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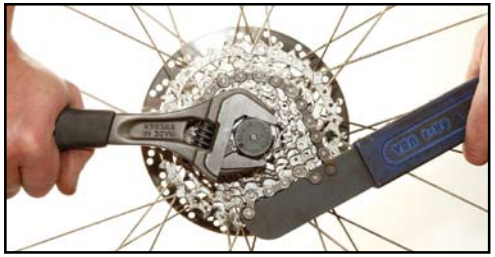
Hubba Bubba

While there are some bikes coming out with hubs that run cartridge bearings, the majority of midrange mountain bikes sold will have Shimano hubs of some level fitted. Shimano hubs use the cup, cone and loose ball system…this maybe so that you have to buy their spare parts, or it might be another reason. But needless to say this system requires regular maintenance or new parts will indeed be on your shopping list.

Shimano, depending on the model, uses sealed cones, plus additional outer seals to provide a barrier to water and muck. As mentioned in previous Workshop features however, they will not resist a hosing down, or running continuously below the water line. Here is a run down on keeping your hubs in good condition and saving some big bucks in the long run.

Step 1 ↓ Remove the quick release and cassette; you will need a chain whip and a splined tool for removing the lock ring.



Step 2 ↓ On the non-drive side (opposite side to the cassette) remove the dust seal that covers the cone and spacers.

Step 3 ↓ With a 15mm cone spanner (usual size for rear wheels), and a 17mm cone or open-ended spanner, undo the lock nut and remove the spacers. Take careful note of the order of the spacers, as this is crucial for the outer seal to work well.

Step 4 → With the wheel held over a tray or container, undo the non-drive cone and gently empty the axle and ball bearings out of the hub.

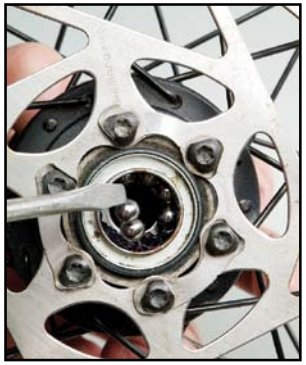
Step 5 ↓ If the freehub body runs sweet go straight to step 8 and do the same, although be very careful not get any degreaser into the freehub body workings…less is best. If the unit is rumbly, or has any sign of water in it, now is a good time to remove it for cleaning and lubing. Use a 10mm allen key to undo (anti clockwise) the hollow tube-bolt that secures it to the main hub body.

Step 6 ↓ Carefully pick out the seal in the back of the freehub body, and flush it out thoroughly with a cleaner/degreaser whilst spinning the outer barrel. If you have access to compressed air it is the best way to finish the job before relubing.

Step 7 → Using a heavy gear oil or clingy chain oil, drizzle some in the back of the body and rotate until it oozes through to the other side. Refit the seal correctly; do not refit to the hub body until the non-drive race has been cleaned.

Step 8 → Go to the non-drive side of the hub and spray degreaser into the race area. Take a screwdriver and rag and wipe out any old grease and muck, repeat as necessary.

Step 9 → Now to reassemble; using a needle type grease gun (or manually with a screwdriver/finger) apply a bed of grease to the inner race. Use waterproof grease that is very tacky and adhesive so as not to get pushed off the parts when they rotate. With either a magnetic screwdriver or manually, fit nine new ¼ inch ball bearings each side and apply more grease over the top.



Step 10 → Check the cones for pitting and marks, any signs of wear means replacement time.

Step 11 ↓ Before assembling, check the drive side cone/locknut assembly is tight. Now slip the axle in and remount the non-drive parts. Hub tension is crucial to long life and free running, many hubs are too tight from new, causing premature wear. The quick release skewer is very powerful and can take up all play in the cone/locknuts causing the bearing adjustment to tighten considerably. To check for correct adjustment fit some spacers either side of the locknuts to simulate the frame dropouts. With the cones adjusted correctly, the axle should spin freely with no excessive play or rumbly feeling when the quick release is tightened on the spacers.

Now repeat the process for the front hub (ignoring Steps 1, 5, 6 and 7)

A tip on adjusting the cones: fine tune the non-drive side with the lock nut just snugged up, so that it won't move freely, but can be turned with a cone spanner without too much force. Then check as above before locking up firm, then check again to be sure.