



Balfa BB7 Bearing Replacement Manual

Author: Jeffrey Nelson

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Editor: Wooyek

<http://balfa.wooyek.pl>

TOOLS/PARTS NEEDED:

- 3 x 6001-2RS bearings
- 1 x 626-2RS bearing
- Bottom bracket/headset/hub grease (I used Polylube 1000 from Park tools)
- Hammer
- 10 mm socket wrench.
- Socket wrench extender
- Old flathead screwdriver you don't mind damaging

PULLEY BEARINGS

Removing the pulley bearings:

On my 2004 Balsa BB7, the pulley unit consists of 3 screws, two metal machined pulley sides, a generic rear cassette cog, one large bearing (6001-2RS) with a hollow axle in it, and a smaller bearing (626-2RS). Here is a picture of the assembly once you remove the unit. I have also taken the liberty of removing the three screws that hold the cog and two machined plates together.



Using your fingers, pull the two sides apart. If it is difficult to do, try spraying it with WD-40. Now is probably a good time to clean out all that gunk in there. If the cog is really worn, you might want to replace that too. As mentioned earlier, it should just be a cog out of a standard cassette.



Now that you have the machined pulley sides apart, take a look at the piece that holds the bearings. There will be two bearings, one large with a metal axle insert and one small bearing. These two bearings are separated by a metal wall so you cannot simply hammer the smaller one directly against the larger bearing and make it pop out.

The best way I found to remove it was to take off the rubber seal of the smaller bearing, move a few bearings out of the way, and hammer between the smaller bearing's races to pop the larger bearing out. Ham-fisted? You bet... But it does work.



Below is a picture of the results of the hammering. As you can see, the screwdriver is still stuck in the races of the smaller bearing.



Here is a picture showing the smaller bearing still in the pulley. It also shows the metal wall I spoke of earlier that separates the bearings and the accidental damage I did to it while hammering.



To remove the smaller bearing, find something about the size of the internal race. In my case I use a socket wrench extender.



With both the bearings removed, it's now time to remove the axle that was inside the larger of these bearings. You can accomplish this by hammering it out with something like the socket wrench extender I used to get the smaller bearing out in the previous step.



Notice the axle has a lip on it on one side. Make sure you are not trying to hammer it out the wrong.



Whew! Everything is apart now! Below is a picture of the larger bearing and the axle removed from.



Installing the Pulley Bearings:

First things first, you will want to lube up the outside of the larger bearing. This can keep it from being so squeaky as the bearing slightly shifts in the machined cup and will also help you in the removal process should you ever have to do all this again.



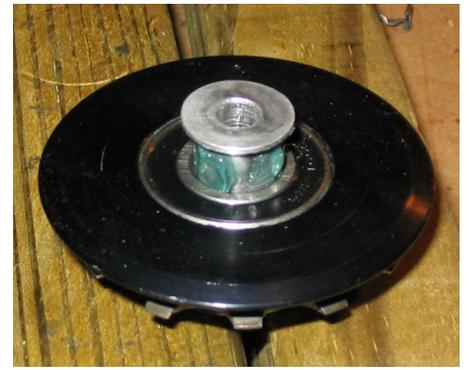
You will need to hammer (or push back into place with a vice) the big bearing back into the cup it sits in. Make sure that you do not damage the rubber seal of the bearing while doing this. If you have to hammer it back in, try using a dowel or piece of wood that covers the surface of the bearing. This will help distribute the force in addition to preventing you from mashing in the rubber seal.



Make sure you hammer it in far enough so that it is flush with the surface of the cup it sits in.



Remember that axle you hammered out earlier? Well grease it up and push it into the inner race of the bearing you just hammered in!



Once you have pushed it in a little ways, either use a dowel and hammer to hammer it into the bearing or use a vice to squeeze it in. Whichever way you choose to do this, make sure you don't harm the rubber seal of the bearing!



Find the smaller bearing and lubricate it. As with the larger bearing, the grease will help cut down on squeaks and also aid in future removal processes.



With the bearing greased up, use a hammer and dowel or a vice to squeeze it back into the cup it sits in. As with the larger bearing, make sure you don't harm the rubber seal!



At this point all you need to do is put the two machined plates together, screw in the three screws and then put the pulley back on the linkage plate. Remember that the side with the three screws will face towards the frame.

PIVOT BEARINGS

Removing the Pivot Bearings:

On my 2004 Balfa BB7, the pivot consisted of two linkage plates, two washers, two bearings (6001-2RS), and an axle whose ends are conical and also just a tad bit thicker than the middle of the axle. The Bearings and axle all seat within a tube welded onto the frame which has little cups for the bearings to sit in.



The first step to disassembling all this is to remove the rear triangle and the two screws that hold the pivot together. If you find you cannot unscrew both linkage plates, don't worry about it, only one needs to be unscrewed now.



With the linkage plates removed, the next step is to hammer out the axle. The axle is made of a soft metal and also has a conical tip, so if you try to hammer it out as-is, you can mess up the end or squish the end so the bolt will not thread in. To prevent this, take the screw that held the linkage plate onto the axle and screw it in about halfway into the axle. Afterwards, grab a socket extender that is smaller than the width of the axle and hammer away. You will notice that once you get past the first bearing, the axle will slide down until the thicker end reaches the other side. Hopefully you will have a socket adapter that is long enough to reach the other end so you can still hammer the axle out the rest of the way.

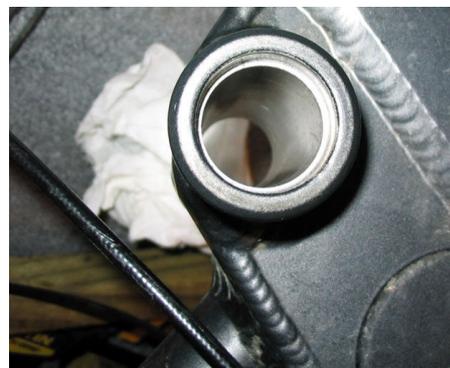


You can see in this picture that I hammered the axle through without a screw. I was able to avoid mashing the threads by putting a socket atop of the cone in a manner that did not mash the threads. But if I were to do it again, I would have threaded a screw in.

With the axle removed, grab a long screwdriver and insert it into the axle hole until the tip rests on the inner race of the bearing on the other side. If your BB7 was anything like mine, it took a few good hammer swings to get this out so don't be too afraid to use force.



Below is a picture of the frame with one of the bearings removed. Notice that there is a bevel that keeps the bearings from moving too deep into the tube of the pivot.



Once you get the one bearing out, you can use the same hammer and screwdriver method to remove the other bearing.

Installing the Pivot Bearings:

First things first, you will want to lube up the bearings. This can keep the bike from squeaking when the bearings shift in the cups they sit in. It will also help in future removal processes should you ever have to do all this again.



With the bearing greased up, insert it into the cup and then using a hammer and dowel, tap it in. Make sure that you do not damage the rubber seal of the bearing while you do this.



It took me a while to tap the bearing in... Make sure that it is flush with the frame then wipe off the excess grease. After you are done with this, repeat this process for the other side.



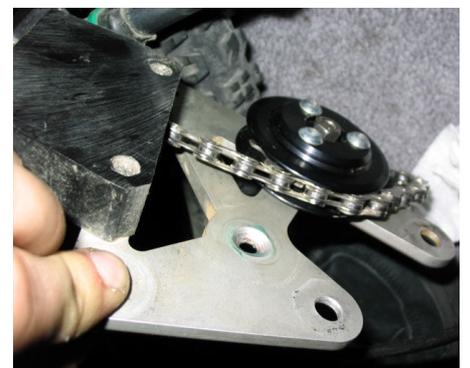
Now it is time to hammer in the axle. The best way to do this is to grab the link plate that does not have the pulley on it, put a little grease in the divet the axle cone goes into, then bolt the unit onto the axle. Afterwards, put on a washer and then lube up the entire length of the axle body (to allow it to slide in more easily and to stop squeaks). Once you have done all of this, tap in the axle until the linkage plate/washer is directly against the inner race of the bearing.



Below is a picture of the linkage plate in place. Make sure you don't switch the sides up!



With the axle in, all you need to do for the other side (the side with the pulley) is to grease the divet in the linkage plate the axle is pushed into, add the washer, then screw the pivot bolt back in.



The final step is to attach the rear triangle and install the shock. When I bolted everything together, I used Loctite because some of the rear triangle bolts were loose when I removed them. You may or may not want to do this for your bike's bolts.

