale works with quarter midget customers seeking to compete at local and national levels, including attending events regularly.

## About RSR



### About RSR

RSR started building quarter midgets in 1977 and is now considered an industry leader. The Loden family acquired RSR from AFCD in May of 2021. Ultimate QM builds an excellent product using the highest quality components and materials available. We also offer unparalleled customer service and support. Customers can obtain knowledge and replacement parts by calling or by visiting our full service website, UltimateQM.com. We look forward to helping you achieve your racing goals!

## Setting the Panhard Bars

1. Panhard bars should start out on the third hole down on the frame-side front and rear. The rear should be in the bottom hole on the bearing carrier and the front should be in the top hole in the axle.

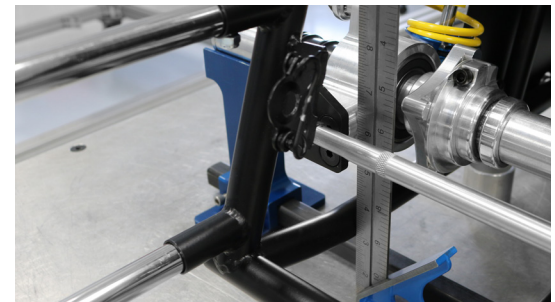


## Squaring the Rear Axle

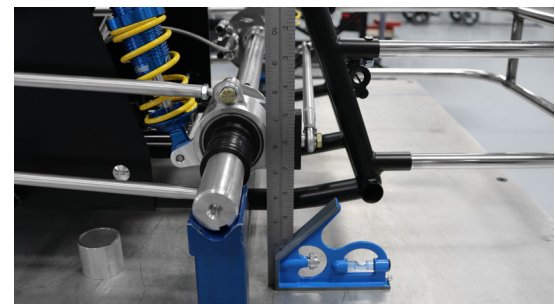
2. The first step in squaring your RSR car is to set it in alignment bars. Tie rod jam nuts need to be loose so the toe can be adjusted to allow both spindles to sit down in blocks.



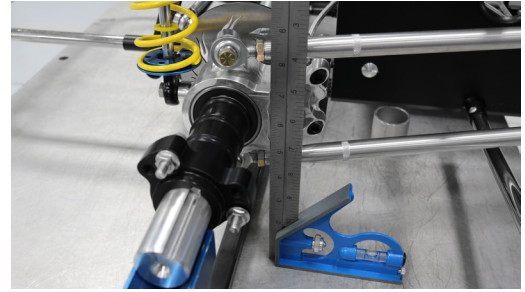
3. Once the car is down in the blocks, the next step is to set the side-to-side location of the axles. The left-to-right placement of the rear axle is determined by the location of the left rear bearing carrier. Place the inside edge of the carrier flush with the inside edge of the main rail of the chassis.



4. After axle placement, the bearing carriers need to be timed. Adjust LR Birdcage timing by using a square and adjusting the LR radius rods. Adjust the rods so that the square is flush against the panhard bracket.



5. Check and adjust RR Birdcage timing by using a square and adjusting the RR radius rods until the square is flush with the brake caliper mount.

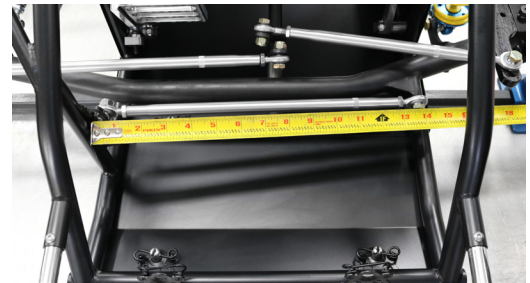


6. The next step in the process is to square the rear axle in the car. Using two squares and a ruler, measure from the back of the rear axle to the back of the rear cross tube, this measurement should be 5". Take this measurement as far out on the axle (on the left and right sides) as possible and adjust the rear radius rods by turning the top and bottom the same amount so you don't lose your bird cage timing.

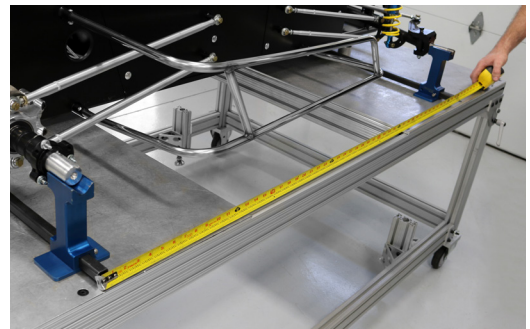


## Squaring the Front Axle

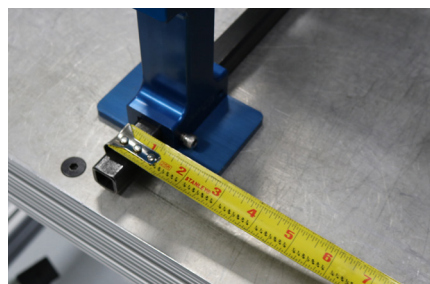
7. Front axle placement is set by adjusting the panhard bar so the center of the axle bolt is 13.75" from the inside of the right front tube.



8. Once the rear axle has been squared in the car, we can use it to set the front axle. Simply measure from alignment bar to alignment bar on both sides of the car to get the center-to-center measurement of the axles.



<b>Wheel Base</b>	Mini	48"
	Small	49"
	78	49.5"
	79	50.5"
	80	51.5"



## Set the Front End

9. The next step in the process is to set the caster. Use a square to put the left front spindle straight up and down, which will give you a setting of  $0^\circ$  on the left front. The right front caster will automatically be set as caster split is built into the axle. Use the right front radius rods to roll the axle until you reach the desired  $0^\circ$  on the left front. Lengthen or shorten the top radius rod equal and opposite of the bottom rod so the wheelbase does not change. After you achieve the desired caster setting, double check your wheelbase to verify it did not change.



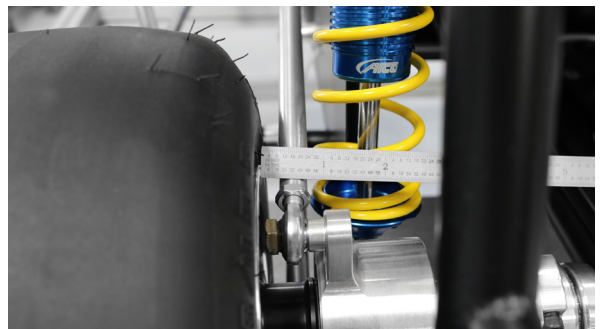
10. The last step in the process is to recheck the toe setting. We recommend to run no toe in or toe out. Lift the front of the car out of the blocks and set it back in to see if there is any drag on alignment blocks.



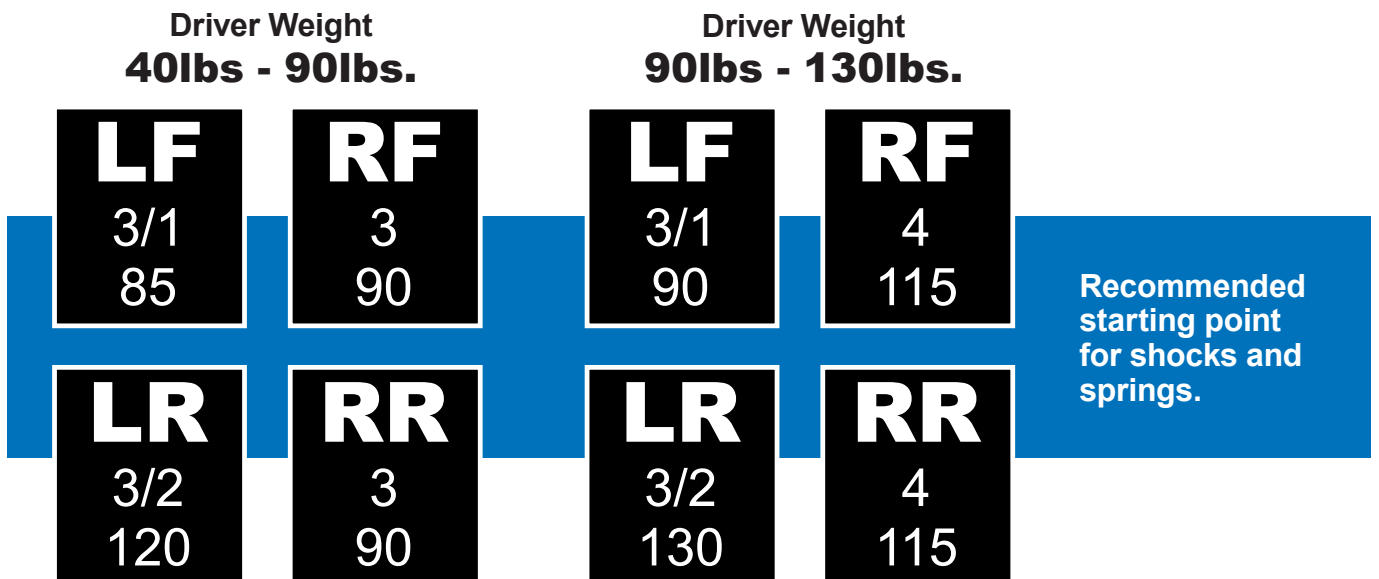
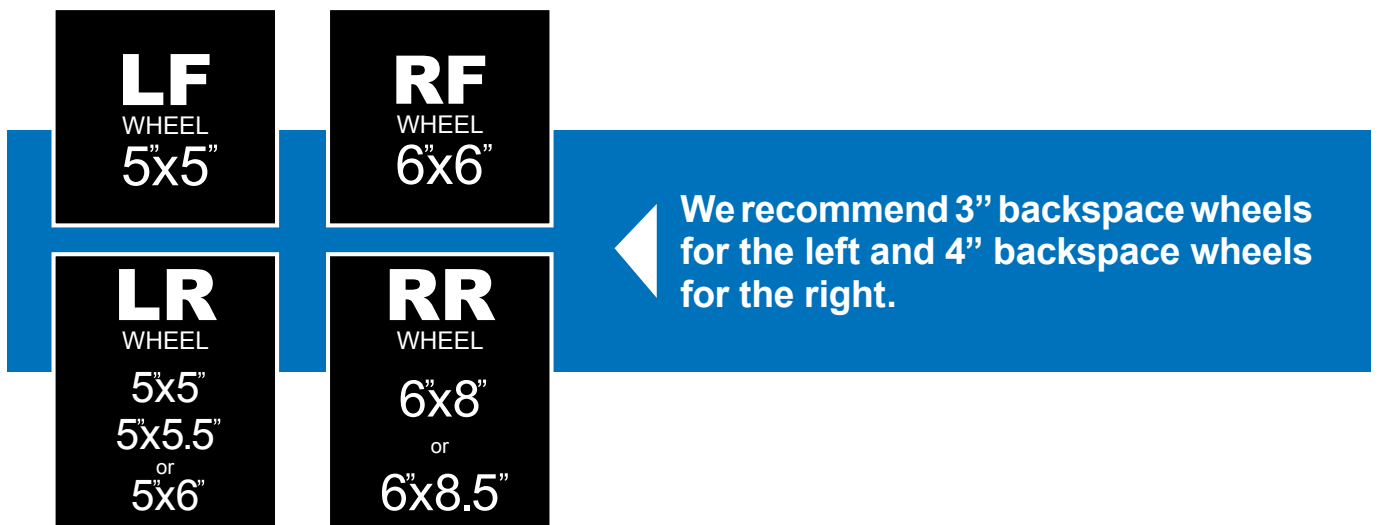
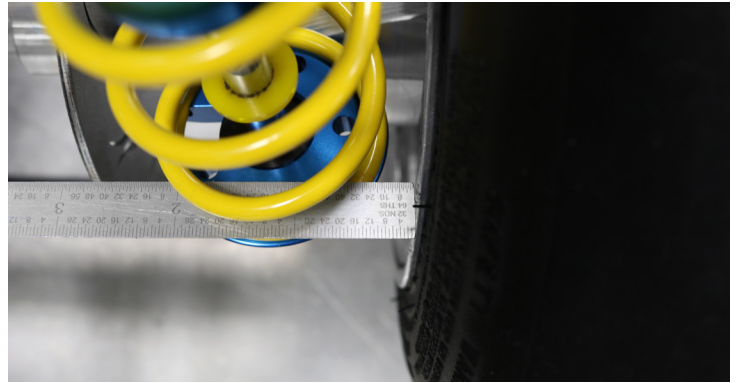
Adjust your tie rods so that the pitman arms on the steering shaft are in the 11 and 1 position and spindle bolts come in and out of blocks without dragging.



11. After squaring your car, it is time to put on the tires and wheels. We generally run our RSR cars with the track width as narrow as possible. On the front end, this is achieved by running the front hub with no spacer behind it on the spindle. On the rear of the car, you want to utilize your axle spacers in such a way that the left rear tire is about .125" away from the radius rods.



12. The right rear tire should be about a .25" from the spring.



## Scaling and Set-up

13. Now that your RSR car is all squared up and has tires on it, you are ready to set ride heights and set it on the scale pads. It is important to have a baseline setup to come back to if you have made adjustments to your RSR car and seem to have lost the handle. Set tire pressures at 11 PSI in the right front and right rear. 5 PSI in left rear and left front. We recommend a starting point of 1.5" ride heights without the driver to start out. You can measure this at the front and rear cross tubes by simply adding .75" to your desired height. So for example, a 1.5" would measure 2.25" at the cross tube.



The final step in setting up your RSR car is scaling it out, without the driver in the car. When scaling your car, it is important to remember that left side and rear percentages will not change by turning on the adjusting shock collars. Moving ballast is the only way to achieve the desired percentage of left and rear. While the ideal percentages will be different for everybody, we recommend starting out with 57% left side and 57% rear. Move your ballast around in the car until you achieve the desired percentages. Once you have the desired numbers, it is a good idea to recheck your ride heights to see if they changed before setting your cross weight.

Again, everyone's optimal cross weight will vary, but a good place to start is 54% measured without the driver in the car. When adjusting cross weight, it is important to use the X method. If you do the same adjustment to the left rear and right front and the opposite adjustment to the left front and right rear, your cross weight should change without ride heights changing.

## At the Track Changes

### CONDITION:

Car is too tight & doesn't turn well	Loose	Biking
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### ADJUSTMENT:

<ul style="list-style-type: none"> <li>• More stagger</li> <li>• Raise rear track bar frame side</li> <li>• Lower front track bar frame side</li> <li>• Move front axle to left</li> <li>• Heavier right rear spring</li> <li>• Softer left rear spring</li> </ul>	<ul style="list-style-type: none"> <li>• Less stagger</li> <li>• Lower rear track bar frame side</li> <li>• Softer right rear spring</li> <li>• Stiffer left rear spring</li> <li>• Stiffer right front spring</li> <li>• Raise nose of car</li> </ul>	<ul style="list-style-type: none"> <li>• Lower left side of car</li> <li>• Move right side tires out</li> <li>• Lower cross weight</li> <li>• Raise front and rear track bar</li> <li>• More left side percentage</li> </ul>
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**CONTACT US  
WITH  
QUESTIONS**

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Our mission is to bring families a complete QM shopping experience and make it easy, fast, and secure. Customers can purchase a Robbie Stanley Racing or AFCO race car, replacement parts for most makes and models, and tires. Tech support and setup information can also be found on the website. Questions? Contact us at 855.682.4403 and let one of our sales associates help you through the process. You can reach Dale Raber at ext. 6210 & Ryan Stanley at ext. 6292.

## Find these and more quarter midget parts on [UltimateQM.com](http://UltimateQM.com)

### ARC Steering Box



- Lightweight design - only 1.69 lbs.
- 8.75" total length x 2.3" total travel.
- 90° total steering rotation.

### MyChron5 Laptimer



- Track lap and split times, speed, acceleration, RPM, and much more.
- Features WiFi and rechargeable battery.

### MPI Steering Wheel



- Flat-top for improved visibility.
- Flat-bottom for easy entry.
- Lederfylon high-grip for excellent feel.

### RSR Headrest w/Brackets



- Fully adjustable for a great fit.
- High density padding.
- Includes hardware for easy install.

### DWT Wheels



- Available in black or polished.
- Full range of QM sizes available.
- In stock with same day shipping.

### RSR Car Cover



- High quality cover with RSR logo.
- Water resistant.
- Fits full line of RSR cars.