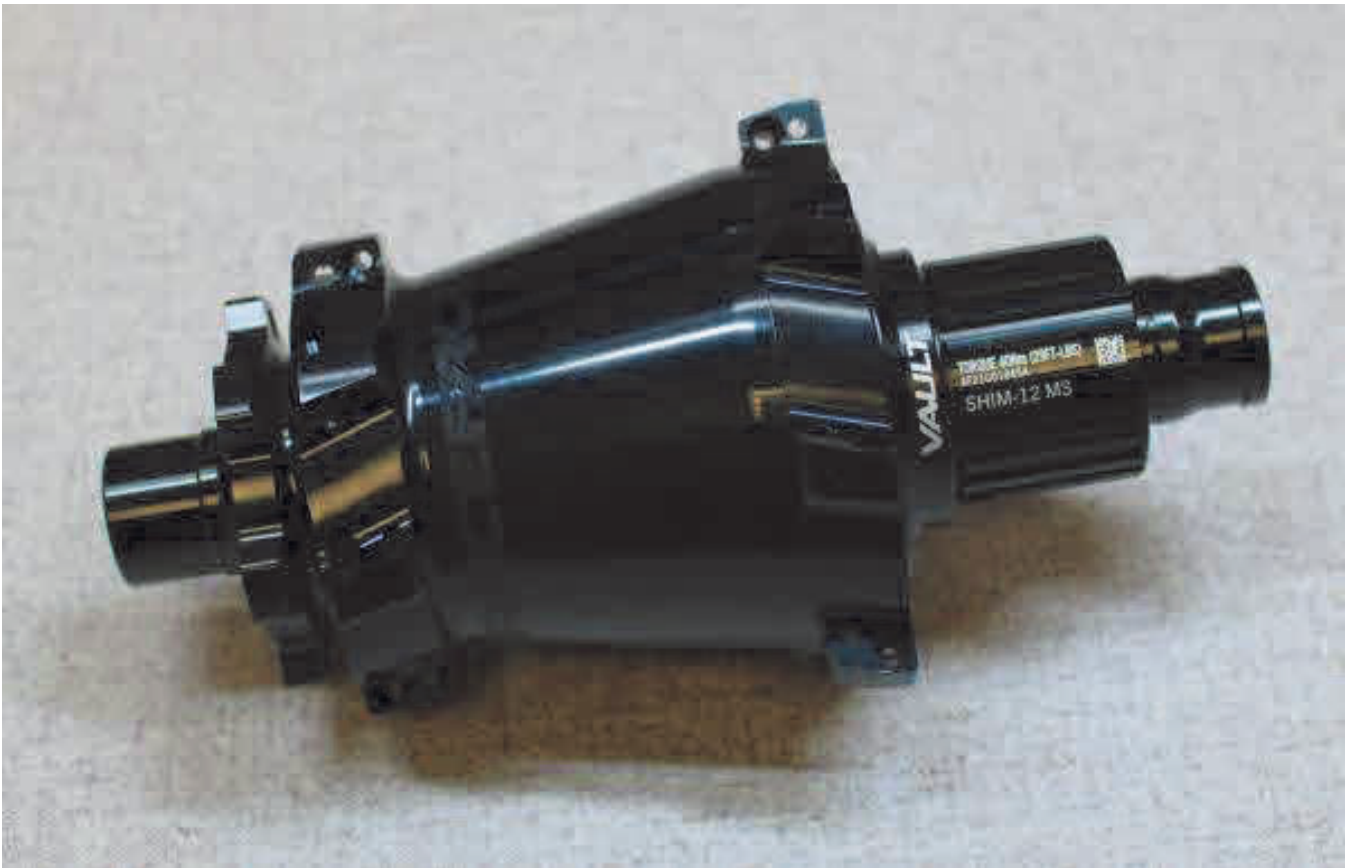


## Pawls Service Guide:

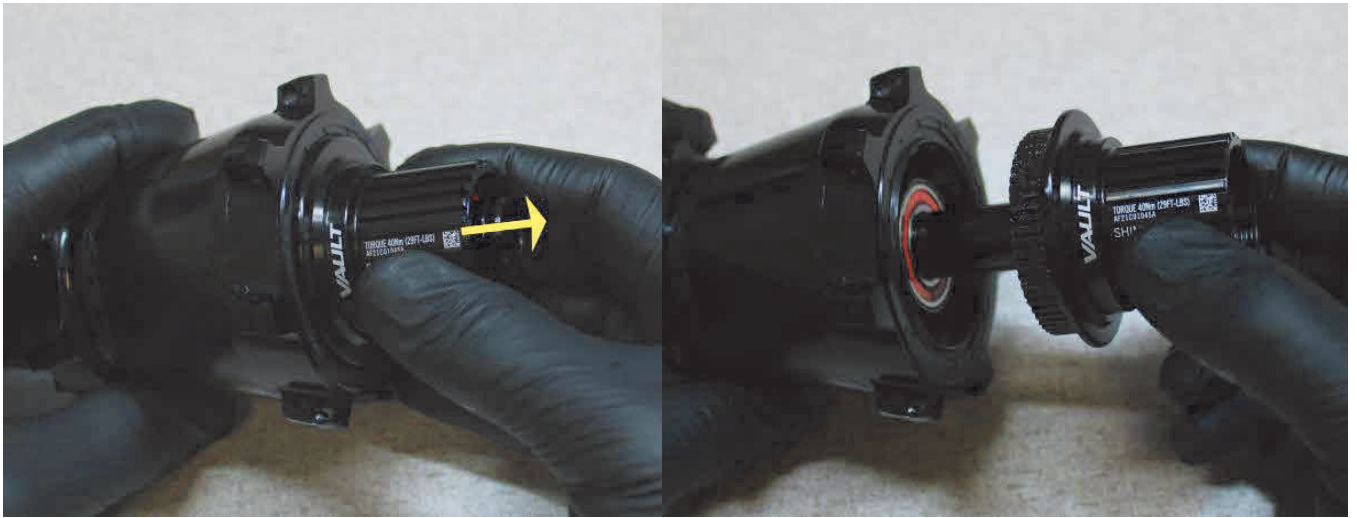
### Step 1

Remove the drive side endcap by pulling it away from the hub. All Race Face end caps are designed to be removed by hand. Clamping end caps with vise jaws or pliers can damage end caps. A rubber glove can help improve grip. A 12mm blind bearing puller tool can be used for difficult to remove end caps.



## Step 2

Remove the cassette body by pulling it away from the hub. You may need to rotate the cassette body in order to separate it from the hub.



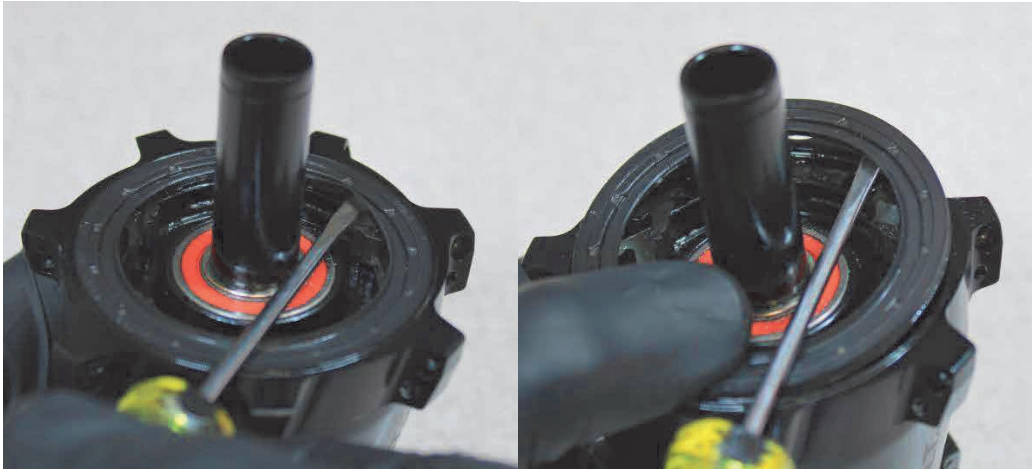
## Step 3

Locate the 0.7mm spacer, sometimes the spacer will stay on the axle against the drive side hub shell but more often it sticks to the cassette body bearing race. You can leave the spacer in place on the axle during pawl and spring replacement.



#### Step 4

Use a small flat driver between a pawl and the seal to pry the cassette body seal out of the hub shell seal groove. Use 2 to 3 small prying motions to remove the seal without bending it's metal backing ring. Do not try to remove the seal in one prying motion as you can damage the seal.



#### Step 5

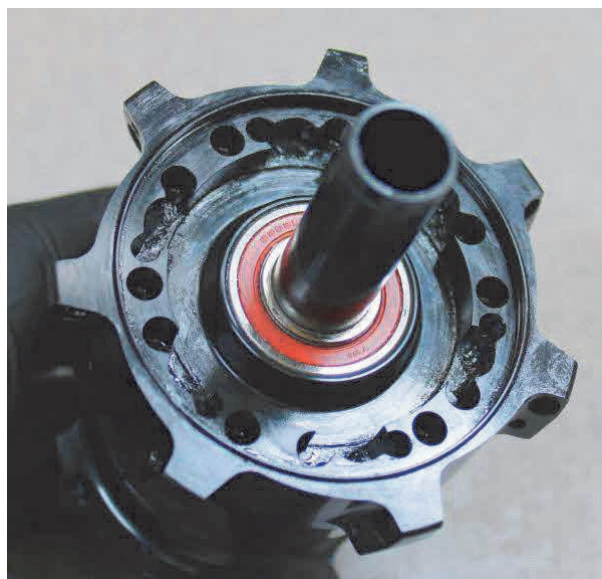
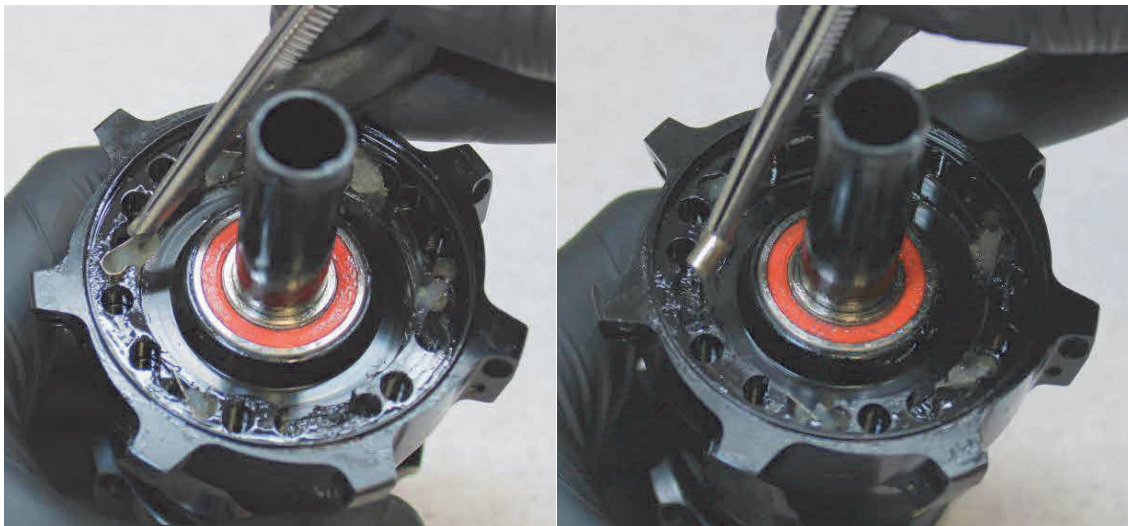
Using forceps or tweezers, remove the original pawls from the pawl pockets by pulling them up. Mountain hubs have 6 pawls while road hubs only have 3.





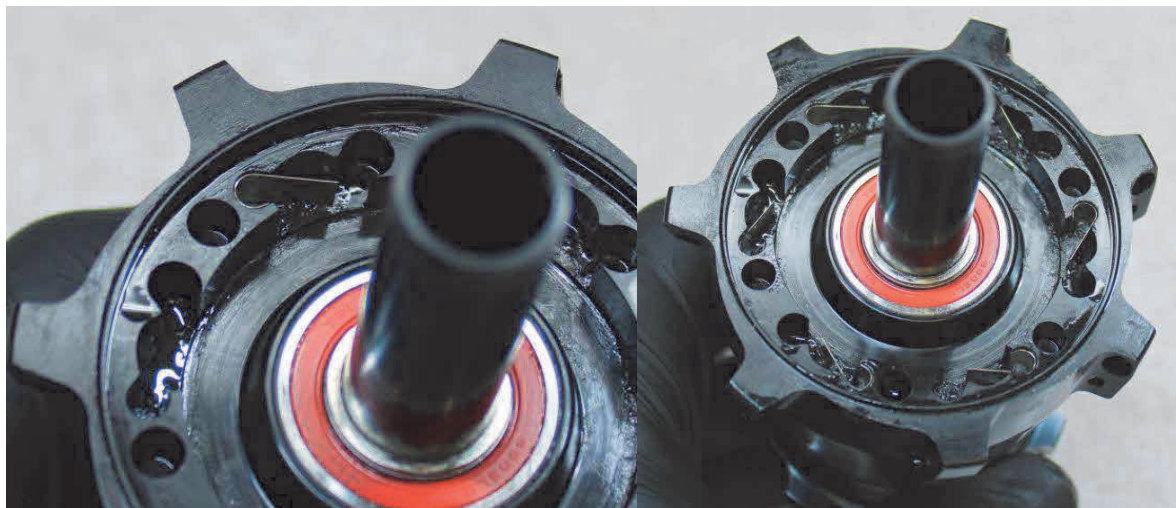
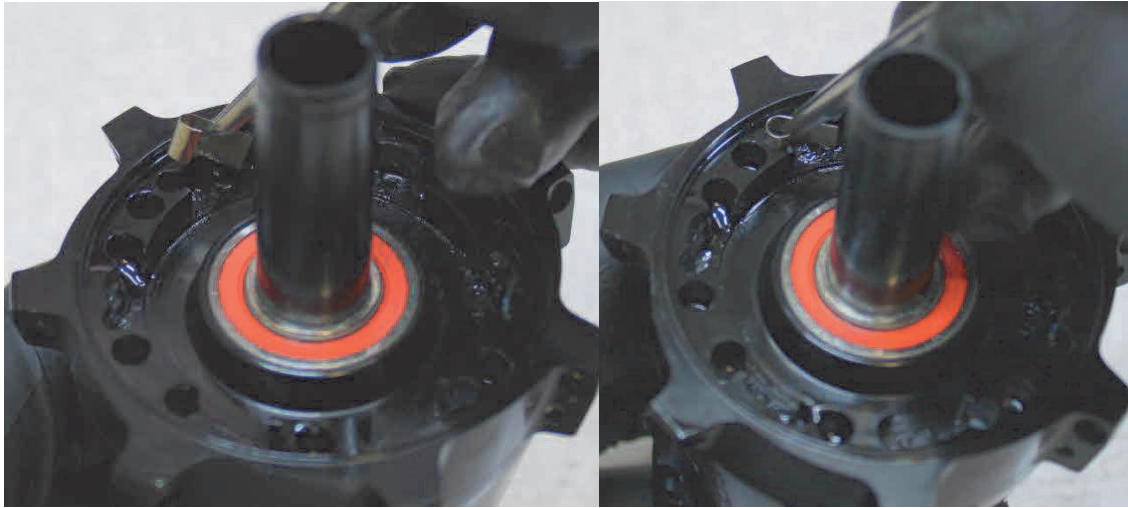
### Step 6

Remove the pawl springs by pulling them up and out of the spring pockets. Mountain hubs have 6 springs while road hubs only have 3. Clean the hub shell with isopropyl alcohol and compressed air. Make sure not to get any paper-towel lint or other debris stuck in the hub shell.



### Step 7

Insert the new pawl spring so the short end of the curl is the first portion of the spring to contact the spring pocket. Compress the curl of the spring slightly by pressing it against the inside of the spring pocket then slide the spring down into the pocket. Repeat for all springs.



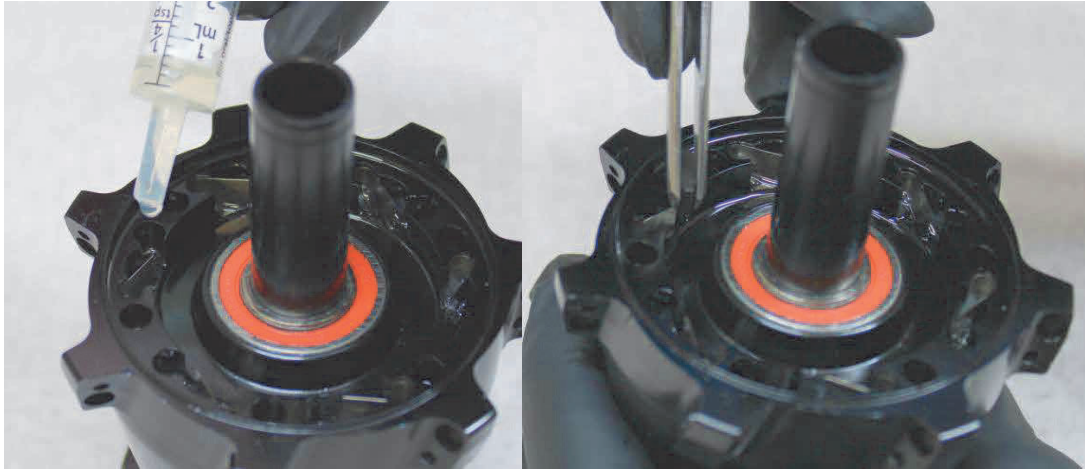
### Step 8

Make sure all springs are fully seated by gently pushing the flat portion of the spring toward the outside of the hub.



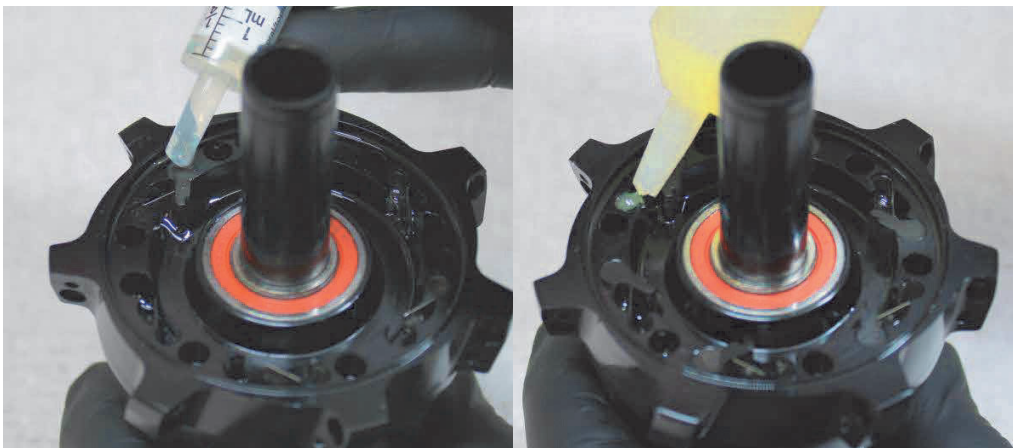
### Step 9

Place one drop of light oil such as Park Tool CL-1 Synthetic Blend Lube with PTFE into the bottom of each pawl pocket. Install the pawls so their teeth are oriented toward the center of the hub. Gently flex each spring out of the way to install the pawls into their pockets. Check that each pawl and spring are seated correctly by pushing the pawl against the spring. Confirm that all pawl action is free and all pawls return fully after compressing the pawl springs.



### Step 10

Place one drop of light oil such as Park Tool CL-1 Synthetic Blend Lube with PTFE onto the top of each pawl. Inject a small amount of light grease such as Slick Honey, Slickoleum, Dumonde Tech Classic, Triflow clear synthetic, or other similar light grease into the curl of each spring. Do not apply grease to the areas behind the springs.





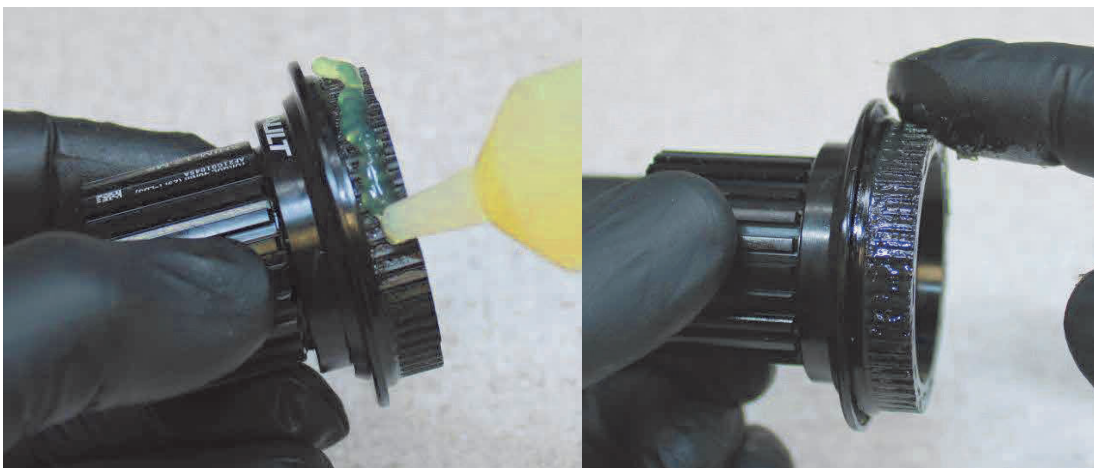
### Step 11

Replace the seal as shown by pressing it into the hub shell. Make sure the seal is fully seated.



### Step 12

Coat the teeth of the drive ring on the cassette body with a thick film of light grease such as Slick Honey, Slickoleum, Dumonde Tech Classic, Triflow clear synthetic, or other similar light grease. Use just enough grease to fill the spaces between the drive ring teeth.



### Step 13

For Shimano Mtn HG and Road HG: These cassette bodies have a drive side end cap seal. Grease the cassette body outer bearing with a thin film of light grease such as Slick Honey, Slickoleum, Dumonde Tech Classic, Triflow clear synthetic, or other similar light grease.

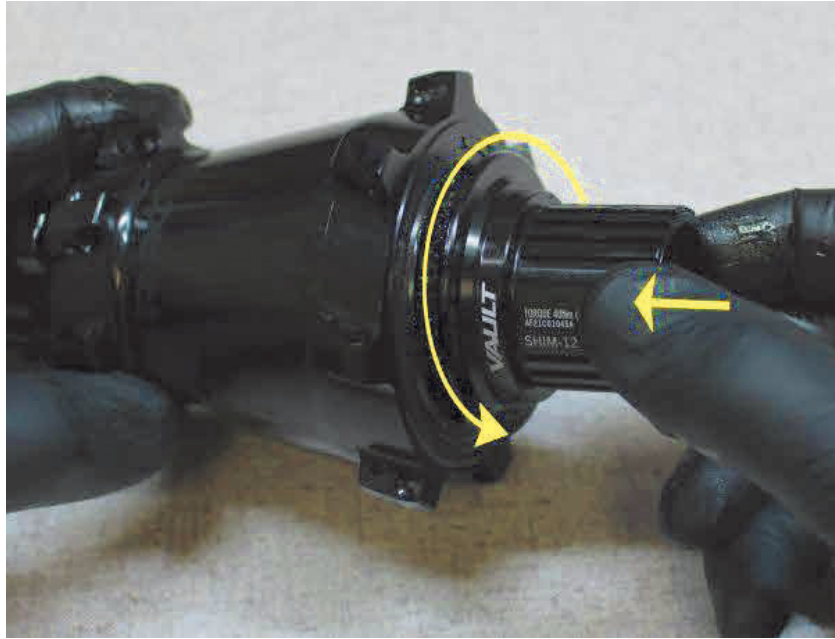
For XD, MS, XDR, and Campagnolo: These cassette bodies do not have a drive side end cap seal. Use a thick film of waterproof grease on the cassette body outer bearing to create a water and dirt barrier on the outer bearing.



### Step 14

Verify the position of the 0.7mm spacer on the axle. Install the cassette body into the hub shell turning counter-clockwise to open the pawls and fully seat the cassette body.





**Step 15**

Reinstall the drive side endcap.

