



## Kogel Badass Bottom Brackets Installation manual

In this document we will explain the installation procedures for all Kogel bottom brackets. It is most important to know that installing bearings requires skill, knowledge and the exact fitting tools for each bearing. Using ill-fitting tools or trying to eyeball an installation is the quickest way to destroy any bearing product.

We go out of our way to bring you the best quality products we can offer, but ball bearings are very fragile when these procedures are not followed. We have seen a range of homemade bearing presses from threaded rod, shims and bolts over the years. All these presses are good at getting the cups into the frame and equally good at destroying ball bearings. While MacGyver engineering is fun, please have the installation done by a qualified mechanic if you do not own the proper tools.

### **Tools required:**

Kogel bottom bracket are designed to be installed with grease, no need to use epoxy or Loctite.

- **Grease** Morgan Blue aquaproof grease is our favorite. It is available in the US through Belgium Bike ([info@belgiumbike.com](mailto:info@belgiumbike.com)). If you do not have this grease available, any thick grease or even friction paste will do.
- **Bearing Press** Wheels Manufacturing's Large sealed bearing press comes with a ton of drifts to fit all kinds of bearings.
- **Park Tool BBT-9** or similar for threaded bottom brackets
- **Bearing removal tools** Servicing bearings is much easier when the bearings are removed from the frame. It is important to use a tool that slowly pulls the bearing from the cup or frame, without using a hammer. Enduro BRT-002 and BRT-003 are working very well for us.
- **Loctite 638** for reinstalling bearings in the cups after removal. Note: none of our bottom brackets should be installed in the frame with Loctite.

### **Procedure for pressed-in bottom bracket cups**

Make sure the frame is clean. Remove all dirt, old grease or epoxy residue if you are installing the bottom bracket in a used frame.

Apply a layer of grease on the inside of the bottom bracket shell, as well as the outside of the bottom bracket cups.

Make sure to use the exact fitting bearing drifts for the bearing you are about to install. This means the drift should have the same inner diameter as the bearing opening, yet be large enough to cover the outside race. If you do not have the exact fitting drift available, please use a press that only touches the aluminum shell of the bottom bracket, not the bearing itself.

It is crucial to avoid any pressure on the inner race of the bearing while pressing the bottom bracket. This will destroy the races and void the warranty.

**\*\*GXP washer:** If the bottom bracket installed is going to be used with a GXP spindle, use the 2 piece GXP washer that is supplied with the bottom bracket and the 24mm internal diameter plastic spacer. Follow the instructions below.

Pressing the cups with the exact fitting bearing drifts is best done with two cups at a time. Use the bearing press, slide one cup on the press, hold the press in the frame and slide the second cup in place. Start tightening the bearing press, the cups are sliding into the frame.

Pressing the cups without the exact fitting drifts should be done in such a way that the press only touches the aluminum cup. Since the press will not hold the cups in a 90 degree angle to the frame, it is best to press one cup at a time. This prevents the cups from slipping sideways.

Do not over-tighten the press! Once the cups are in place, usually the grease squirts from underneath the flange. This is your indication that you are very close. Once everything is tightly in place, the pressure felt in the bearing press handles will ramp up steeply. At the very first sign of this, back off the press, you are done! Your bearings, cups and frame are at risk here, do not try to get the cups in 'extra tight'.

Back off the press, check if the cups are properly seated, flanges flush against the frame. If there is still a gap between a flange and the frame, you can always re-install the press and tighten it a little bit more.

Remove the bearing press and install the crank according to manufacturer instructions.

### **Procedure for direct fit bearings (BB30 and BB90/BB95)**

Follow all instructions for the installation with cups. Since the bearings are disappearing into the frame, there is no visual indicator of when the bearing will bottom out in the frame. Work carefully and sense the pressure increasing in the handles of the bearing press. At the first sign

of this: back up the press and see if both bearings are symmetrical and flush with the outside of the bottom bracket shell. Install cranks according to manufacturer instructions.

### **Procedure for threaded cups**

Do we really need to explain this? Use a good amount of grease on the frame thread and cups. Install with the specific tool. The BSA30 cups require another specific size tool, which is included with the bottom bracket. The procedure for these is the same as standard threaded bottom brackets.

### **Procedure for removing and reinstalling bearings from the cups**

The Kogel Bearings pressed BB cups are designed to hold tightly in the frame. The only way to remove them from the frame is with a hammer and some sort of a punch. All bottom brackets have a step on the inside to grab your tool and make sure the hammer blows are not directly hitting the bearings.

However, for service it is always recommended to remove the bearings from the cups and leave the cups in the frame. Removal should be done with a tool that threads the bearings out of the cup, rather than hammer it. The BRT-002 and BRT-003 are recommended, any tool that involves a sliding hammer will get your bearing out of the frame and ready for the garbage bin in the same operation.

Reinstalling the bearings in the cups is best done with a bearing press, as if installing a BB30 or BB90 bearing set. Our bearings are factory assembled with Loctite 638, but reinstalling them with Aqua Proof Paste is equally effective.

### **Installation instruction and accessories supplied with specific bottom brackets**

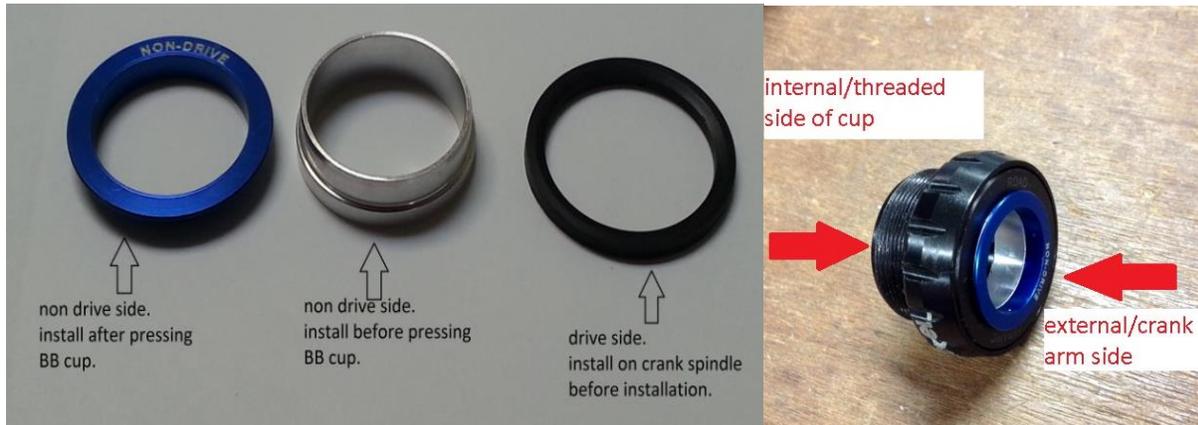
#### **GXP washers**

All Kogel bottom brackets for 24mm spindles can be transferred with a 2 piece washer and a plastic spacer to fit GXP crank sets. The silver part fits on the inside of the non-drive side, the blue part fits on the outside of the non-drive side. The black plastic spacer slides on the drive side of the crank spindle. This washer is included with all 24mm bottom brackets, if the bottom bracket is used for a straight 24mm spindle (shimano, rotor, FSA etc), do not use this washer.

Notes about GXP Washer:

- The black plastic spacer replaces the wave washer found on many GXP crank sets. Please carefully check that the wave washer is removed to prevent unnecessary side loading of the bearings.
- Installing the blue and silver part should be done with your fingers, not any tools. Press the silver part on the inside of the non-drive cup. Only a few mm of insertion is enough.

Don't worry if it is not perfectly seated, as long as it is straight and not slanted. Then press the cups into the frame and install the blue washer on the outside of the non-drive. Install the crank arm While tightening the crank bolt, everything should pull nicely in place. Do not use any press tools for this operation, chances are the press forces will crush the bearing races.



### Wave washers

Some older cranks use wave washers on 30mm or 24mm spindles. These are available, but not equipped as standard in the packaging. Please mention these washers and we will ship them with your order if you need them.

### BB92/BB86

This bottom bracket comes with a 41mm ID plastic spacer. Please measure the width of the bottom bracket shell. If it measures 89mm, use the spacer on the drive side. This is common on Giant frames. If the shell width measures 92mm, please remove the spacer and install the bottom bracket without.

The BB92 bottom bracket can be used on BB86 road and cyclocross frames without spacers to use a more durable bearing.

### PF30 and PF30 to 24/GXP

Included with these bottom brackets are 2 plastic rings with 46mm inner diameter. These are used only for Specialized OSBB carbon shells. If the bike in front of you is not a specialized road bike, please disregard these rings.

### Campagnolo ultra torque bottom brackets

Install the cups, use a wave washer on both sides. There is no lawyer clip on the drive side.

### BSA30 threaded cups

These cups need a special tool for installation, similar to the park tool BBT-9, but with a larger diameter. As a standard we included it with each bottom bracket.

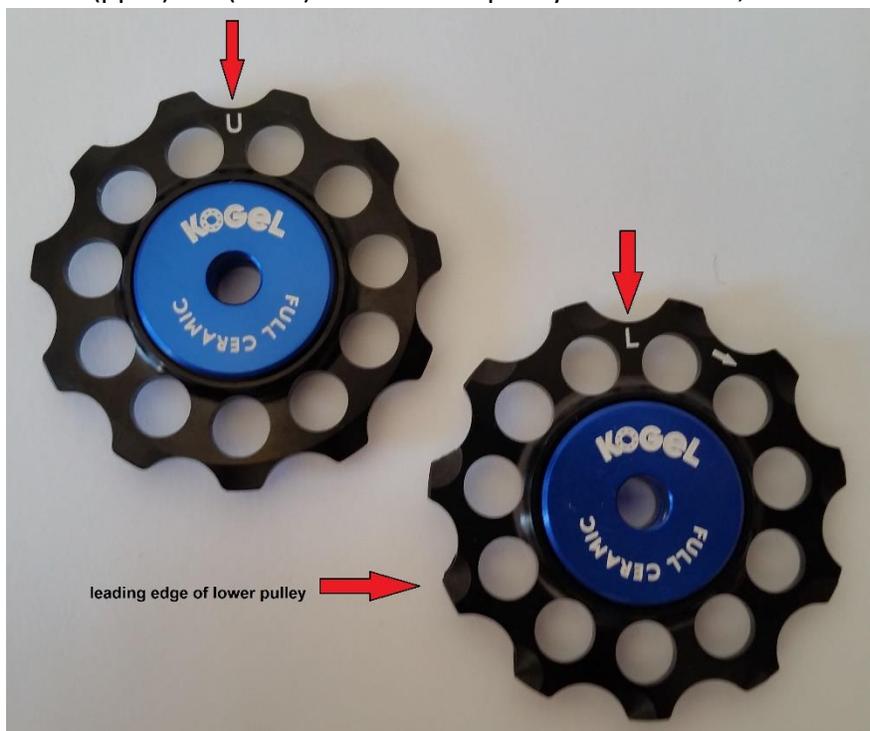
### **BSA threaded cups for BB30 and PF30 frames**

Kogel bearings has aluminum sleeves available that turn a BB30 or PF30 frame into a threaded frame for use with any of our BSA bottom brackets. Four sizes are available: BB30 in 68 and 73mm width, PF30 in 68 and 73mm width.

Use Loctite 609 (green) to prevent these sleeves from spinning in the frame when tightening the BSA cups. Even with the Loctite in place, be gentle while installing the cups. Putting too much force on the installation tool will cause the Loctite bond to break and the sleeves to spin in the frame.

### **Derailleur Pulleys**

Kogel Bearings derailleur pulleys are Upper and Lower specific. The bottom pulley has a reduced width at the leading edge of each tooth to help with alignment. Each wheel is marked with U(pper) or L(ower). The bottom pulley is directional, which is marked with a little arrow.



The pulley wheels are compatible with 11 speed drive trains for Shimano, Sram and Campagnolo. In the packaging you will find 4 washers to make the pulleys fit 10 speed Shimano and Sram. Install 1 washer on both sides of each pulley wheel.

The full ceramic pulleys come with an extra set of race day plugs that are a smaller version of the blue dust covers. Use these to avoid any possible friction between the pulley and the dust cover.