RIDING POSITION

Bike Size

The right frame size gives a balance between heightand length, and between responsiveness and comfort. (Frame geometry and material type also impact on responsiveness and comfort.) Your pro bike shop should be able to provide sound advice to direct you to an optimum frame size.

To roughly gauge whether your frame is the correct size, straddle the top tube wearing your riding shoes. For a conventional road bike (non-sloping top tube) there should be 25-50 mm clearance between your crotch and the top tube. For a mountain bike the distance should be 50-75 mm to provide an extra margin when dismounting quickly in rough terrain.

Length of top tube is very important. When you are seated comfortably on your saddle with your hands “on the hoods”, with a handlebar stem (or quill) of 100 mm length, your elbows should come close to or slightly overlap your knees with cranks in the one-o’clock – seven o’clock position. Your arms should be at slightly bent. If you meet this test then your weight distribution is spot-on.

Saddle Position

Your saddle should be level. It's not a good idea to mount your saddle with the nose pointing more than three mm downwards. Doing so can cause arm fatigue as you try to keep from sliding forward.

Saddle height (distance from the top of the saddle to the pedal axle when the crankarm is pointed down and in line with the seat tube) is not an exact science. Use the following two methods to get into the proper range, then take your body's advice during rides and make slight refinements.

1. Mount your bike and prop yourself against a wall. Wearing your cycling shoes, place your heels on the pedals, and pedal backwards. Your leg should reach maximum extension. Place the saddle height at the point where, to keep your heels on the pedals, you just don’t rock your hips.

2. This method was developed by French coach Cyrille Guimard. It's the result of numerous tests and years of experience with professional riders. This overall height formula was determined with 170 mm crankarms, standard racing pedals and cycling shoes.

   Wear a pair of riding socks. Don’t put on your cycling shoes. Locate a hardcover book about 40 mm wide and 125 mm long. Go to an uncarpeted area where you can make a small mark on the wall. (You want to make sure to stand on a hard, uncarpeted surface so that your measurement will be exact.)

   For this measurement, the book will act as your saddle. Face the wall, place the book between your legs, and apply enough pressure to simulate riding. The front and back covers should be perpendicular to the ground. Once you're satisfied with the position, mark the line along the top edge of the book on the wall. Take a ruler and measure the line from the mark to the floor. This is your in-seam length. My in-seam length is 872 mm.

   Next, take that number and multiply it by 0.883. Multiplying my inseam by 0.883, I get an overall length of 770 mm. That is the overall distance, in a straight line along the down tube, from the centre of the bottom bracket to the top of the saddle. (The top of the saddle is the cupped part where you actually sit, not the lip that rises to the back of the saddle.) Adjust the seatpost and saddle to your overall length measurement.

Remember that the formula is based on 170 mm crankarms, standard racing pedals and cycling shoes. In my case, I ride with 172.5 mm crankarms, Time pedals and Carnac or Time cycling shoes, I find that at 775 mm, this length is perfect for whatever bike I ride.

To set the saddle's fore/aft location, follow these steps:

1. Locate your right leg's tibial tuberosity - the bony bump below the kneecap. This conveniently lies on a vertical line that passes through the centre of the knee joint when the crankarm is directly forward in the three o'clock position. This line should also bisect the pedal axle.
2. Position your bike on level ground so that the top tube is level with the floor. Mount your bike and prop yourself against a wall. Clip your shoed feet into the pedals. Turn the crankarms to the three o'clock-nine o'clock position and drop a plumb line (a nut on a string will do) from the front of your tibial tuberosity.
3. Note where the string passes the pedal axle. Slide on the saddle until the string and axle line up, then dismount and move the saddle accordingly.

You may want to lower your saddle in winter in proportion to the thickness of extra layers of tights and shorts, or if cold weather tightens your leg muscles.

Handlebar Position

For road bikes, put the top of the handlebar about 25 mm lower than the top of the saddle. Never position a quill stem above its minimum insertion mark; 50 mm must remain in the steerer tube or it could be deformed (and weakened) by the expander plug.

For mountain bikes, position the brake levers so that your wrists aren't bent. Instead, your hands should drape over the bar and rest on the levers with straight wrists

Handlebar width is established by measuring your shoulders from the outside edge of the protruding rotator of your shoulder blade – that is the bone that sticks out beyond your collar bone. This measurement should correspond to the outside width of your racing handlebars.

Alyson, my wife, measures me as 42 mm (and measures my overall shoulder width as 44 mm). I find that in my case, handlebars with an edge-to-edge dimension of 42 to 44 mm are ideal. Most professional endurance riders agree that wider bars are better than narrow bars because wider bars allow you to relax your chest while riding.

Test Rides

The heart and soul of your bike is the frame – this must be sized correctly. The possible adjustments in seat post, saddle position, handlebar stem, and crankarm length serve the purpose of fine-tuning your riding position.

After making the necessary adjustments to your position, minor aches and pains may develop before your body adapts to its new riding posture. Resist the temptation to keep fiddling for four or five rides.

Chris enjoying the Pyrenees