

REPLACING YOUR X1 PRO's PLANETARY GEARS

Installation Guide for Brass Gears





How to Replace your X1 PRO's Planetary Gears Installation Guide for Brass Gears

Requirements

1. 3x brass gears provided by CYCMOTOR
2. Circlip pliers or similar tool
3. Bearing puller (optional)
4. 2x flat head screwdrivers
5. Mallet / soft tip hammer
6. Molykote BR2 Plus grease or equivalent

IMPORTANT

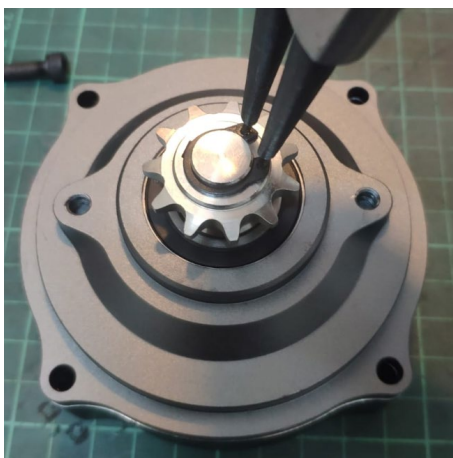
Kindly note that there are 2 ways to remove the gears. The **easiest** way is with a bearing puller that is thin enough to reach underneath the gears (see steps 3 & 4 for details).

Step 1 – Remove the circlip & the sprocket.

Once you've removed the motor from your bike & removed the side plates/ mounting brackets, you need to remove the sprocket.

It is advised to use circlip pliers to remove the circlip. Be careful not to yield the circlip if you only have one. You can remove the sprocket with a bearing puller or with 2 flat head screw drivers.

If you're uncertain how to get to this point, or need further instruction on removing the sprocket, contact CYC Motor Ltd directly for additional instructions.

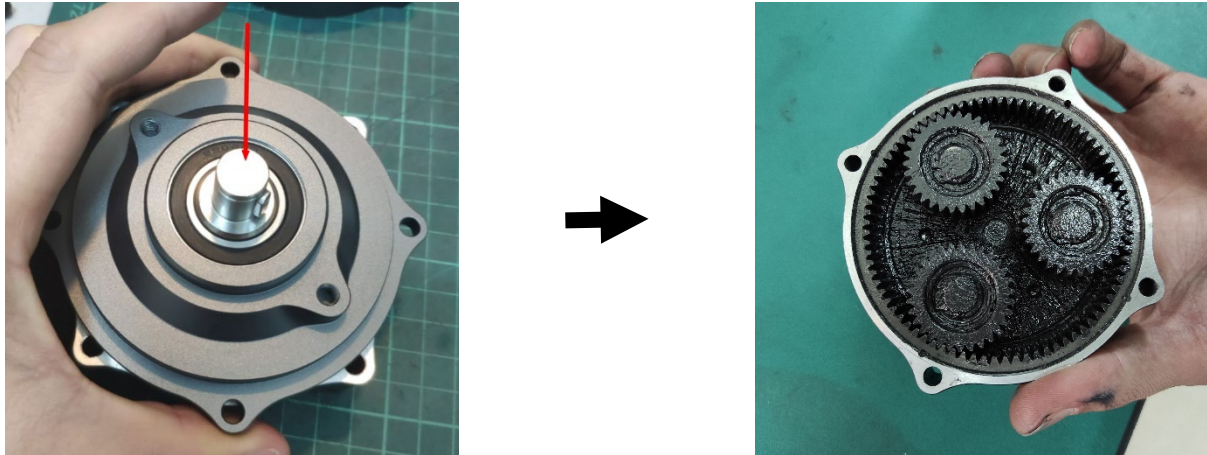




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Step 2 – Rotate & remove the cover.

Rotate the cover then hold it as shown below. Slightly strike the shaft with a mallet to remove the cover.



Step 3 – Remove the planetary carrier or proceed to Step 4 if you have a bearing puller.

Please note that it is easier to use a bearing puller & to continue to Step 4.

Removing the planetary carrier can be challenging as it's a tight fit. Get a circular plate or shaft that is flat and big enough to cover all 3 planetary gears but small enough not to block the ring gear. Place the plate or shaft over the gears. Then, firmly hold the plate or shaft & press the ring gear in the opposite direction.

We used a steel fitting as a plate/ shaft to press down & held the ring gear from the opposite side in a 3D printed mount that is hollow in the middle as shown in the middle picture below.





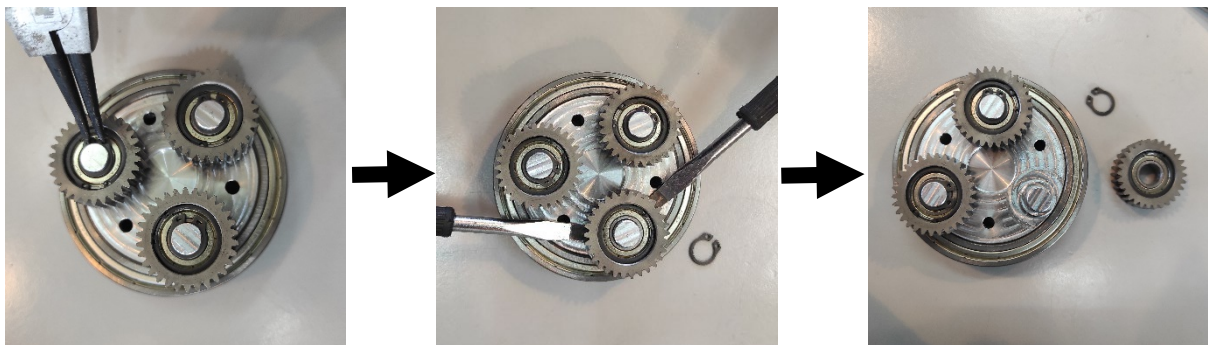
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Step 4 – Remove the circlips & the steel gears.

For demonstration purposes, we've used a clean planetary carrier. Remove the inner circlips with circlip pliers or similar tool. Again, be careful not to yield the circlip if you do not have spares.

Next, you will need to wedge out the gears using 2x flat head screwdrivers as shown below to remove the gear completely.

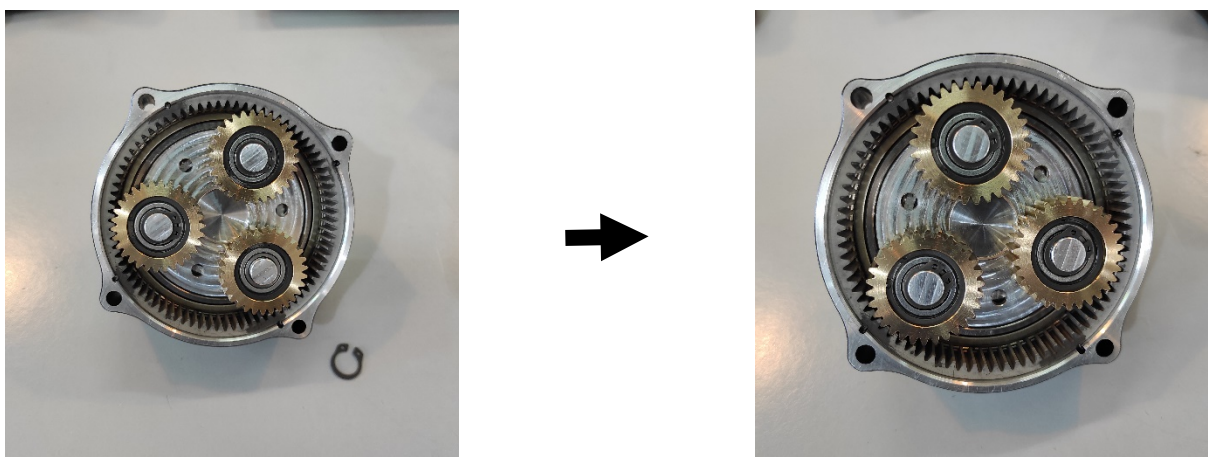
If you have a bearing puller & did not remove the planetary carrier, you can simply use the bearing puller to pull out the gears directly. Note that your bearing puller needs to be thin enough to get underneath the gears.



Repeat for all 3 gears.

Step 5 – Insert the brass gears, regrease & close the gearbox.

You can now insert the brass gears. Be sure that the right side is facing upward with the outer circlip facing away from the planetary carrier & toward you as the steel gears did. Then, insert the circlip & be sure to position it inside the groove on each pin.





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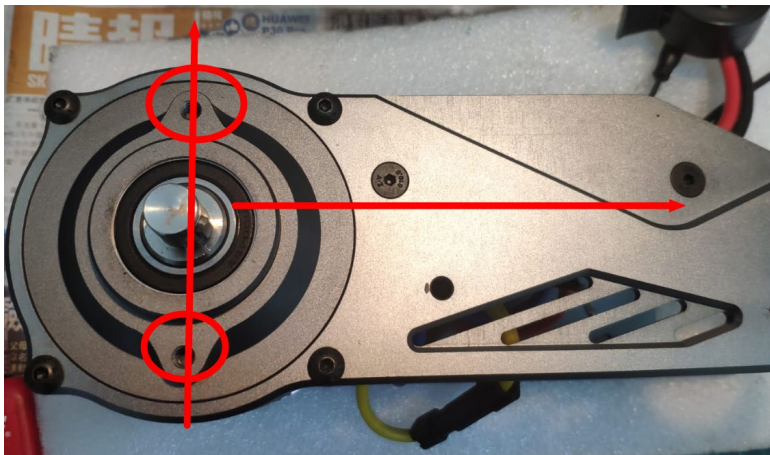
Once all brass gears are inserted with the circlips in the correct position, be sure to add some more grease. CYCMOTOR uses MOLYKOTE BR2 Plus grease. Reassembly the ring gear & close the gearbox.



MOLYKOTE BR2 Plus grease

Step 6 – Finished!

You can now reinstall the system onto your bike.



Kindly contact technical_support@cycmotor.com if further assistance is needed.

THANK YOU 😊

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