

INTO THE RIDE #76

Trizard Tech

by Randy Schlitter

As many will soon discover the Trizard is a trike of many configurations. The modular design was intended to provide flexibility in key areas.

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Seat Tilt

The Trizard has quite the selection for seat brace positions. The dropouts mount to the axle and feature a horizontal series of holes. This allows the user to select a seat tilt angle from 30 to 38 degrees any place on the seat rail. The seat braces are made of flat stock aluminum with a bushing pressed into the top attach point. The dropouts have double holes, as per a slot effect, between the pressed-in bushing and the lower end pinning design. The seat braces have amazing side-to-side rigidity.



Seat Position

A small fore and aft range is given, about 4.5 inches. This provides the rider a means to fine-tune the fit without moving the front wheel crank assembly (FWCA). It has proven handy for demos. Seat tilt also will change x-seam, since lifting or dropping the back can change hip location. I have noticed with a trike that seat position is less critical since there is no need to balance. At InterBike 2008 we never needed to adjust FWCA at all--the 4" plus range accommodated most comers.

Wheelbase

This trike has an adjustable wheelbase. However, moving the FWCA to meet a rider's X-seam changes the wheel loading, and also changes the turn radius. Dynamic stability is affected-- the shorter the trike becomes the less speed is needed to lift a wheel or tip, due to the faster turn rate. Also as the wheelbase goes shorter there may be pedal steer. We offer three main tube lengths, small, standard and large. The X-seam ranges are as follows:

Small	32"	to	42"
Standard	38"	to	48"
Large	42"	to	52"



When adjusting wheelbase it will be required to remove or add chain links to restore adequate chain tension and shifting.

Handlebar Location, Width, and Angle

Perhaps one of the most special aspects of the Trizard is the ability to locate the handlebars on top or bottom of the main tube. The only requirement and trade off is that you must space the seat off the attach angles .5". This making for a small trade off in raising the seat height. There are advantages either way.

With the handlebars on top you can use more of seat rail range, about 4 5/8". This is because the idler is lower allowing more chain clearance on the seat. It also allows the pivot tube to be installed with either the gull wing up or down. Placing it down will offer more room as you swing the bars through the turn; this is good if you have large legs. In this position the handle bar grips are canted out more than with the gull wing up.



Topside bar install gull wing down



Gull wing up on bottom side, our current normal set up

With the gull wing up and on the bottom, which is the way the Trizards are shipped, the handgrips are more vertical. This also has the advantage of the handlebar taking an inadvertent road strike, protecting the idler.

In any case the handlebars move in and out from centerline, and rotate from vertical. The entire handlebar/idler assembly can also be slid fore and aft to create a custom fit. Note that when doing this it will affect the seat rail adjustment range.

Traveling with a Trizard

Taking a Trizard with you either on top of or inside your vehicle presents challenges due to the long wheelbase. The best way to haul the trike in one piece is to use a hitch rack that mounts the trike right side up, front wheel forward. Roof racks on longer vehicles, such as SUVs and Minivans, are also a possible option. The inherent option is to take the trike apart. The wheels pop off in seconds due to a neat QR system that leaves the disc brakes intact.



If you have marked the location of the FWCA, and are willing to use the chain's master link and a couple of Allen wrenches you can compact the trike even further. Remove the chain and loosen then slide off the FWCA, and steer tube, and the remaining piece is only 56" long (if this is the large main tube and 50" and 46" with the other two sizes), leaving the axle sub assembly 31" wide.

Of course the seat is easy to remove, further compacting the unit, but an even smaller package can be obtained by removing the main tube from the rear axle. Since all the cables are attached to the handlebar, no cables need to be disconnected. You will also have to remove the V-clamp to release its hold on some cable housings. This all takes a few minutes, and can be frustrating for those not apt at returning things to the exact position and in the proper alignment, so this form of compaction would only be recommended for airline travel.

These features make the Trizard a very special and different trike, one where new combinations may come about as owners experiment with ideas. What started out as a way to quickly re-configure an experimental prototype has become an exciting product for the recumbent trike enthusiast. We are planning on offering more options, such as a carbon main tube, or a wider rear axle for those wanting to try out their road sailing skills. The Trizard with all its possibilities will become a fun way to stay into the ride. Until next time, ride safe and ride often.

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