

1983 YZ/IT Wheel Rebuild Guide – Voodoo and Black Magic...

When thinking about rebuilding your conical hubs, it may seem like voodoo, black magic and secret handshakes are used in the process, and that there is no way that mere mortals could tackle a task that only the wheel building gods could undertake. Well, tremble no more, because this tutorial will help you rebuild your 30 year + wheels, save you a ton of money, and be the envy of your neighborhood.

OK, let's get started. Before you pull everything apart, you are going to have to take a few measurements and get prepped. Your rim offset is the distance from the edge of each side of the hub to the edge of each side of the rim. Grab something straight and run it across the face of the hub and use a tape to measure the distance on each side to the rim edge. OK, you have your offset measurements so that when you rebuild, you won't have a rim that's leaning up against your swingarm.

Next, you're going to need tools and equipment like spoke spanners, anti-seize, a bench, rags, camera and these instructions. You may now have to decide what you are going to do with your wheels. Replace rims and spokes? Paint hubs? Replace bearings etc... this part will do you head in as there are many factors to consider. OEM parts or after market? Blast and powdercoat, electroplate, anodize etc... That's the kind of stuff you will have to mull over.

After mulling it all over, taking your tires off, removing your bearings, taking measurements, stripping your wheels down and replacing or reconditioning your parts... it's time to get started.

Tips – A) unless you want grease all over your jeans, rims and face, use a toothpick to plop a little antiseize inside each nipple. This will aid installation, future adjustment and removal and stop you making a mess of the whole job. B) When fitting spokes, there are always 3 rim dimples in-between each spoke in a set that you fit. Rim dimples always point in the direction that your spokes are coming from. C) Writing on OEM rim faces same side as small side of hub. Not sure how important this is but I have heard it is so just do it to be safe. If getting aftermarket rims, then check pattern and match. **D) Before taking your spokes out, center pop a mark on the large side of each hub where the inside spokes sit. When you re-assemble, you can be out by a hole if you don't mark it now.** E) Take lots of photos with your digital camera and constantly refer to them.

Rear Wheel –

We are starting with the rear wheel first because it is slightly easier than the front. If you follow these instructions then it will be a piece of piss and should only take 30 minutes to lace up. OK, let's go. Have a clean bench with blanket or towel on it, rim in center and hub set inside that. Get your nipples greased and lay out your spokes. Have your rim writing and small hub side facing up. We are going to build the wheels in this position without flipping. There are 3 types of spokes. The small hub side has 18 spokes with a 45 degree bend and approx. 210mm long. The large hub side has outside spokes that are 90 degrees and 165mm long and inner spokes that are 45 degrees and 165mm long.

OK, grab a beer or a cuppa tea, set the clock and fit all the inside spokes on the large hub side and lean them all clockwise like in the pic below. Do not fit them to the rim. This is important... you can be one

hole out on this step, so make sure you find your mark. Next, fit the outer spokes on the small side of the hub, lean them also in a clockwise direction and fit them all to the rim. There will only be one rim dimple that corresponds to the spokes so take your time to figure out which one. When you figure it out, each new spoke gets fitted leaving 3 dimples in between. This will be the same throughout the rear and front wheel rebuild.



Now, insert the inner spokes on the small side of the hub and swing them around in a anti-clockwise direction as per the pic below and fit them to the corresponding dimple. Notice they fit underneath the other set of spokes you just fitted to the rim. Count the dimples as per my pic and look for the corresponding dimples. Take your time to get it right as you can go a bit wrong here.



You can now fit the inside spokes on the large hub that you first fitted. They should just swing down into position and into the correct dimple. See pic above and below....



Finally, you can fit the last 90 degree bend spokes on the outside of the large side. Drop them down through the top, lean them anti clockwise and fit them to the rim using the last remaining 8 nipples as per the pic below. Use a Philips screw driver to nip all the spokes up and this wheel is ready for truing. Let's move onto the front rim....



Front Wheel – The same again, writing on rim facing up and small hub side facing up. This time we have 4 types of spokes but I will run you through it and with a beer in hand or a cup of tea brewing, you will be finished in no time. The first thing we are going to do is fit the inside spokes on the large hub side (45 degree, 230mm). Remember to look for your mark, or you could be one hole out. Put these spokes in every second hole as per the pic below and lean them clockwise... do not fit them to the rim yet.



Now fit the outer spokes on the small hub side and fit them to the rim. These should also orientate clockwise. The spokes are approx. 245mm and have a 45 degree bend. See pic above.



Now insert the inner spokes small side of the hub (these are longer at 247mm, but still 45 degrees, and lace them under the ones you just fitted in an anti-clockwise direction. Use the edge of your table to help get them in. It's a little awkward as you have to keep the very first set of spokes you put in the large side out of the way... see pic above.

Now you can fit the large side spokes that we first inserted in the hub. If we tried to fit them now, we would be snookered. They should just swing into the right rim dimple. You will know if it is right or wrong. Now you can fit the last 8 spokes. These go into the large hub on the outside. The spokes have a 90 degree bend and swing into the last 8 dimples. See pic below.



You have now respoked your wheels. Have another beer or cup of tea and admire your work. Check your handiwork against my pics, your pics, internet pics, magazine pics, motorcycle manual pics, diagrams, schematics, public opinion and common sense and if all is right, get prepared to true them up.....

Next page... truing your wheels.....



Make yourself a wheel truer using some blocks of wood and insert your wheel using your existing axle (replace your bearings first) as in the pic above. This is where you will check your rim offset and play with your vertical and horizontal rim run out. Put a cable tie on the vertical and horizontal block of wood and just touching your rim. You can then use your spoke wrench to tweak the spokes and straighten the rim vertically, horizontally, and to get your offset in the ball park. There are plenty of YouTube videos but generally, if you want your rim to pull to the right, tighten the right spokes. Vertical movements require loosening and tightening the top and bottom spokes to pull the rim up and down as necessary. If your rim offset requires you to pull the rim to the right, then loosen all the left side spokes and tighten all the right side spokes. You should end up with something like the pic below....

