

Hi!

So, you asked for help about installing gears on your scooter ?

This is the "DIY" way. You could go to a shop to get them pressed but it's costly.

You'll need:

- A 10mm wrench
- A 5mm allen key
- A hammer
- A small, but solid metal punch (not the screwdriver-style ones, they'll break!)
- Some Loctite or any other kind of threadlocker (blue one, medium strength)
- A can of compressed air you can buy in most electronic shop: turned upside down, the air will come out liquid and will be really cold!
- A bench vice
- Stuff to clean the parts, whatever you like to use.

1: Start by taking out your clutch and torque driver and drain the oil out of the gearbox. There is a screw under the engine case for this, 10mm wrench size.

2: Take out the gear cover that is held there with six allen screws. Give a good cleanup to the inside of the gearbox, cover (both side) , to the gear components you'll reuse later and around the gearbox.

3: The primary shaft gear will be held in the cover by the bearing. Take the cover on the vice (outside of the cover on top) . Put the punch on the hole at the end of the primary shaft (on the side the clutch is screwed) and hit gently with a hammer on the punch to make it come out. The shaft should come out with the bearing. Give enough space between the vice sides to let the bearing and shaft come out, the shaft must not be tight in the vice.

4: Now it's time to take the bearing out of the shaft. Put the shaft on the vice like in this picture:



Make sure the shaft's teeth are not tight in the vice and that the inner side of the bearing is touching on both sides of the vice.

Use the compressed air turned upside down to freeze the shaft. It looks like this:



When the shaft is frozen (the bearing will freeze also), put the punch in the hole at the end of the shaft (clutch side) and slowly hit it with a hammer to take the shaft out of the bearing.



5- This time, you put the bearing on the vice and you freeze your performance gear shaft. You put it in the bearing (clutch side pointing down). If it doesn't slide right in, take the punch and hammer and slowly hit to make it enter in the bearing, but make sure the inner side of the bearing is touching both side of the vice (to prevent damage). If you change the bearing, make sure that it's not a sealed bearing.

6- Put the bearing and shaft back in the cover. Freeze the bearing and gear if it's temperature came up. If you have a powerful engine, put some loctite in the bearing fitment on the cover to prevent the bearing and shaft from becoming loose. Put the cover on the vice, the inside pointing up. With the hammer and the punch , hit gently the shaft on the splined side. The punch must be in the hole at the end of the shaft.

7- When it's done, you'll have to take the bigger gear out of the intermediate shaft on both of them (stock and performance one). This is because pre-pressed gears are made for the vertical engine, older model Zuma. The vertical and horizontal engine Zuma are sharing the same primary gearing, but the secondary gearing is different.

This is how you do it: take one of the intermediate shaft (let's say the performance one) and freeze it. Put it like on the next picture on the vice but don't hold it tight.



Use the punch and hammer to take the intermediate shaft (fixed to the small gear) out of the bigger gear. That will take more time than taking the shaft out of the bearing, so you have to hit hard, but avoid to damage the shaft tip.

Start with the performance one because you don't need it and if it's the first time you do this, there will not be a problem if you make a mistake like damaging the shaft tip.



After they are separate, do the same thing with the stock intermediate shaft.

8- You need to install the original intermediate shaft (small gear) with the bigger gear of the performance gear kit.

It's a good idea to heat the bigger gear with a heat gun or a propane torch. After you heat it, put the gear on the vice and freeze the stock intermediate shaft. With the punch and hammer, put the stock intermediate shaft in the performance bigger gear.

Hammer it until the bigger gear is aligned with the edge on the intermediate shaft like this:



If you want to change the primary gear shaft seal, just take it out by hand or with the help of the small punch and hammer (but be very gentle, it comes out easily) and you put the new one in by hand. You may put some loctite around the outside of the seal to make it stick to the cover.

9- When the gears are ready, take out the wheel shaft gear (the biggest gear you can see) and install the intermediate shaft, the small gear pointing towards you. Put the wheel shaft gear back in. Make sure everything is clean!

It's recommended to change the gear cover gasket after taking it out. Center it on the dowels on the cover (if the 2 dowels are not on the cover, take them out of the engine case and put them on the cover) and put everything back. Put some loctite on the six screws that hold the cover there, if you don't they'll become loose and cause damage.

10- You now have performance gears installed! Put 80w90 gearbox oil (quantity is written on your engine case, generally 100 to 120mL) and put your clutch, belt and CVT cover back and it's done.

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