

Sealed Bearing Installation Kit

The BRT sealed bearing kit consists of an Acme threaded shaft and a square 1" handle fixed to one end, a hardened thrust washer and an 11/16 acme nut that threads on to the other end. There are five pairs of O.D. washers (35,32,30,28 and 26mm), plus one single 24mm washer (as the other 24mm O.D. washer is built into the 1" square handle) and three pairs (12,15,and 17mm) of I.D. bushings.

This kit is designed to press sealed bearings into hubs, freehubs and bottom brackets. The kit will work with bearings in any combination of 35, 32, 30, 28, 26, and 24 mm ODs, with 17, 15, 12 and 10 mm IDs. It will also install 1 1/8 inch O.D. and 1/2 inch I.D. wheelchair bearings. This kit will accommodate most bearings used in bicycles and in wheelchair hubs, such as the 6000, 6001, 6002, 6003, 6802, 6901, 6902, 6903, SL-650 and R8VS series bearings.

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 to be replaced, whether using our tool or any other tool. New bearings are relatively inexpensive compared to a warranty repair for a failed bearing.

Installing Bearings

First select the pair of washers that fit the O.D. of the bearings to be installed. (Note, the bearing on the opposite end may have a different O.D. and I.D.) Then slip one of the proper O.D. washers onto the shaft and up next to the 1" block. Next, slip one of the bearings onto the shaft and if the I.D. of the bearing is greater than the Acme shaft, select the proper I.D. bushing and slip it onto the shaft and into the bearing. (Note if the bearing has only one side sealed, be sure that the seal side faces the outside of the hub.)

We recommend that the 1" square block be clamped in a horizontal position, preferably in a shop bench vice or clamped with a "C" clamp to the edge of a work bench. This horizontal position will help to aid later on in the I.D. spacer removal procedure. The 1" block could also be held in a large adjustable wrench if deemed necessary (emergency hub repair work out in the field). Or you may prefer to use a vertical position in the bench vice if the hub has an internal sleeve spacer.

Next, if there is an internal spacer sleeve between the hub bearings, slip the hub's internal sleeve over the shaft and make sure that it is centered on the installation shaft. Use the proper I.D. bushings if needed to center the internal spacer sleeve. Insert the shaft through the hub and slip the other bearing onto the shaft using an I.D. bushing if needed. Slip the remaining O.D. washer onto the shaft. Slip the hardened washer onto the shaft and screw the threaded Acme nut on until it is snug with the hardened washer. Also, we recommend applying a small amount of Molybdenum Disulfide known as Neverseez, or

For bearing installations that require ID bushings an additional step is required. Remove the threaded handle while holding the shaft in the hub. Slip the aluminum tube supplied with the kit over the shaft and push the tube into the hub until the near side bushing is against the bushing on the other side of the hub. Now remove the shaft from the hub by pushing it out with the tube. (Note this operation prevents the bushings from falling into the center of the hub where they are difficult to get out!)

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 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!*

www.bicycletool.com

SBIK

Sealed Bearing Install Kit

Bicycle Research Tools