



## Salsa Size-O-Matic II

Congratulations on purchasing the latest & greatest in adjustable fitting stem technology! The new Salsa® Size-O-Matic II™ outperforms its predecessor in many ways:

- Hinged handlebar clamp and captured fixing bolt - no parts or bolts to remove, drop or lose
- Greater range of reach adjustability (down to 55mm!)
- Fully functional when assembled on new bike builds with uncut fork steerers - zero interference
- Optional quick-release function for super-fast reach adjustments
- Compatible with oversize 31.8mm handlebars

**Please read all of the following notes, instructions and warnings before using the new Salsa Size-O-Matic II. If you do not fully understand all of the directions, concepts and warnings described herein, do not attempt to install or use this tool.**

### Intended Use, Compatibility and Limitations

The Salsa Size-O-Matic II fitting stem is not a stem per se, but rather a powerful fitting tool that is designed to be used in a controlled environment under the supervision of a bicycle fitting professional. This tool is to be temporarily installed in place of a normal bicycle stem to aid in the precise selection of stem reach and angle. It can be installed on a trainer, a fit-cycle, or a bicycle that is affixed to a stationary trainer, or that is otherwise securely immobilized yet able to be pedaled. **The Size-O-Matic II is not intended to take the place of a normal riding stem, and should not be ridden on a bicycle outside of the above guidelines in any circumstances. Failure to comply with these guidelines can result in serious injury.**

The Size-O-Matic II will fit applications that utilize 1" or 1-1/8" threadless stems or 1" or 1-1/8" quill-style stems. It is also compatible with 25.4mm, 26.0mm and 31.8mm diameter oversize handlebars.

The Size-O-Matic II has a reach adjustment range of 100mm (55mm through 155mm) and an angle adjustment range of 60 degrees (20 degrees below level through 40 degrees above level).

The only tool that is required to install and adjust the Size-O-Matic II on most applications is a 5mm hex key. A 6mm hex key will be needed on quill-type installations.

### Installation and Use

#### 1a. Install Size-O-Matic II Fitting Stem Onto Bicycle (Threadless Style)

Prepare the bicycle for installation by completely removing the existing stem from the bicycle as necessary. The bicycle should otherwise be fully assembled and properly adjusted. Install as many stack spacers onto the steerer above the headset as you think you may want or need, keeping in mind that there must be at least 32mm of exposed steerer tube for the Size-O-Matic II to clamp securely onto. If the steerer tube is 1" in diameter, slide the provided shim over the fork steerer tube after you have added the desired number of stack spacers.

Please note that at this stage in the process it is very beneficial to have more fork steerer tube exposed than you think you will ever need. The Size-O-Matic II was designed with the new-bike, uncut-steerer-tube scenario in mind. As such, it is fully functional in all angle and reach configurations, and will not be interfered with by excess steerer tube length. Cutting a steerer tube before you have installed a final stem choice is not recommended or necessary. This is particularly important as you consider the ability to add or remove stack spacers in the future, and to make small spacer adjustments to accommodate the varying heights of certain brands of stem clamps.

Now install the Size-O-Matic II by sliding it onto the fork steerer tube as you would a normal threadless stem, align it with the front wheel of the bicycle, manually draw-up as much of the headset slack as possible, and tighten the steerer clamp bolts to 95-110 inch-pounds.

Please note that perfect adjustment of the headset for the purpose of stem fitting is not necessary. If it is desired, consult the headset manufacturer's instructions for how to do this, but be advised that it may require cutting the steerer tube, which may not be desirable at this point in the fitting process for reasons mentioned previously.

## 1b. Install Size-O-Matic II Onto Bicycle (Quill Style)

Prepare the Size-O-Matic II for a quill-type installation by sliding the provided quill adapter into the Size-O-Matic II and tightening the steerer clamp bolts to 95-110 inch-pounds.

Prepare the bicycle for installation by completely removing the existing quill stem if necessary. The bicycle should otherwise be fully assembled and properly adjusted. The bicycle should be assembled otherwise and in-tune. Also determine if the bicycle has a 1" threaded steerer (most road, some mountain bikes) or a 1-1/8" threaded steerer (many older mountain bikes).

The 1" threaded steerer will require a 22.2mm quill which is what the adapter has; lightly grease the quill and wedge and install the fit stem. Align the stem with the front wheel and torque the quill bolt to 170-190 inch-pounds. If you have a 1-1/8" threaded steerer, it will require a 25.4mm quill; to achieve this, slide the provided adapter shim over the quill, lightly grease and install, then torque the quill bolt to 170-190 inch-pounds.

## 2. Install Handlebars Onto Size-O-Matic II

Loosen the clamp bolt on the hinged handlebar clamp and open it up wide enough to accept a handlebar. Determine the diameter of the handlebars you plan to install into the Size-O-Matic II and select an appropriate shim from those provided. The shims are clearly marked and will be required for 25.4mm or 26.0mm handlebars. 31.8mm handlebars do not require a shim. Clasp the chosen shims over the bar and install the handlebars from the bottom of the clamp. Close the hinged clamp, position the clamp bolt and tighten it just enough to hold the handlebar in a temporary position. Now rotate the bars to an initially acceptable position and tighten the clamp bolt to 120-130 inch-pounds. Loosen, re-adjust bar angle and re-torque the clamp bolt as necessary to achieve the desired position.

Please note that steps 1 and 2 may be reversed or modified depending on your particular scenario.

## 3. Angle Adjustment

Angle adjustment is easily performed by loosening the three angle adjustment bolts on the base of the stem and moving the stem up and down until it feels like a good angle to try. Each time you find a suitable angle, torque the three angle adjustment bolts to 95-110 inch-pounds before testing the new position. This adjustment can be performed independently of the reach adjustment and vice-versa.

## 4. Reach Adjustment

Also simple and straightforward, simply loosen the four reach adjustment bolts and slide the handlebar cradle fore or aft as desired. When a suitable reach is achieved, tighten the four bolts to 95-110 inch-pounds before testing the new riding position. This adjustment can be made even quicker and easier by following the suggestions in the Optional Features section.

## Tips & Interpreting the Numbers

In general, determining a proper stem length should be one of the last steps performed in the process of properly fitting a bicycle to its rider. Proper stem fit is predicated on first having a properly fitted frame, properly sized handlebar, crank length, saddle shape, saddle height, etc. While it is true that use of the Size-O-Matic II to select a "better" stem size can improve the fit of a poorly fitting bicycle, we recommend that for the best possible overall fit, the Size-O-Matic II should be used at the final stages of the process when all of the other variables have been determined.

While reach, angle, and handlebar angle can be adjusted independently, adjusting one variable will affect the others. Adjustment can be simple or it can become a constant give-and-take situation. For instance, raising the stem angle will also rotate the handlebar angle forward, which is usually undesirable. In this instance, the use of an adjustable level is helpful to take a reading beforehand and to return the handlebar angle to the desired position as several different stem angles are experimented with. Always remember to check all three variables after one adjustment is made, and don't forget that quill stems go up and down, and threadless stems can use more or fewer stack spacers.

With regards to the adjustment of the stem and eventual selecting of a proper stem size, our suggestion is to repeat steps 3 and 4 above as necessary until a satisfactory riding position is achieved without regard for the reach or angle scales etched into the stem. When the "perfect" position is achieved, compare the numbers on the scale with what stems are available. When you locate a stem that is very close to what is the Size-O-Matic II indicates as the "perfect" position, then adjust the Size-O-Matic II to that exact position and try this new position to confirm it will work for the rider. Usually you will find that just a few degrees and/or a few millimeters here or there will be close enough to get the rider into a stem that is commercially available.

Some riders may want to ride in a position that requires a stem that is outside the realm of what is commonly available. Or perhaps they want a stem that is built exactly to spec (i.e. 125mm reach). If this is the case, it's very easy to take these numbers off of the side of the Size-O-Matic II and provide them to a custom stem builder. Remember that not all manufacturers or builders use the same angle measuring system. Some call a stem with "no" rise a "0 degree" stem, while others will call it a "90 degree" stem. Both scales are provided on the Size-O-Matic II for your reference, but it is your responsibility to BE CLEAR when ordering.

Tips continued

Any reputable stem manufacturer or custom builder should be clear on the basics of stem measurement. All measurements taken off of the Size-O-Matic II scales will transfer to most, if not all currently available stems. However, if for whatever reason you wish to manually measure a stem, or compare/verify the length or angle measurements of a stem as they compare to those on the Size-O-Matic II, we offer the following guideline: All measurements on the Size-O-Matic II are given from the center of the angle adjustment pivot, which also happens to be the theoretical center of the steerer tube clamp, and is also the center of the fork steerer tube. Reach adjustments are given from this point to the center of the handlebar.

### **Optional Features**

The process of making incremental reach adjustments to the Size-O-Matic II can be made much quicker and easier by adding a Salsa® Flip-Off™ seat quick-release lever in place of two of the reach adjustment fixing bolts. To do this, first prepare the seat QR by removing the two flanged alloy washers from the unit. Then slip the thin stainless washers provided over each side of the QR knurling (these washers protect the finish of the Size-O-Matic II), simply slide the QR through the unit, thread on the end nut, and adjust the QR as you normally would. Please note that with the QR installed you will notice a slight increase in flexibility to the unit. This has no bearing on its effectiveness as a fitting tool. Now you can make multiple reach adjustments quickly with the QR, and then cinch down the two remaining fixing bolts when you've reached a position you want to try for awhile.

Remember, while it makes a nice upgrade, the Flip-Off seat QR lever isn't essential to the function of the Size-O-Matic II.

### **One Last Reminder**

Always make sure that all bolts or optional quick-release levers are properly tightened before a rider tests their position with the Size-O-Matic II.

### **Salsa Cycles Limited Lifetime Warranty**

This Salsa® product is warranted against defects in materials and workmanship for the lifetime of the product subject to the limitations detailed below. This limited warranty is expressly limited to the repair or replacement of the original product, at the option of Salsa Cycles, and is the sole remedy of the warranty. This limited warranty applies only to the original purchaser of the Salsa® product and is not transferable. In no event shall Salsa Cycles be liable for any loss, inconvenience or damage, whether direct, incidental or consequential or otherwise resulting from breach of any express or implied warranty or condition, of merchantability, fitness for a particular purpose, or otherwise with respect to this product except as set forth herein. This warranty does not cover the following:

- damage due to improper assembly or follow-up maintenance or lack of skill, competence or experience of the user or assembler
- products that have been modified, neglected, used in competition or for commercial purposes, misused or abused, involved in accidents or anything other than normal use
- damage or deterioration to the surface finish, aesthetics or appearance of the product
- normal wear and tear
- labor required to remove and/or refit and re-adjust the product within the bicycle assembly.

This warranty gives the consumer specific legal rights, and those rights and other rights may vary from state to state.