

Supplement to RS03, RS4 & RS4x Instruction Manual

Recumbent Bike Specific

SPECIAL TIPS:

- a. Many mechanics report that they do a “dry run” installation without using loctite (thread adhesive) to become fully familiar with the Rotor installation process. After the “dry run” installation, they remove the Rotor from the bike & re-install it using the thread adhesive. This ensures a correct installation.
- b. The splines of the left cup can be damaged by the tool if the tool slips while tightening the cup. It is important for you to firmly hold the tool into the cup with one hand while tightening with the other hand.

In section-8, REGULATING THE ROTOR: (Finding your “dead spot”)

Upright bikes (also known as DF's or wedgies) must have the right crank pointing down at 6 o'clock, creating a 90-degree angle. This is the position that has been determined to be the best average for finding the “dead spot” for uprights.

The “dead spot” on recumbents is defined as **“when the right crank (pedal) is at maximum extension”**. Maximum extension can be in different positions on different recumbents. To find the “dead spot” on your recumbent follow these instructions:

You will probably need two friends to assist, one to hold you and the bike upright and perpendicular to the floor, the other to do the measuring. If you use a trainer to hold you & the bike upright, be certain to have both wheels the same distance from the floor (put a riser under the front wheel), then subtract the “riser height” from the “TOTAL FLOOR TO PEDAL” measurement.

You should sit in the normal riding position pushing the right crank (pedaling backwards) to the maximum distance away from you. This can be done by you sitting in the bent and pedaling backwards several revolutions to get your body (hips) well settled into the seat. After you are fully settled into the seat, stop the back-pedaling when your right leg is fully extended in a forward position (sometimes forward-upward, forward-straight out & sometimes forward-downward), depending upon the relationship of the seat & BB tube.

Someone should measure the distance from the bottom of the pedal hole of the right crank (use the pedal-axle as the guide) to the floor. This distance will be your reference for your particular “dead spot”.

For your future reference and future regulation point adjustments, we suggest that you purchase a $\frac{3}{4}$ ” diameter wood dowel at your local home improvement center in advance of the installation; cut the dowel to the length of your “dead spot”. This will enable you, with the assistance of a suitable stand or trainer holding the bent upright, to put your right crank in your “dead spot”, without the assistance of others, enabling you to change the regulation point any time you wish.

The Factory suggests that you try at least three different regulation points before you decide which is best for your body, bike and cycling conditions. Firstly for about 200-miles in #3 (both triangles pointing toward each other), then, in #4 for about 200-miles, then in #2 for about 200-miles.

Using your “dead spot” $\frac{3}{4}$ ” dowel gauge, set the Rotor regulation point to the desired position, then tighten the left locking cup. Check to be certain the regulation point did not move while you tightened the left cup. It is very important that the left locking cup is securely tightened against the Rotor on the non-drive side to 52~55 ft-lbs or 70~75 N-m. Failing to do this will enable the regulation point to slip which will spoil the function of the Rotor System & spoil your riding experience.

SPECIAL NOTE: Some expert mechanics install the Rotor on the bike without using the loctite (thread adhesive) thus enabling you to try different regulation points without the need of changing the loctite. This process sometimes works if the left cup is securely tightened to 55 ft-lbs. If you try this, and your regulation point slips while riding, either reset the regulation point & re-tighten the left cup or reset the regulation point using loctite (in which case you should not ride the bike for 12-hours, enabling the loctite to fully set).

Follow the other instructions in the “Instruction Manual” that are written for upright bikes to complete the installation.

We are grateful to the several advanced rotorized recumbent cyclists (you guys know who you are) who have contributed ideas and text that made this document possible. Many thanks; may the wind be always at your back!