

## NUKEPROOF HORIZON PRO REAR HUB SERVICE PROCEDURE

For this guide, we have used Shimano microspline hub. SRAM XD and Shimano HG follow a very similar procedure, but XD has a larger outer freehub bearing and Shimano HG has two bearings in the freehub rather than three.

### TOOLS REQUIRED

- Hammer
- Internal circlip pliers - 1.3mm tips
- Soft hammer
- Bearing punches
- Something to support the hub (block of wood with 32mm wide hole bored)
- Bearing press
- Inner ratchet tool
- Pick or a flat-head screwdriver
- Seal press
- Vice or socket for ratchet tool



### STEP-BY-STEP INSTRUCTIONS:



1. Pull off non-drive side end cap



2. Remove non-drive side seal using a pick or flat-head screwdriver

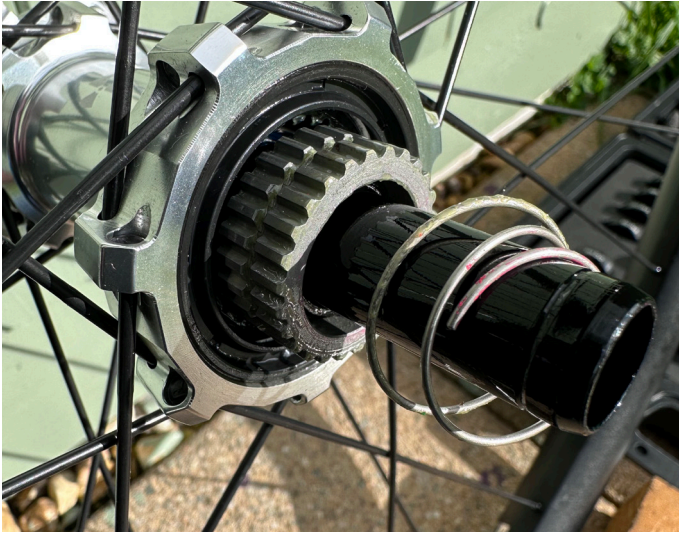


3. Pull off drive side end cap

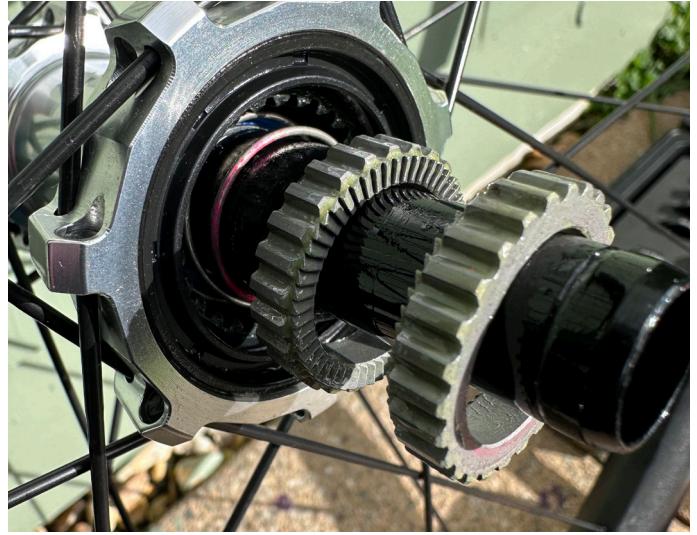


4. Pull off freehub





5. Remove outer spring



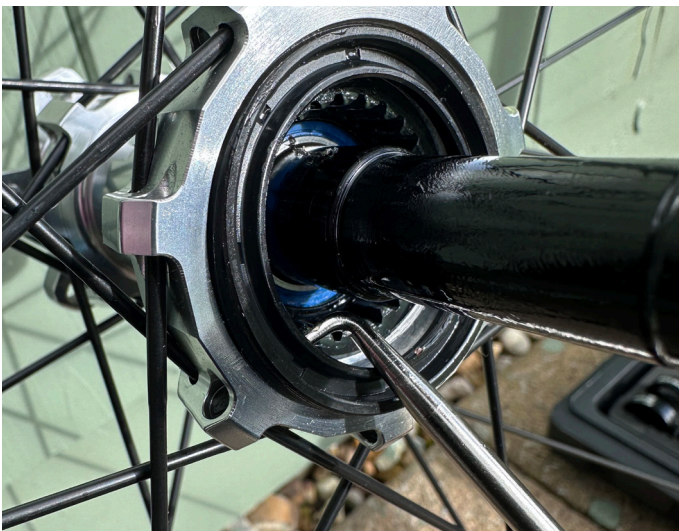
6. Remove star ratchet



7. Remove inner spring



8. Take the bushing off the axle



9. Remove drive side seal



10. Using the inner ratchet tool, remove the inner ratchet. Depending on your specific tool you will either need to place the tool upright in a vice and place the wheel on top then turn the entire wheel OR use a socket to loosen and remove if no vice is available





11. Remove the washer which sits between the inner ratchet & bearing



12. Place the hub non-drive side down on your hub support



13. Hit the end of the axle with a hammer to remove the non-drive side bearing



14. Turn over the hub so the drive side is now on the hub support



15. Using a bearing punch, gently tap the bearing to remove



16. Get your freehub and using the bearing punch, push the inner spacer so it exposes the rear of the outer bearing





17. Using the bearing punch, remove the front bearing



18. The bearing & spacer should now be removed from the hub



19. Using your circlip pliers, remove the circlip from the freehub



20. Using the bearing punch, carefully remove the remaining bearings in the freehub following the steps above



21. The freehub should now have all bearings removed and inspected to ensure there is no damage and it is visibly in good condition.



22. Your hub is now fully stripped.



## REBUILD



23. Get your freehub and apply grease to the inside where the bearing will be pressed to



24. Get your bearing, apply grease then set it in place



25. Press the bearing into the freehub with your bearing press



26. Apply more grease inside the freehub

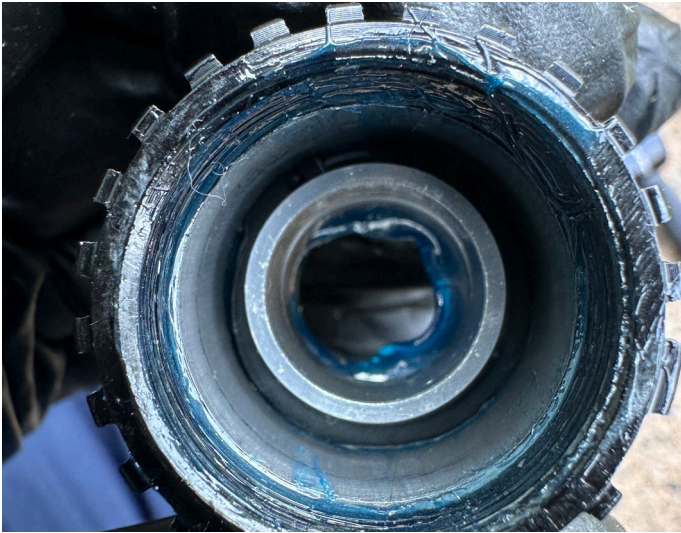


27. Press in the next bearing



28. Replace the circlip





29. Insert the bearing spacer



30. Start to press in the outer bearing, when it is nearly in STOP



31. Put the axle through the freehub to get the bearing spacer lined up correctly



32. Finish pressing in the outer bearing



33. Your freehub rebuild is complete. If the spacer has managed to move out of place like in the photo, you should be able to push it into place with your finger



34. Grease the bearing seat on the drive side of the hub shell





35. Get the drive side bearing and set it into place on the hub shell



36. Press the bearing into place



37. Apply grease to the outside of the bearing



38. Get the inner ratchet washer and set it into place



39. Install the inner ratchet nut and tighten



40. Ensure that washer is not visible, if it is like the photo, loosen the nut to reposition the washer then tighten it again





41. Apply grease to non-drive side bearing seat



42. Insert the axle into the hub, ensuring the longer part goes to the drive side



43. Using your bearing press, press in the non-drive side bearing which will now hold the axle in place and remove any play from it



44. Apply grease to the outside of the non-drive side bearing



45. Refit seal



46. Refit end cap





47. Apply grease to the drive side seal seat



48. Get seat lined up and set into place



49. Push seal into hub shell using a seal press tool



50. Refit bushing to axle – Note this can only be fitted one way and should cover the thicker part of the axle



51. Refit spring – note orientation



52. Refit inner star ratchet





53. Refit outer star ratchet – teeth on the star ratchets should now be biting together



54. Refit freehub and apply grease around the outside of bearing



55. Refit end cap



56. Your hub is now fully serviced and ready to ride

Exploded diagrams are available from **Nukeproof.com**  
Spare parts are all available via a Nukeproof dealer