

## NUKEPROOF HUB SERVICE GUIDE

### GUIDE FOR STRIPPING HORIZON AND NEUTRON V2 HUBS

For this guide we have used a hub with a Shimano HG freehub. For SRAM XD and Shimano Microspline drivetrains follow the same procedure but note that there's an extra bearing in the freehub which also needs removing. The procedure is the same for both our Horizon and Neutron V2 hubs.

#### TOOLS REQUIRED

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- Hammer
- Internal Circlip Pliers - 1.3mm tips
- Soft Hammer
- Bearing Punches
- Small flat head screwdriver
- Something to support hub (block of wood with 32mm wide hole bored)

#### STEP BY STEP INSTRUCTIONS:

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1. Pull off driveside end cap.



2. Pull off non-driveside end cap.



3. Pull off freehub turning the freehub anti-clockwise as you pull.



4. Take bushing off the axle (it may be in the back of the freehub).



5. Remove seals from hub shell driveside and non-driveside using a flat head screwdriver to lever under the seal.



6. Put your hub over the hub support non-driveside down. Carefully hit the end of the axle to remove the non-driveside bearing.



7. When the bearing has been removed from the non-driveside, the axle will pull out of the hub so it can now be removed.



8. Turn the hub over so it is now driveside down. Using a bearing punch, hit the driveside bearing out from the back. After each hit, move position on the bearing for the next hit so it comes out evenly.



9. Get your freehub and remove seal from outside bearing using a flat head screwdriver.



10. Put the freehub driveside down on your hub support and use your finger to push the spacer to the side to make the bearing visible. If the spacer doesn't move, hit the back bearing with the bearing punch which should allow the spacer to move. Using your bearing punch hit the driveside bearing out from the back.



11. Remove the spacer from the freehub.



12. The last bearing is held in place by a circlip, use internal circlip pliers with 1.3mm tips to get the circlip out.



13. Using your bearing punch, hit the last bearing out of the freehub. Again, this bearing should be hit in various places to ensure it comes out straight.



14. Remove the plastic cap from the rear of the freehub using a thin flat head screwdriver.



15. Remove the pawls using the flat head screwdriver.



16. Remove the springs using the flat head screwdriver.



17. The hub is now fully stripped.

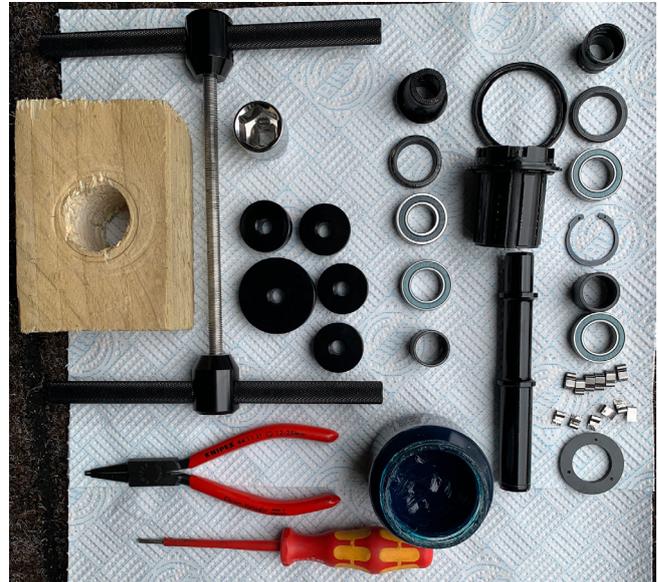
## NUKEPROOF NEUTRON / HORIZON V2 HUB REBUILD PROCEDURE

For this guide we have used a hub with a Shimano HG freehub. Hub's with SRAM XD and Shimano Microspline freehubs follow the same procedure but have an extra bearing in the freehub. The procedure is the same for both our Horizon and Neutron V2 hubs.

### TOOLS REQUIRED

- Small Flat Head Screwdriver
- Internal Circlip Pliers - 1.3mm tips
- Bearing Press
- Grease
- If your bearing press isn't specially for hubs, you will also need something to allow the axle to float allowing to press against the hub shell. Block of wood with 32mm wide hole bored will work

**Note:** If you are using our Nukeproof Enduro Bearings. The BLUE seal should always be facing outwards where it will be most likely be exposed to the weather as this is the full contact seal.



### FREEHUB REBUILD



1. Check the internal of the freehub is smooth and free from burrs then apply a layer of grease inside – this is to aid the bearing installation.



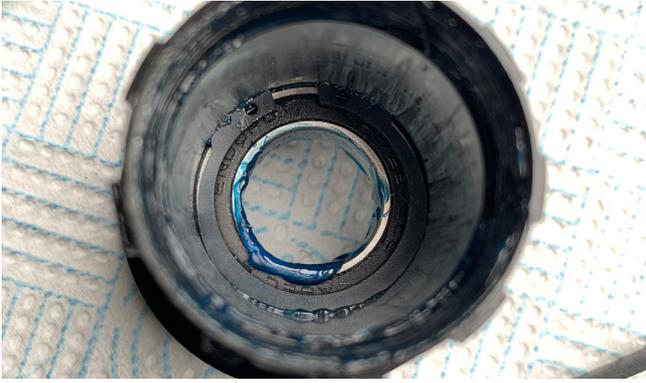
2. Take your first bearing and set it on the freehub ready to press in place. Ensure it is spins smoothly.



3. Get your press and correct drift, press the bearing into the freehub.



4. Get the circlip and install Infront of the bearing.



1. Ensure it is fully seated by pushing it against the bearing.



2. Get the spacer and set into the freehub. This should sit central on the bearing you pressed in.



3. Take the next bearing and set it on the freehub ready to press.



4. Get your press and press the bearing into place. Ensure it spins smoothly.

**NOTE:** If you are using a SRAM XD or Shimano Microspline freehub, re-follow steps 7 and 8 to also press in the final bearing.



5. With the bearings now in place, take your axle and push it through the freehub to ensure the spacer is now fully central and the axle goes through correctly.



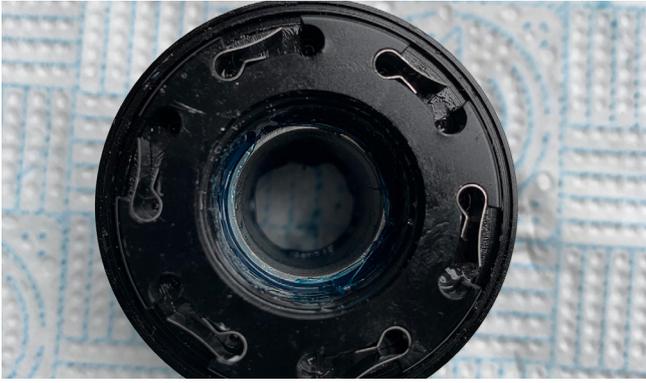
6. Apply grease on the outside of the bearing.



7. Reinstall the driveside freehub seal.



8. Turn the freehub over so the rear of the freehub can be seen.



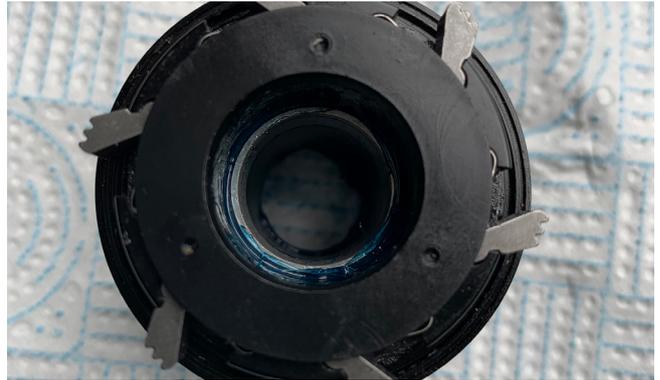
1. Refit the springs.



2. Refit pawls – you will need to use the flat head screwdriver to push the springs down to allow you to get them in.



3. Check pawls and springs are fitted the correct way round and function correctly by pressing them.



4. Refit the plastic protective cover.

## HUB SHELL REBUILD



1. Check both sizes of the shell where your bearings will be pressed are smooth and free from burrs then apply a layer of grease.



2. Take your driveside bearing and set it in place on the hub shell.



3. Press the bearing into the shell. Ensure it spins smoothly.



4. Put the axle into the hub through the non-driveside.



5. Take your non-driveside bearing and press it into place. On this we have used the block of wood to allow the axle to "float" and for the press to then push against the hub shell to allow the non-driveside bearing to be pushed into place.



6. Apply a layer of grease to the non-driveside bearing.



7. Refit the non-driveside seal.



8. Refit non-driveside end cap.

## REFITTING FREEHUB



1. Apply a layer of grease to the hub shell freehub seal and push onto hub shell.



2. Apply a layer of grease to the ratchet ring and around the driveside bearing in the hub shell.



3. Apply a layer of grease to the rear of the freehub over the pawls and springs.



4. Refit the freehub spacer into the rear of the freehub.



5. Slot the freehub over the axle, push onto the hub turning **ANTICLOCKWISE** as you do this to prevent damage to the seal.



6. Refit the driveside end cap.

Your hub is now fully rebuilt. Spin the wheel / axle and ensure that it spins freely and hub engages correctly. If you are using the Nukeproof Enduro bearings, the axle may feel stiff for a few rides due to the full contact seal. This is completely normal and after a few rides this will bed in and free up.

Exploded diagrams are available from [Nukeproof.com](http://Nukeproof.com)

Spare parts are all available via a Nukeproof dealer.