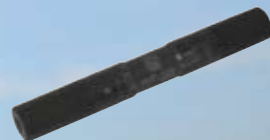




# Gusset

PIGMY & WAFFEN MTB /EURO  
TYPE BOTTOM BRACKET



[www.gussetbikes.com](http://www.gussetbikes.com)

## First and most important.

*Thanks for buying a Gusset part*

Congratulations, you have selected one of the best-ever quality bottom bracket bearing assemblies. Whilst our BB may appear similar to some others, be assured that Gusset have developed exclusive features to offer you a technically superior product that is simple to fit and reliable in use.

**THESE INSTRUCTIONS ARE FOR THE PIGMY AND WAFFEN MTB/EURO TYPE BOTTOM BRACKET BEARINGS WITH THE STANDARD THREAD ENGLISH BB SHELL (68MM WIDE, 24TPI)**

**PIGMY IS FOR A 20mm AXLE, WAFFEN FOR A 22mm AXLE.**

**Where we show a part followed by 20/22, it means the 20 is in the Pigmy set and the 22 in the Waffen set.**

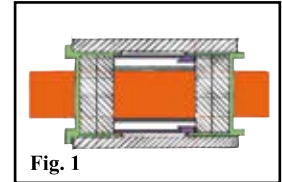
### **Personal preparation**

Ensure that you have familiarised yourself with any relevant hazard data relating to grease and thread locking fluids. Make sure that all your tools are in good order and take appropriate action to protect yourself and others from any potential harm. Particularly, make SURE your Mum is not likely to kill you if you make a mess in the kitchen! Have a cuppa, take a deep breath and read these instructions carefully.

## **Pigmy & Waffen MTB/Euro BB: key features**

### **Patented Internal Assembly Semi Cartridge BB Unit:**

does away with fiddly bearing adjustments and thus maximises bearing life, minimises friction and also adds a high degree of water and dirt resistance to the BB unit.



### **4 industrial cartridge bearings**

Offers huge load bearing capacity to BB and are easily replaced

### **Variable chainline**

Sliding axle system allows precise adjustment of chainline.

*Oh yeah...sorry, we forgot to add an engine...so, 'fraid you'll still have to pedal the bike to win!*

In accordance with recent EU regulations we are providing you with fitting and maintenance instructions for this fine quality bearing assembly.

*(God bless Brussels)*

We have prepared these instructions as well as we can in the closest thing that we can think of to English.

*(which is the World's favourite international language...Oui and Merci)*

## Fitting instructions for the bottom bracket.

**Firstly, check the parts you have with figs 2&3. They may be black or bright, it does not matter which.**

**A.** Fixed cup – fits into RHS of the frame. That's the one by your right ankle when you are riding the bike. It has a left hand thread so goes in anti-clockwise. Threads **MUST** be clean and undamaged.

**B.** Adjustable cup – fits into LHS of the frame. (that's by your other ankle). This has a normal right hand thread. Clockwise. Threads **MUST** be clean and undamaged.

**C.** Adjustable cup lockring. Not always used or necessary.

**D.** Gusset IASC large spacer. Designed to fit snugly between the conical nose of E and RH cup A.

**E.** Gusset IASC conical nose spacer. This part is designed to allow precision assembly of the semi-cartridge BB whilst being installed "blind" into the frame. The patented cone shape allows foolproof alignment of parts D&E.

**F.** Inner axle spacer. This part should match the assembled length of D&E combined.



Fig. 2

**J.** Axle spacer shims (two of each size). 1=1.5mm 2=2.5mm 3=5mm

**K20/22.** Chainwheel back spacer (alloy) Integrates with L

**L20/22.** Chainwheel adaptor (steel) Makes 23.8mm chainwheel hole fit the splined part of the axle. The Pigmy version has a 20mm hole, the Waffen a 22mm. L is suitable for chainwheels or spiders with a minimum thickness of 5mm. Most good quality chainwheels are also supplied with specific versions of L, you will be able to see if the fit is correct. For sizes other than those noted above, contact Gusset technical support.

**MR20/22 Cylindrical spacer**

Fits into RH cup between inner edge of bearing and K20/22 (chainwheel back spacer)

**ML20/22 Conical spacer**

Straight nose fits into the recess of the LH cup providing a good spacer/partial seal between crank and inner edge of bearing. The conical end slants down to the axle.



Fig. 3

## General rules.

**If you are not confident, don't fool around with something you don't know about. Take your bike to a qualified mechanic who's got more than just an idea of what to do. Pay him and sit back and relax.**

If we say Right Hand Side (RHS) we mean that it would be on your right if you were sitting on the saddle facing the handlebar.

It is assumed that by purchasing this high level bicycle component you have a serious interest in bicycle sport and maintenance and will therefore have a fundamental understanding of safety practices and will use and treat high level equipment with the care and respect it deserves.

It is also assumed that you recognise that a product of this level is considered to be competition standard, but will not necessarily survive any abuse that you (or your friends) can throw at it.

These are strong parts that are tested, used (and even abused) by enthusiastic riders and we know that they are more than adequate for the purpose of holding the axle in place and allowing the cranks to turn freely on the bearings. They really will not "just fall apart while riding along"!

If you have a problem with any aspect of fitting or servicing these parts, be sure to consult your dealer BEFORE something goes seriously wrong. If you need further assistance, you should contact Gusset Bikes technical support.

[www.gussetbikes.com](http://www.gussetbikes.com)

Spend a while familiarising yourself with the following instructions.

## Basic tools needed.

Soft face hammer

UN type BB splined tool

High quality grease

Thread-locking fluid (Loctite medium strength. Blue)

Barrier cream/protective gloves

First aid kit

Box of tissues (in case it all gets too much, luvvy).

## IMPORTANT NOTES

Frame threads MUST be clean, undamaged and correctly IN-LINE. If in doubt, ask your dealer to IN-LINE tap the frame BB threads before you try to install the BB system.

If you are using Profile cranks and a 19mm type axle with the Pigmy bearing assembly a shimset is needed. Your dealer can get this for you. Part number CKGUCPSS. There is no Waffen shimset.

With extended 2 bearing cups it is possible that the threads in the BB shell do not go far enough in. If this is the case ask your dealer to cut more threads with an IN-LINE BB tap.

a. Apply Loctite blue fluid to threads of RH BB fixed cup. A. (See fig 4).

b. Apply Loctite blue fluid to one end of part D and fit it into A. (figs 5&6).

If you are going to use a chain device which fits under the flange of the right hand bottom bracket cup, put this onto the cup now; make sure it is the right way round.

Screw the assembly into the RHS of the frame. Remember it has a left hand thread, so turn it anti-clockwise. Be extremely careful not to cross-thread the cup and frame. The cup (A) should screw into the frame easily by hand and you should only encounter significant resistance as the cup flange starts to tighten against the (chain device back plate if you fitted that type and) BB shell. Tighten to a torque of 34NM (300 inch pounds) (fig 7). If in doubt, do NOT continue to tighten. Doing so may damage your frame irreparably. Consult your dealer.



Fig. 4



Fig. 5



Fig. 6



Fig. 7

**You are now going to fit the axle, either your old one or a new one.**

c. Insert RHS of your axle (Pigmy BB axles are marked L & R, Waffen axles are not because they are symmetrical and can be used either way round) into cup A from the LHS through the shell. If you insert it from the RHS it will push the bearings out of cup A.



Fig. 8



Fig. 9



Fig. 10



Fig. 11

d. Gently tap the axle from left to right until the end of the axle is flush with shell. (figs 8&9)

e. Slide axle spacer F onto the LHS of the axle. (fig 10)

f. Apply a thin smear of grease to the outer surface of E, the conical nose spacer, so that it stays in position after you have fitted it into adjustable LH cup B. (fig 11)

g. Apply Loctite blue to the threads of LH cup B (fig 12) and now gently screw the B&E assembly (fig 11) into the LHS of the BB shell, making sure that the axle goes through the bearings at the same time. (or you will push the axle back through RHS BB cup A as you tighten it.) This has a right hand thread so screws in normally, clockwise. Use the same care as before about NOT cross threading. Tighten to 34NM (300 inch pounds) If there are several threads sticking out of the shell you may fit the lockring C if you want to but it is not essential, so don't fit it if you don't want to. It is purely cosmetic.



Fig. 12



Fig. 13

h. Roughly centralise the axle, then slide MR20/22 spacer onto the RHS. (fig 13). Put ML20/22 onto the left, with the straight nose inwards, the conical end slanting down to the axle.

**The BB bearing assembly is now finished and you are at the point of fitting the cranks, so the final instructions for fitting the remaining spacers must be carried out as part of the cranks fitting.**

## WARRANTY

The Gusset Pigmy and Waffen MTB/Euro bottom bracket parts (excluding cartridge bearings) are guaranteed free from manufacturing defects for a period of 2 years from date of purchase, to original purchaser only. The bearings are service items that wear in use and will occasionally need to be replaced. (See bearing life section at the end.)

This warranty excludes damage or failure due to abuse, neglect, accident, improper assembly, fitting of unauthorised components, lack of maintenance, commercial hiring, normal wear and tear, competitive racing, stunt riding, jumping or other similar activities.

No warranty claim can be considered valid until inspected and agreed by Gusset Bikes.

In the event of a genuine warranty claim being validated, original replacement parts only (or the nearest available equivalent parts) will be issued by Gusset Bikes. All returns are at senders expense.

Complete assemblies will not be exchanged or credited.

Gusset Bikes (Ison Distribution Ltd) shall not be responsible for accidental or consequential damage or loss howsoever caused.

The user assumes any and all risks in using these products in any manner excluded by this warranty.

This warranty in no way seeks to diminish your statutory rights as a consumer, which may vary from country to country.

## Bearing Life

The industrial cartridge bearings used in the Gusset Pigmy 2 bottom bracket are rubber O-ring sealed and should provide adequate life for most normal uses. However, please note that cartridge bearings are considered to be expendable and replaceable items within your bottom bracket assembly and their life will depend upon your riding skills, terrain and amount of use.

Consequently, we do not offer warranty replacements for bearings unless we feel there is a valid reason to do so. i.e. a genuine manufacturing defect. Particularly, keep everything as clean and properly lubricated as you can, and do not immerse in water if you can avoid it, and do NOT jet wash any bearing area of the bike, because high pressure water sprayed onto the bike will force its way through the seals, with obvious consequences. If there are any unusual noises, investigate immediately. If you experience any significant problems, consult your dealer and if you still need help, try us fellahs here at:

[www.gussetbikes.com](http://www.gussetbikes.com) ,

[email\\_service@gussetbikes.com](mailto:email_service@gussetbikes.com)