

 **Gusset**

PIGMY 2 AND PIGMY 3
MTB TYPE CRANKSETS



www.gussetbikes.com

First and most important.

Thanks for buying a Gusset part

THESE INSTRUCTIONS ARE FOR THE 36 SPLINE PIGMY 2 AND 48 SPLINE PIGMY 3 CRANK SETS.

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. Especially for your own safety, be sure you have a fast getaway route in case you make a mess in the kitchen. Take a deep breath and read these instructions carefully.

Pigmy 2 and 3 Cranks: key features

Taper section tubular Cr-Mo arms Larger diameter tubing in the higher stress area provides optimised strength to weight ratio. (No point adding weight where it's not needed or compromising strength where it is needed) Cranks operate with leverages in many different directions and we therefore specify tapered round section rather than plain oval tube. (fig 1)

Tig welded "wrap around" joints

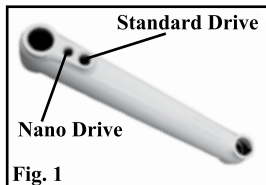
Between pedal, BB spline bosses and arm bodies. (Avoids arms and pedal or axle bodies parting company)

LH thread crank cap to facilitate use of OKR bolt system.

XL OKR (extra long one key release) bolts allow the cranks to be fitted and removed easily using a single 8mm hex key. The XL bolt feature enables you to locate the bolt correctly before the crank connects to the axle.

Forged one-piece axle boss and driver

Standard and nano drive torque bolt positions, plus right or left drive options. Greater weld area for a stronger point and guarantees chain wheel alignment.



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 knows what he is doing. 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.

Spend a while familiarising yourself with the following instructions.

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 pedaling the bike forwards.

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

Right and left hand cranks have different pedal threads in them; the R has a RH thread and the L a LH thread. This is to ensure that the pedals do not come undone during riding, which, if the other way round, they would do, and eventually strip all of the thread out of the cranks. This is both annoying and expensive. Consequently, we strongly advise against fitting the RH crank on the left of the bike in an attempt to achieve LH drive. There are correctly threaded cranks available for LH drive. Never try to screw a RH pedal into a LH crank or vice versa. It doesn't work, even if you push hard. But it does cause damage. So there..... we've told you.....OK?.

Fitting the Gusset Pigmy cranks

Check that you have two cranks in the box, one marked L and the other one R and the length in mm on the back. Make sure they are both the same length.

Basic tools needed.

5mm hex key -8mm hex key

A Select the right hand crank.

Grease the threads of drive pin 'O', and splines of cranks and axle. If you don't, when you need to remove them later it may be a very difficult task. With 5mm hex key screw in drive pin 'O' in the bigger standard drive hole (fig 1) and tighten securely.

Lay the chainwheel on the back of the crank arm ensuring that the protection disc (if it has one) is next to the crank arm. Locate drive pin 'O' into a drive socket of the chainwheel – there may be only one, which makes the choice much easier. (fig 2)

Note: dual drive crank arms have a drive pin socket welded onto both. For a left drive crank, screw the drive pin securely into the standard drive position of the left crank.

B If you use your existing chainwheel, the adaptor is probably still in place. Only use it if it is the correct fit. If it is a new chainwheel, fit the adaptor into the back. It is an interference fit and therefore may be very tight.

C Carefully start to push this assembly onto the axle splines making sure that they line up. Using an 8mm hex key, turn the bolt and begin to tighten it, making SURE it is not cross threaded. This will pull the crank arm onto the axle with the chainwheel hanging on the axle at this point. (fig 3)

WARNING.

If the splines on the axle and crank arm butt up to each other and you begin to tighten the bolt you will damage both splines.

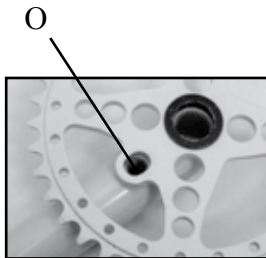


Fig. 2



Fig. 3

D When the crank arm is almost fully on the axle, hold the chainwheel in place with the drive pin located and tighten the final few turns.

You might feel some resistance as the crank arm splines pass over the axle splines – they are a very snug fit - and as you continue tightening, the axle is pulled through the bearings in the cup. This might make it slightly stiffer to turn the bolt but more than likely you will notice no difference at all. However, when the crank arm reaches the end of the splines on the axle the resistance will become very much greater and you should stop. Unscrew half a turn

WARNING: DO NOT SPIN THE CRANK ARM

You will not know if any different spacing is needed until this point. Because of the many subtle differences between cranksets the correct spacing for the RHS can often only be achieved by using a combination of axle spacer shims, in which case it is sometimes necessary to reverse the chainwheel back spacer or even discard it altogether.

Do whatever is required.

Turn the crank arm slowly until the pedal end is by the frame chainstay. If it hits it or is too close for comfort then some spacing is needed on the axle. You will be able to see fairly accurately how much spacing is required by looking.

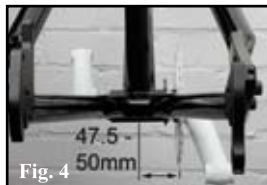
Undo the bolt and pull the crank arm off the axle, select the spacers you have decided to use, fit them over the axle between back spacer K20 and MR20. Refit the crank arm as before and check the clearance between pedal end of crank arm and chainstay again; if satisfactory, tighten as before, and unscrew half a turn. If not satisfactory, do some more trial and error until you are satisfied that all is as it should be, then tighten the bolt and unscrew half a turn.

Note: You must not fully tighten either crank until both are correctly spaced and fitted, or you might drive one of them beyond the splined section of the axle, which could damage both.

Chainline

Chainwheel spacing (distance of chainwheel teeth from centre of frame) is an important and very tricky issue. Chainwheel spacing can have a substantial effect on gear performance in that it alters chainline. Chains perform at their best with minimum wear and maximum efficiency when running in a straight line. With derailleur type multi-gear systems it is very seldom that the chain is running 100% in line, and therefore with most bikes chainline is not an overly critical factor, but it is advantageous to have the optimum chainline if possible.

Most ATB frames have 135mm between the rear wheel dropouts. Typically, it is accepted that the 5th rear sprocket on an 8 speed cluster should be in line with the chainwheel (or central ring on a triple). This will correspond to the centre of the chainwheel teeth being 47.5 to 50 mm away from the centre of the seat tube. (fig4) However, with the introduction of many styles of chain retention devices, attaining the ideal chainline may not always be possible. In the end, you have to have a bike that works, at least in the vast majority of areas in which you expect to use it, and despite our recommendations you may have to use trial and error to get the final acceptable spacing needed for your particular bicycle. In our experience a chainline of 47.5 to 50mm should be fine for most bikes and uses, therefore we would recommend that you try to get as close as possible to that benchmark.



E Check that the chainline (and chain device clearance if fitted) looks good.

Now for the left crank arm

F Fit the spacing onto the LHS of the axle.

G Take the LH crank arm and start to slide it onto the axle splines (grease on both), making sure that it is dead in line with the RH crank arm (fig 5) and that the splines of crank arm and axle interlock perfectly. Screw the bolt into the axle making SURE is not cross threaded. Tighten until crank arm butts up to the spacer. If it will not go that far, leaving axle splines visible, then you will need to fit spacers as you did on the chainwheel side. When you are satisfied that both cranks are correctly spaced and in the right position, finally tighten to 30Nm (265 inch pounds). Check that the other side is also tightened to 30Nm.



Fig. 5

H Check that the chainline is still correct, confirm that crank arm ends have enough frame clearance and the cranks spin freely without any detectable play.

WARRANTY

Gusset Pigmy crank arms are guaranteed for life to the original purchaser. This warranty excludes damage or failure due to abuse, neglect, accident, improper assembly, fitting 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.

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 , email service@gussetbikes.com