Team in Training
Greater Los Angeles – EASTSIDE TRIATHLON

Road Bikes and Triathlon Bikes

If you are facing the prospect of purchasing a new bike and are having difficulty deciding whether you should own a triathlon bike or a road bike, and you only want to own one bike, think about this:

- **If the primary reason you are buying a bike is to participate in triathlon or duathlon, and to do solo training rides – buy a triathlon geometry bike.**

- **If the primary reason you are buying a bike is to participate in group rides, road races, general fitness, or for occasional commuting, buy a standard road bike.**

While there is some crossover use for each of these bikes, if you buy the wrong bike the money you spent on it could have been better used on a more appropriate bike.

The most typical scenario with entry level athletes is for them to buy a standard road bike, find out they enjoy participating in triathlons, and then buy a triathlon bike several months or a year or two later. In some cases, it may have made better financial sense to have bought the triathlon bike first. Conversely, most triathletes who originally bought a tri bike eventually buy a road bike after a season of triathlons so they can participate in group rides more readily.

As with any set of generalizations, there are exceptions. Which specific bike is best for you, your riding style, your body dimensions, etc. is a function of many different factors. It is important to develop an idea of what your riding habits will be like and combine that with an accurate bike fitting from a certified bike fitter who has experience and training in fitting both road and triathlon bikes. That information will make deciding between a road bike and a triathlon bike easy.

"What is the difference between a road bike and a triathlon bike?"

That is a good question to ask if you are shopping for a bike for more than one type of riding or can't decide which bike you should buy.

Many people think a triathlon bike is only good for riding in triathlons. As we will see, this is not necessarily the case. Triathlon bikes are well suited for any type of long distance solo road riding where comfort and efficiency are the primary concern.


Standard Road Geometry Bike


Triathlon Geometry Bike

If you own a road bike and are considering doing triathlons on it, it is important to understand the advantages and limitations of standard road geometry bicycles in a triathlon setting. It is also worth understanding the limitations and benefits of a triathlon bike in a road riding setting.

A triathlon bike is specifically designed to be ridden comfortably and efficiently in the aerodynamic position using elbow-rest style aero handlebars. Triathlon geometry bikes facilitate the transition from cycling to running better than road geometry bikes.

Using aero handlebars on a triathlon geometry bike provides two benefits:

1. Improved aerodynamics with better comfort/efficiency.
2. Easier transitions from bike to run.

Aero handlebars allow the rider to sit lower on the bike and with a narrower, more aerodynamic upper body cross section. As viewed from the front, the rider's body is narrower than having the arms spread out to normal drop handlebars. The rider's upper body is supported by the skeleton while using aero bars (resting on the elbows), while on the standard road, drop handlebars a rider must rely on the use of upper body muscles to support their body and maintain the riding posture. Visualize the difference between leaning on a counter with your elbows (easier) and supporting your torso over the counter in a kind of "half push-up" posture (harder).

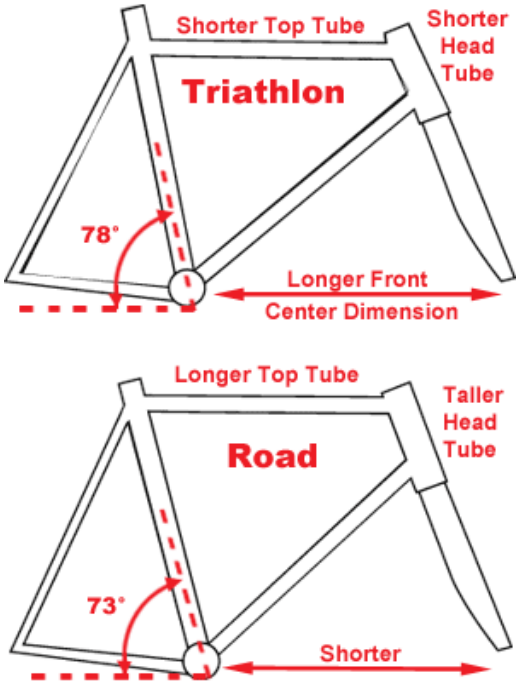
On a road bike (pictured above) you will use mostly musuclar effort to support the weight of your torso on the handlebars.

It is easier to support you upper body on a correctly fitted triathlon bike. This reduces the amount of muscular effort required to sit on a triathlon geometry bike, replacing muscular support of the upper torso with skeletal support.

Bolt -on aerobars as used on a triathlon bike.

The critical elements to maximizing the benefits of a triathlon bike are fit and position. Installing aero handlebars on a standard road bike (as opposed to a tri bike) exerts two changes on a rider's position: The rider's upper torso is more stretched out with the hands and elbows farther forward, and the angle between the femur (thigh) area of the leg and the torso becomes "sharper" or more acute. There is less distance between the thigh and the torso at the top of the pedal stroke. These two changes mean the road bike with aerobars becomes less comfortable. Because of the close proximity of the femur (thigh) to the torso (chest/stomach/abdomen) at the top of the pedal stroke (10 o'clock to 2 o'clock pedal position) the rider will feel too "cramped". At the same time the increased distance from saddle to aerobars on a road bike usually makes the rider too stretched out for stable handling. This tight angle from femur to torso can prevent the rider's diaphragm from contracting fully and make efficient breathing more difficult. Lower back pain can also develop.

A triathlon bike is specifically designed to eliminate these problems. The angle of the seat tube on a triathlon bike is typically 76-78 degrees. A typical road bike seat angle is 73-74 degrees. This steeper seat angle serves to open the distance between the thigh and the torso up, easing muscular tension in the legs and lower back and making breathing easier.



Differences between Road and Tri Geometry Frames.

A triathlon bike frame has a shorter top tube to accommodate the use of aero bars. Triathlon bikes also have a lower head tube to allow for the extra height of aero bars, so the rider can maintain a lower upper body position. Some triathlon bikes have very low head tubes, others slightly higher. Matching the height of the head tube to your desired handlebar to seat drop is another important consideration in finding your optimal bike.

Riders who install aerobars on a road geometry bike usually wind up with too much distance between the saddle and the handlebars. On a road bike this usually means the rider will slide forward on the saddle when using their aerobars, eventually sitting on the front 1/3 of the saddle. Riding in the aero position usually means rotating the pelvis farther forward and using the nose of the saddle on both a road bike and a triathlon bike, but a triathlon bike is built with the shorter top tube and slacker head angle to facilitate this posture more comfortably and with greater stability.

On a road bike the top of the head tube is nearly horizontal to the top of the seat tube and seat cluster area. When aero bars are installed the front of the bike is now so high it is difficult for the rider to get a comfortable, low, efficient position. Triathlon bikes have lowered top and head tubes to make room for the elbow pads of the aero bars.

Your biggest benefit from using a triathlon bike is likely to come during the run, after your second transition from bike to run – studies show athletes that ride in the steeper "tri" position may run better than those riding in a shallower "road" position. On tri bikes, lower back muscles are less cramped and fresher for the bike/run transition. Your transition from bike to run will be easier, especially in the first 1-2 miles of the run.

THE BOTTOM LINE:

While triathlon bikes offer a strong set of advantages for anyone wishing to ride comfortably in the aero position, it is important to be familiar with the limitations of the triathlon geometry.

Triathlon frames are at their best when riding on flat to rolling terrain where there is no need for high speed cornering, and where the cyclist will not be relying on other riders to draft off. If comfort and efficiency are your primary concern, a triathlon geometry frame may be a good choice.

Triathlon bikes are NOT intended for use in group rides where drafting at close proximity and lightening fast handling are important. Triathlon bikes are NOT optimized for high speed cornering, such as in road races or descents down steep hills.

If this is how you ride, a triathlon bike is right for you.

Adapted from an article by Tom Demerly, edited by Mike Gwaltney