

## **Ceramic Bearing Wheel Install Guide**

A trained bicycle mechanic should install our Ceramic Bearings.

Warranties can be voided if bearings are improperly installed.

Most wheel/hub manufacturers have instructions for bearing installs and hub tensioning instructions at their website or in the owners manual. Please consult these two places for detailed instructions for your particular wheel/hub model.

Below are some general instructions for bearing swaps. In no way is this advice implying any warranty for the following instructions.

Please consult your trained bicycle mechanic for installation.

We sell both cartridge bearings (referred to as bearings below) and loose balls. These instructions will cover both.

1. Most hubs can be taken apart with allen wrenches. You should take the hub apart to the point where the bearings or loose balls are accessible.

2. Some hubs allow the bearings to be removed by hand. If not, we recommend using a bearing puller to remove the bearings.

If you have loose ball hubs (Shimano, Campy, Fulcrum) the process is much the same. Remove the steel balls by hand and replace with our ceramic balls. Sometimes the steel balls are housed in a retainer, if so, pop the steel balls out and replace with our ceramic balls using the same retainer. If the balls are not housed in a retainer, they install loose. A tip for these instances is to apply some of our grease to the race before installing the ceramic balls. The grease will act as a sticky substance which helps hold the balls in place. Loose ball hub customers can skip to step 4

3. Once the bearings are removed we recommend using a press to install your new ceramic bearings into your hubs.

A) A pre-manufactured press or a homemade one will do. This can be made with a long bolt, some washers and a hex nut. It works as a screw press where the bolt passes through the hub with large diameter washers (find washers that are the same diameter of your bearings or slightly smaller) are placed on each side outside of the bearings. As you slowly tighten the bolt the bearings

are pulled into the hub until fully seated.

- B) You can also use your quick release skewer (without the springs) to slowly press the bearings in. You will need to continually adjust the skewer end cap while closing the skewer handle. The will gradually press the bearing in. You may need to use the original bearings as spacers in order take up the space of your skewer.

After pressing the bearings into the hub, we also recommend applying some of our special grease to the outside of the bearing seals before rebuilding the hub. This helps to protect the bearing with no impact on performance. Apply a liberal amount of our special grease to the outside of the seal and spread it evenly before rebuilding the hub.

4. Finally, rebuild the hub. Be sure to use your manufacturer guide for tensioning hubs. Some manufacturers require tension to be set while the wheel is installed on your bike (Mavic SEE BELOW)). Others require the tension to be set while the wheel is not installed on your bike. Also, some hubs require play to be left in the hub (ZIPP, etc.) to accommodate for the quick release tension and the loading of the bearings while the bike is ridden. Consult your hub maker for specific instructions pertaining to their hubs.

**For Mavic QRM+ hubs**, it is very important to tension them properly. This is done with the wheel installed on the bike, with the quick release tightened as if you were going to ride the bike. You then take their QRM+ tool (which fits into the holes located on the non drive side of the hubs) and set tension. Their QRM+ is unique in that you can run the hubs "fully open" for best performance or "closed" for better weather protection (but with more drag). Mavic QRM+ wheels HAVE to be tensioned this way, not off the bike. If you tension the hubs off the bike, you are just guessing and will most likely have the incorrect bearing tension (usually too high causing drag). When removing and re-installing Mavic wheels, it is best to re-tension each time.

**TIP:** *We do not recommend using a hammer or blunt object to drive the bearings out of your hub. We also do not recommend using a hammer and socket or other means to tap your bearings into your hub. Both of these methods will void your warranty and can severely damage the bearing.*

**TIP:** *DO not use anti-seize grease on our bearings. It can adversely affect the bearing.*

**TIP:** *Properly installing the bearings and adjusting your hub correctly is EXTREMELY important. Over-tensioned hubs or mis-aligned bearings will ruin*

*your bearings and/or can cause extra drag.*

**TIP:** *You should keep your bearings well lubed and clean. Visit the “Bearing Maintenance” section of our tech pages.*

If you have specific questions about installation on your particular hub, please contact your wheel/hub manufacturer.

Our ceramic bearings are built to be exact factory replacements. Therefore, the manufacturers guides for installation and tensioning should be followed along with the instructions provided in this document.