

## Sealed Bearing Installation Kit-2

Congratulations on your Purchase of a BRT Product. Like all special purpose built tools, when used as indicated in the enclosed instruction sheet, this tool will provide years of trouble free operation. However, we cannot warranty for misuse or abuse of the tool. Please take the time to read all instructions carefully.

The BRT SBIK-2 consists of an aluminum with stainless T-handle with milled flats and an attached Acme-threaded shaft. The detached handle is similar with internal Acme thread and a Rulon® thrust bearing on the face. There are seven pairs of O.D washers with 12mm shoulders, all of which can be used with or without any of the four pairs of 12mm I.D. bearing sleeves. The shouldered washers and handles have been designed so that the O.D. washer can be flipped either direction depending on the need for a larger internal diameter sleeve. This kit is designed to press sealed bearings into hubs, freehubs and some bottom bracket bearings. The kit will work with bearings with any combination of 37, 35, 32, 30, 28, 26, 24 and 22mm O.D. bearings, with 25, 20, 17, 15, 12 and 10mm IDs. This will accommodate most bearings used in bicycles such as the 6000, 6001, 6002, 6003, 6802, 6901, 6902, 6903, SL-650 and R8VS bearings and more.

### ***Some things to consider before you start removing bearings***

Note the position of the bearings, seals, spacers, washers, lock rings, etc., as you take the hub apart. It is imperative that the hub is reassembled exactly as it was assembled at the factory. A missing or improperly installed component can lead to excessive friction in the bearings and a short life. Some freehubs have internal snap rings and/or locked-in-place spacers to locate the bearings. Be sure you know the way the freehub is assembled before trying to drive out a bearing that cannot come out until a snap ring or spacer is first removed! If you do not know the assembly of any component that you are going to work on, proceed with caution! Bearings that are installed with loctite or which have corrosion between the outer race and the hub shell may be difficult if not impossible to remove. All bearings that have been removed by being driven out by the inner race should be considered damaged and replaced. This is true whether using our tool or any other tool. New bearings are relatively inexpensive compared to a warrantee repair for a failed bearing.

### ***Installing Bearings***

First select the pair of washers that fit the ODs of the bearings to be installed. Then select the internal sleeve if needed (Note, the bearings on opposite ends may have different O.D. and I.D.) Slip one of the proper O.D. washers along with a proper internal I.D. sleeve (if needed) onto the shaft. We have provided this kit with Phil Wood waterproof grease. The grease can be used on the Acme shaft to help aid in reducing friction and insertion force. You may need to grease the 12mm shoulder on the O.D. washers when using a 12mm sleeve. This will help in keeping the sleeve in place during installation. (Note, if the bearing has only one side sealed, be sure that the seal faces the outside of the hub) then place your first bearing on the O.D. washer.

If there is an internal spacer sleeve between the bearings of the hub, slip the sleeve over the shaft and make sure that it is centered on the ID bushing if any. Insert the shaft through the hub and slip the other bearing onto the shaft along with an O.D. washer and sleeve. Make sure at this point to lightly grease the Acme thread. Screw the threaded handle onto the shaft until it is snug with the bearing. Make sure that the bearings are centered in the hub openings and that the O.D. of the washers fit the O.D. of the bearings. We recommend that the stationary handle be clamped in a shop vice on the milled flats or C clamped to a work bench and held in a horizontal position. Make sure the red rulon thrust washer is installed on the face of the detached handle. Start turning the detached handle clockwise to press the bearings into place. A definite "stop" will be felt when the bearings seat. Do not force the bearings tighter after this "stop" is felt, as the force of the screw may be great enough to damage the bearing seat. For removal turn the detached handle counter clockwise on the shaft, pull the shaft out of the hub and remove the sleeve washers.

### ***Some Important notes about Sealed Bearings***

The sealed bearings used in bicycles are lightly loaded and rotate at very low speed, so they should last a long time. Failure of these bearings is generally due to internal contamination by water and/or grit, or is due to misalignment. There is little that the bicycle mechanic can do about the contamination problem, but the alignment is something that the mechanic has some control over. As mentioned before, when disassembling a hub, freehub or bottom bracket be sure to note the location of any seals, spacers, washers, lock rings or other parts so that they may be put back in the exact same location when reassembled. The design of quality bicycle components is precise and any error in assembly may cause premature failure of the bearings.

Another common cause of bearing misalignment is an axle that is bent by being installed in dropouts that are not parallel. Always check the dropouts with a dropout alignment gage and correct as needed. This includes new bicycles! Tightening a hub in misaligned dropouts may bend an axle to the extent that the bearings will bind. This is particularly true of hubs with small diameter axles. The old cup and cone bearings were a combination radial- thrust design, which could tolerate some misalignment. The modern sealed bearing in use today is a precision radial design that must be properly installed to provide the long life and low drag that they are capable of. A bearing is no better than its mounting!

To contact us or questions regarding the use of this tool [info@bicycletool.com](mailto:info@bicycletool.com)