

GRINNING AND BEARING IT



Here, we're going to go through the task of changing out wheel bearings. It's an infrequent task, to be sure, but a necessary one. Our example here is the front wheel from a California Maxim-X, 1985 vintage, and we'll start with the wheel already removed.

Replacing the rear wheel bearings is the same... but different. Most of what's here will still apply, but the parts involved and how many more of them there are depends on the model. For a good example of this, go to:

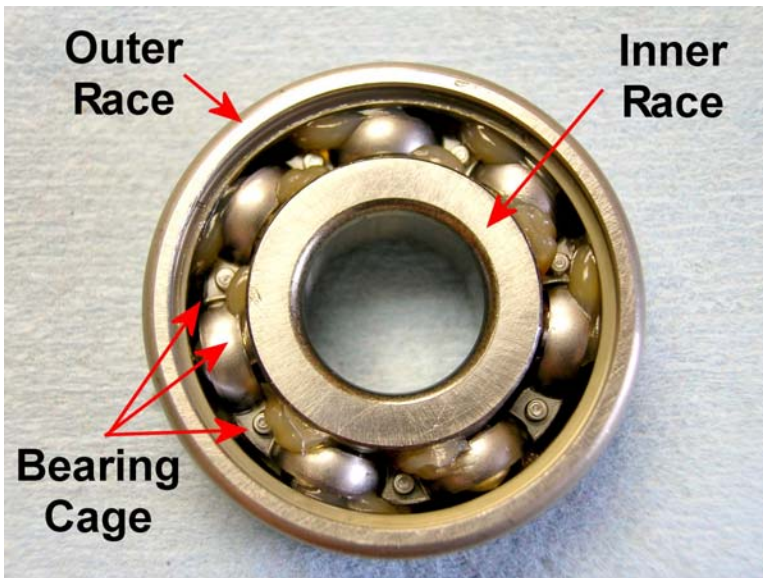
<http://www.xjbikes.com/Forums/viewtopic/t=35134.html>



The bearings sit behind oil seals, which you'll want to remove first. The X only has one, but others have one on each side. Your mileage may vary.



For removing said oil/dust seal, our [HCP9801](#) seal puller tool comes in very handy here.



For those of you that don't know how these bearings work, let's take a quick walkthrough.

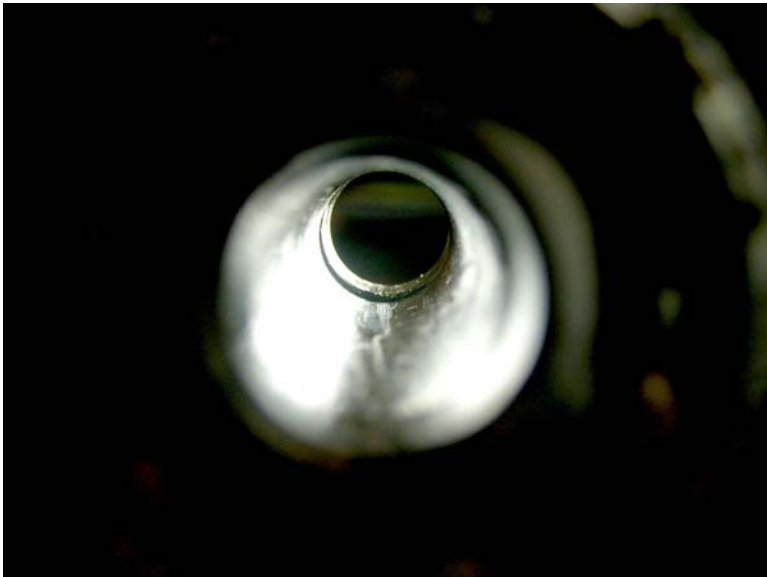
These are annular, or ring-shaped. The type we use is known as a radial bearing, because it supports a radial load, or one that is perpendicular to the shaft passing through it. It consists of two round pieces with grooves in them (known as races). The ball bearings are sandwiched between the inner and outer races, and are held in position relative to each other by a cage. This keeps the bearings from bunching up on one side and causing the unit to fail. This type is also known as a Conrad style bearing, after its inventor Robert Conrad, who patented the design in the early 1900s.



Ordinarily, one would just grab a hammer and a punch or similar tool, stick the punch through the hole on one side, and start driving out the bearing on the opposite side by tapping on the inner race. That might not work here, because there's a spacer between the two bearings – meaning it's difficult at best (if not flat-out impossible) to rest your punch on the inner race. A Royale-With-Cheese-pain-in-the-posterior, if you will.



What you can try is to shift the spacer over far enough to open up a spot to put the punch on. A long screwdriver or perhaps a long ratchet extension would be called for here.



A little bit, but not much. Still going to be a bit difficult to use a punch. How, then, do we remove the bearing?

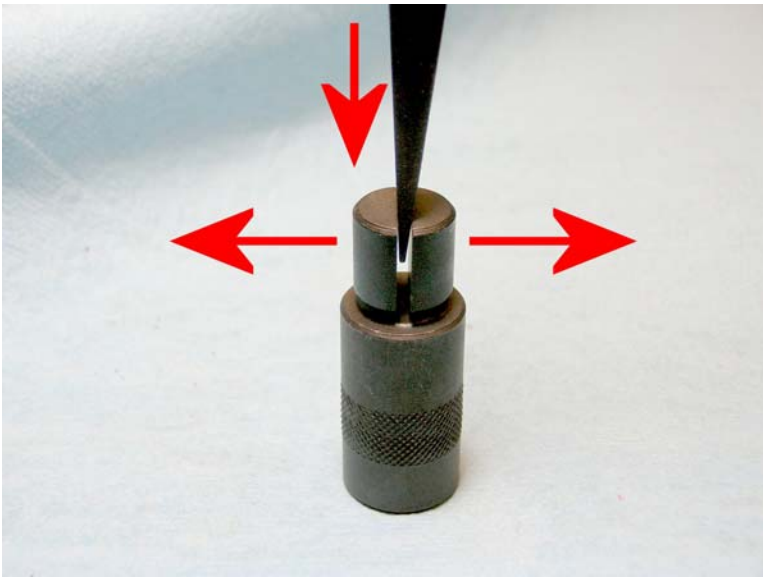


Luck is with us, for we have tools at our disposal. You can get the individual pieces for your particular bike model, or you can get the whole shebang, suitable for use in any shop. A complete list of wheel bearing tools can be found on the last page.

The complete kit comes with a number of round plugs of various diameters (suitable for use on various size bearings), known as Split Collar Drivers. These plugs have a knurled section, and one end has a slot.



Also in the complete shop kit are two long drift rods; one end is tapered. The tapered end fits into the slot on the driver.



As you hammer on the drift rod, it expands the split on the driver. The plug grabs onto the inner race, and transfers the downward force of the drift rod onto the bearing.



To use the tool, take the appropriate-sized driver, and put the slot end into the bearing hole. The rest of the plug should rest on top of the inner race.



Take the drift rod, insert it from the other side, and fit the tapered end into the slot. Now you can use a hammer, or perhaps better, a small 2 or 3 pound hand sledgehammer.



Since the split collar won't want to grab at first, you might want to have a helper hold it in place while you start tapping, or stand the wheel up on the end of the collar while you give the drift rod a few good whacks to get it started. Then put the wheel back up on its rubber and keep pounding.



Voila! Out it comes. See how easy that was? It also conserves the limited supply of four-letter words that could be used for more deserving tasks... like setting fuel levels. (But I digress.)

Once you've gotten the first bearing and the spacer out, you can remove the other bearing the same way, or go back to using the standard punch and hammer.

Note the piece with the flange sitting behind the bearing in the above picture – that's the spacer that goes between the two bearings. That flange does come off, if you absolutely, positively need to – but unless it's been damaged somehow, it should be left alone. It needs to be there, and in that particular spot. So, if it's been removed from the spacer for whatever reason, make sure it goes back on, in the same spot, and facing the same way.

Having removed the bearings, the act of beating on the inner race to get the unit out likely did some damage, even if they still seem serviceable. So, we put new ones in. Which ones, though?



There is the Value Bearing Set. [HCP1915](#). Rated for about 25,000 miles, and comes with the seals.



There is also the OEM Bearing. [HCP1786](#), part of the [HCP1432](#) kit. Rated for about 50,000 miles.



Lastly, there is the Super Duty Bearing. [HCP14334](#), part of the [HCP14380](#) kit. Rated for about 100,000 miles. Will probably outlast your engine, if kept properly lubricated.

Speaking of lubrication, new bearings right out of the package are ready to go, and will not need to be lubricated. If, on the other hand, you wish to protect your investment and make sure they have proper lubrication in the future, our [HCP8608 Red Moly grease](#) should do nicely. By “proper” lubrication, I mean the little balls don’t need to be swimming in the stuff – having to fight through a sea of grease just to move is bad (creates heat, and heat means premature wear). Also bear in mind that when regreasing, you should clean out the old grease ***thoroughly*** with your solvent of choice – mixing different types of grease can be bad.

Now to install the new bearings. Before doing so, you’ll want to clean out the area where the bearing sits (aka the “bearing saddle”). Perhaps a light coat of fresh grease to help things along. Another thing you may want to try is putting your new bearings in the freezer for an hour or two before installation – this will cause them to shrink just a tiny bit, and should go in easier as a result.

We’ll put the right-side one in first. We start by putting the spacer/flange in. You need to put it in before the bearing; because the flange sits on the bottom of the bearing saddle, it’s impossible to put it in from the left side.



Place one of your new bearings into the opening. To keep from damaging the new bearings, we won’t be driving them in by tapping on the inner race; no, we’ll be using the outer race instead. One way to do this is to use one of the bearings you just removed, and place that on top of the new bearing. If you have a dedicated bearing driver tool, or a large enough socket of the appropriate size, so much the better. Start tapping around the outer edge, keeping the whole thing as level as possible as you go. Work your way down until the bearing can’t go down any further. (The observant mechanic will notice a difference in the sound once the bearing hits bottom.) Flip the wheel over, make sure the spacer lines up with the bearing and repeat the procedure.

What’s that, you say? The old bearing will get stuck in there, too? We know of this perfectly good removal tool...



Lastly, the new seal. A light coat of silicone grease around the inside and outside, and you should be able to press it into place. Lightly tap around the outside with a punch (or the old bearing again) if necessary.

Now, bolt your wheel back on and go riding.

WHEEL BEARING/AXLE TOOLS

HCP17852 Aftermarket wheel bearing removal DRIFT ROD, special size tip properly fits all of the split-collar drivers below. You will need only one of these rods regardless of how many different size drivers you will use.

HCP17853 Aftermarket wheel bearing removal SPLIT-COLLAR DRIVER, proper size for use on all XJ550, XJ650, XJ700, XJ750, and XJ900 front wheel bearings.

HCP17854 Aftermarket wheel bearing removal SPLIT-COLLAR DRIVER, proper size for use on all XJ550 left inner or right side rear wheel bearings, and all inner and outer rear wheel bearings on all XJ650, XJ700, XJ750, and XJ900 models, as well as on XJ1100 front wheel bearings. NOTE: 1984 XJ750RL Seca and all XJ900 models use a cylindrical bearing on the left inner position, and a bearing puller is not necessary for removal of that bearing.

HCP17855 Aftermarket wheel bearing removal SPLIT-COLLAR DRIVER, proper size for use on all XJ550 left outer side rear wheel bearing and XJ1100 right side rear wheel bearing.

HCP17856 Aftermarket wheel bearing BEARING REMOVAL TOOLS KIT, one proper size drift and driver for use on all XJ550, XJ650, XJ700, XJ750, and XJ900 front wheel bearings.

HCP17857 Aftermarket wheel bearing BEARING REMOVAL TOOLS KIT, one proper size drift and 2 drivers for use on all XJ550 rear wheel bearings.

HCP17858 Aftermarket wheel bearing BEARING REMOVAL TOOLS KIT, one proper size drift and driver for use on all XJ650, XJ700, XJ750, and XJ900 rear wheel bearings or XJ1100 front wheel bearings.

HCP17859 Aftermarket wheel bearing BEARING REMOVAL TOOLS KIT, one proper size drift and driver for use on all XJ1100 rear wheel bearings.

HCP17865 Aftermarket wheel bearing BEARING REMOVAL TOOL SET, one proper size drift and the 3 drivers for use on all XJ550 front and rear wheel bearings. NOTE: this kit contains all the drivers to also allow the removal of all front and rear wheel bearings on XJ650, XJ700, XJ750, XJ900, and XJ1100 models.

HCP17866 Aftermarket wheel bearing BEARING REMOVAL TOOL SET, one proper size drift and the 2 drivers for use on all XJ650, XJ700, XJ750, and XJ900 front and rear wheel bearing removal.

HCP17867 Aftermarket wheel bearing BEARING REMOVAL TOOL SET, one proper size drift and the 2 drivers for use on all XJ1100 front and rear wheel bearing removal.

HCP7850 Aftermarket wheel bearing BEARING REMOVAL TOOL SET, heavy-duty complete set of 6 different size split-collar drivers and two drift rods allows you to service any model front or rear wheel bearings on all XJ-series bikes and many other models. Comes in a handy plastic storage case.

Wheel Bearing Grease:

HCP8608 Aftermarket gear and bearing synthetic RED MOLY GREASE. High temperature, water resistant, extreme pressure and high-load strength synthetic organic moly grease is far superior to black moly disulfide (petroleum-based) products. Use on steering neck bearings, wheel bearings, starter motor gears, and swingarm bearings. 14 oz. tube.