

# BROTHER® HL-3140 SERIES TN221/225 TONER CARTRIDGE REMANUFACTURING INSTRUCTIONS



BROTHER TN221 TONER CARTRIDGE

# REMANUFACTURING THE BROTHER HL-3140 SERIES TN221/225 COLOR TONER CARTRIDGES

By Mike Josiah and the Technical Staff at UniNet

The Brother HL-3140 printer engine is based on a new 19ppm black and color, 600 x 2400 DPI color LED engine. The machines come standard with a fixed memory of 64Mb, and runs off a 333 MHz processor. With print speeds of 19ppm and a list price starting at USD\$299.00, these machines are becoming very popular.

The toner cartridges do not have a reset chip on them, but do have a reset gear that must be positioned properly for the machine to accept it as a new cartridge. The Standard and High Yield cartridges use a different reset gear. The proper reset positions of the gear will be covered later in this instruction.

The starter cartridges that initially came with new printers are NOT able to be converted to a standard or High Yield cartridge.

In addition to new reset gears being available, there is also an optional kit to convert a color cartridge to a black one, so that it fits into the drum unit properly. Sometimes black toners are in short supply and this allows you to satisfy your customer. While it's never advisable to take a black and create a color cartridge, it is possible to take a color and make a black from it.

## CURRENT MACHINES RELEASED SO FAR

**HL-3140CW**

**HL-3150CDN**

**HL-3170CDW**

**MFC-9130CW**

**MFC-9140CDN**

**MFC-9330CDW**

**MFC-9340CDW**

## TONER CARTRIDGES

<b>TN221 Black</b>	<b>2,500 pages</b>
<b>TN221 Cyan</b>	<b>1,400 pages</b>
<b>TN221 Magenta</b>	<b>1,400 pages</b>
<b>TN221 Yellow</b>	<b>1,400 pages</b>

<b>TN225 Cyan</b>	<b>2,200 pages</b>
<b>TN225 Magenta</b>	<b>2,200 pages</b>
<b>TN225 Yellow</b>	<b>2,200 pages</b>

This series of toner cartridge is also sold around the world as the TN241/245 (UK), TN261/265 (Middle East, Africa), HL-251/255 (Asia, Oceania), and TN291/296 (Japan).

The drum unit is new as well (part # DR221CL) and is rated for 15,000 pages. This unit has four separate drums laid out in line. It will be covered in a future article.

If you're familiar with Brother cartridges, you know they do not work like other manufacturers cartridges. This series of printers is no exception. I won't repeat it all here as nothing has really changed in the printing theory, but if you'd like a refresher please see our HL-3040 TN210 instructions.

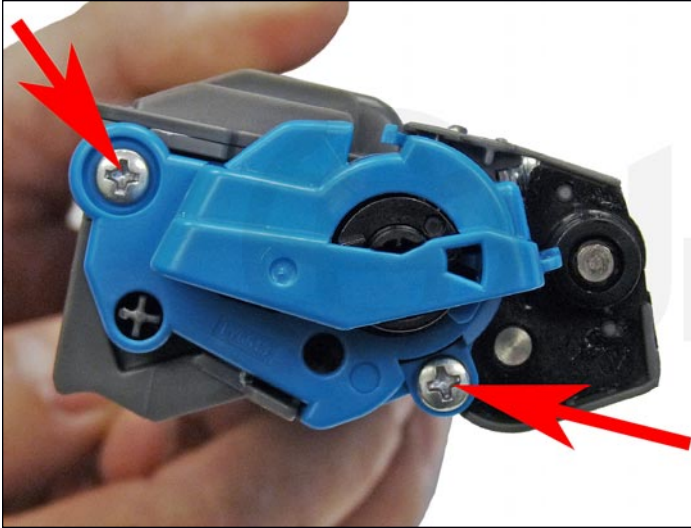


## REQUIRED TOOLS

1. Toner approved vacuum
2. Phillips head screwdriver
3. Small common screwdriver
4. Needle nose pliers

## REQUIRED SUPPLIES

1. Replacement toner for use in the Brother HL-3140. Choose the correct color and gram weight for your cartridge.
2. Proper reset gear for the starter cartridge (see text).
3. Lint free cotton cloths
4. Toner magnet cloths

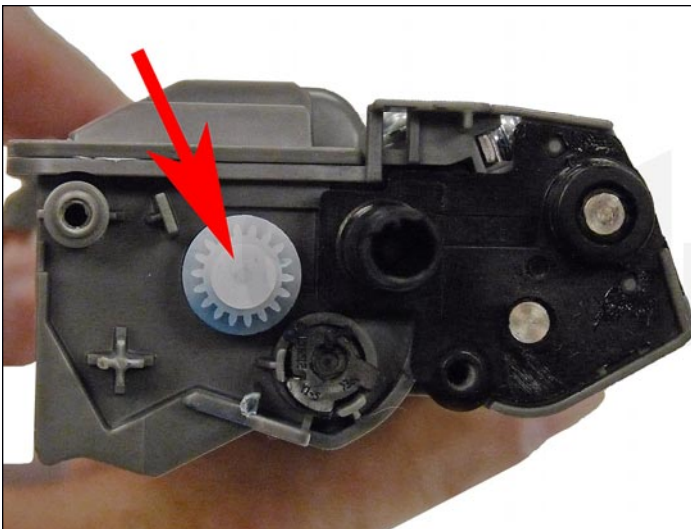


1. Vacuum the exterior of the cartridge. Be careful not to damage the developer roller as it is exposed.

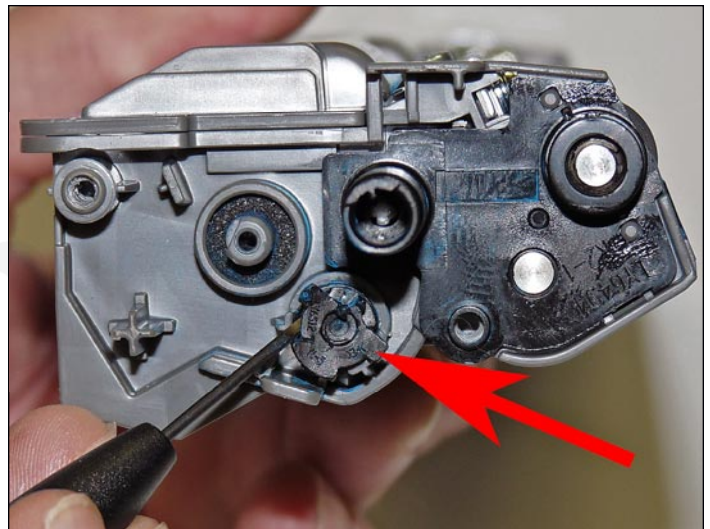
2. With the handle facing you, remove the two screws on the right colored end cap.



3. Press in on the tab shown and carefully pry up and remove the end cap.



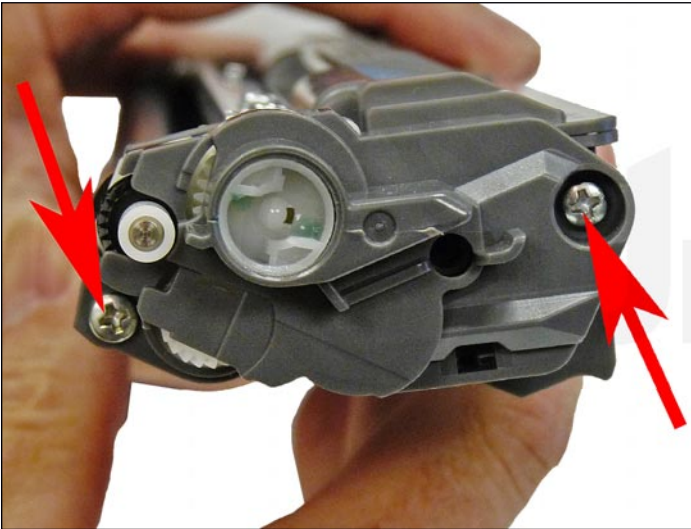
4. Remove the small white gear so it doesn't get lost.



5. Remove the fill plug from the toner cartridge.

Dump the remaining toner from the cartridge.

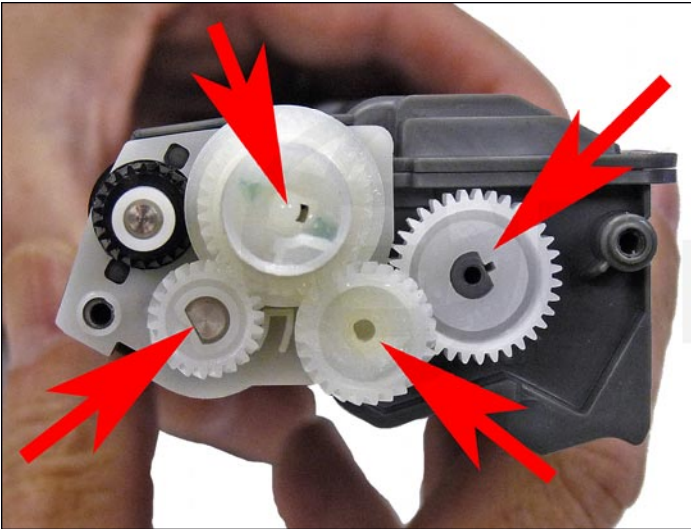




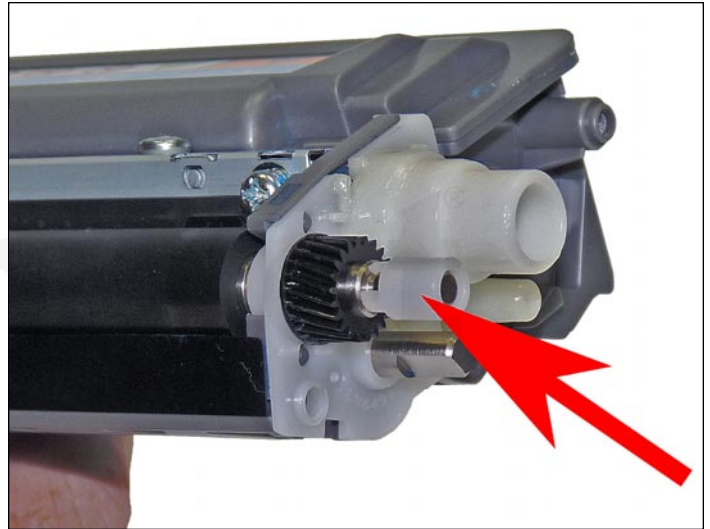
6. On the opposite side, remove the two screws from the end cap.



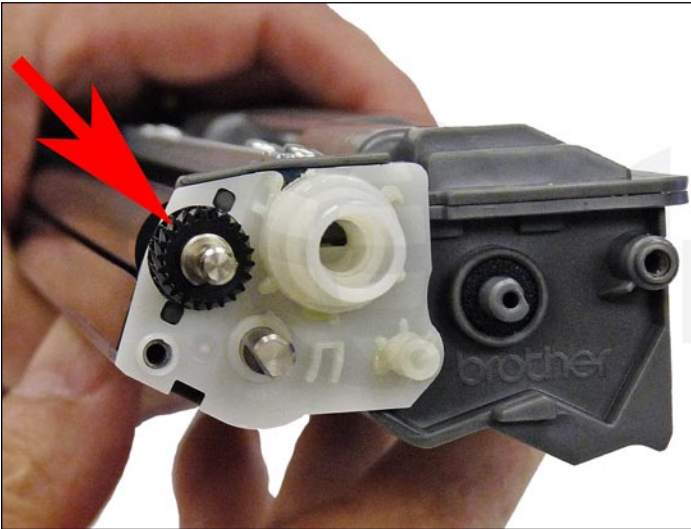
7. Lift up on the bottom tab and remove the end cap.



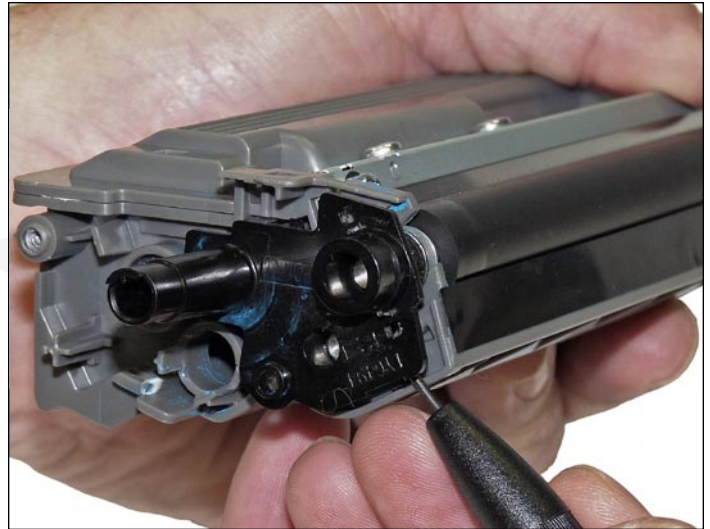
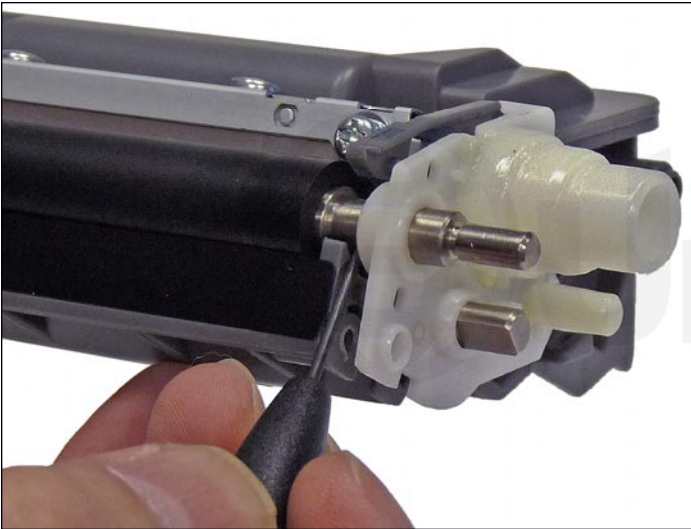
8. Remove the four gears as shown.



9. Move the white plastic developer roller bushing.



10. Remove the black developer roller drive gear.



11. Pry off the inner end caps from both sides of the cartridge.



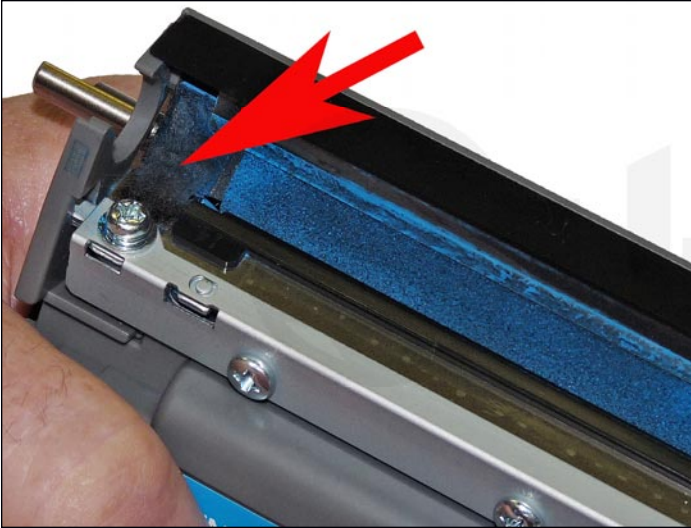


12. Remove the developer roller.



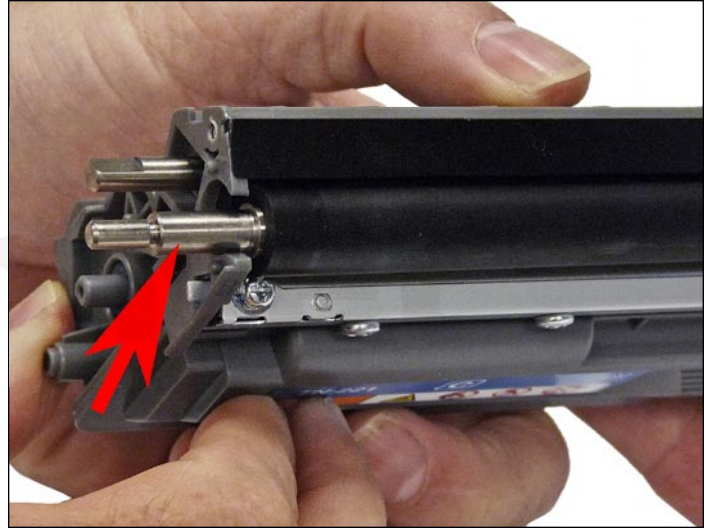
13. Carefully vacuum/blow the cartridge clean. Use only low-pressure air! High-pressure air can cause leaks in the seals. Be sure to rotate the foam feed roller so it is fully cleaned.

14. Vacuum/blow the doctor blade. We do not recommend that the doctor blade be removed as the developer roller felt seals would be disturbed. Once a new blade is available, great care will have to be taken not to tear the seals causing a leak. The doctor blade can be easily cleaned by blowing the excess toner off, and wiping down with a lint-free cloth. Be very careful not to leave any lint behind and do not use any chemicals to clean it!

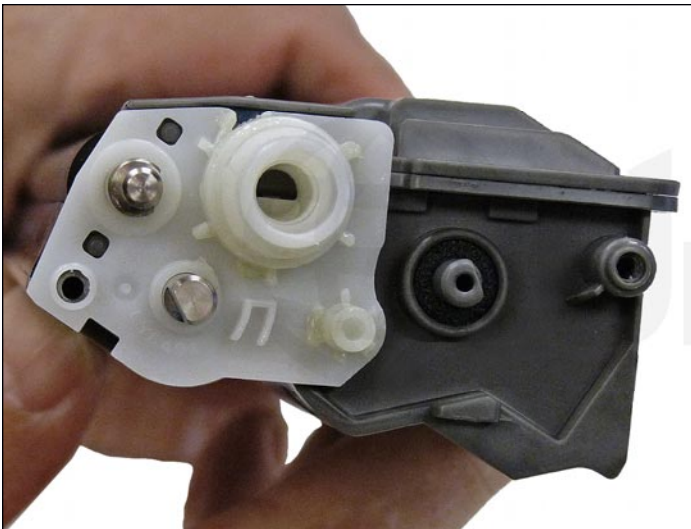


15. Inspect the developer roller felts. If they are compressed (shiny), gently rough them up with a small screwdriver.

16. Clean the developer roller with a lint-free cloth. Do not use any chemicals to clean the roller. A dry, clean, lint-free cloth will work fine.



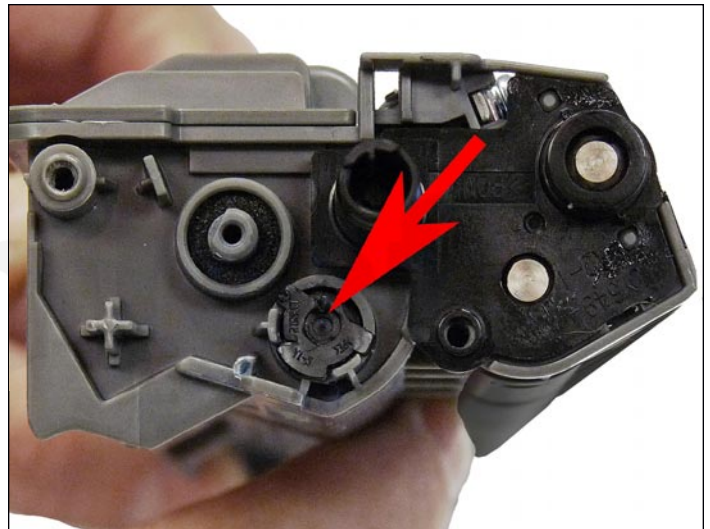
17. Re-install the developer roller, long shaft side to the gear side.



18. Re-install the inner end caps, white to the gear side.



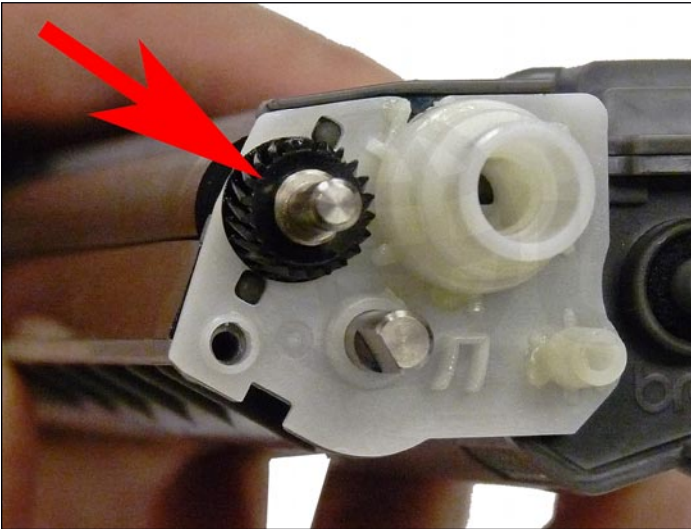
19. Fill with the appropriate color toner for use in the HL-3140 cartridge. This should be done with a small funnel, as the fill hole is small. You can also fill before re-installing the develop roller, but you must pour a small amount in, rotate the feed roller, pour more, etc.



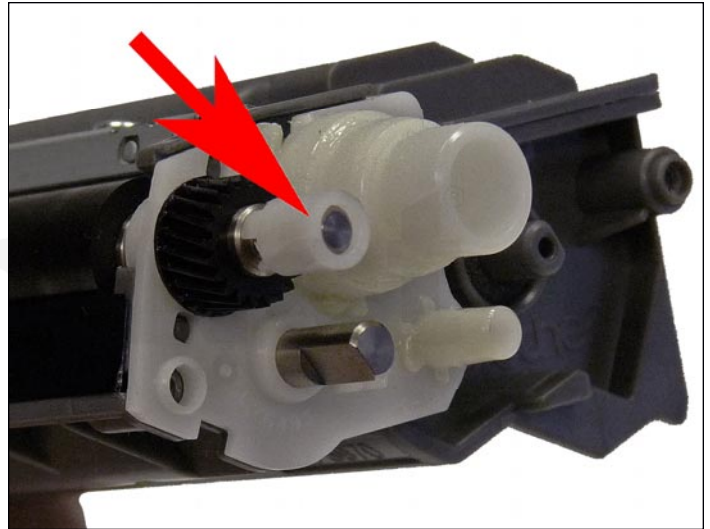
20. Replace the fill plug.

21. Clean the gears, making sure that they have no toner on them. This is a good time to also check the gear shafts to make sure there is enough grease. If the shafts appear dry, or the grease is contaminated with toner, clean the shaft and inside of the gear. Replace the grease with white lithium grease.

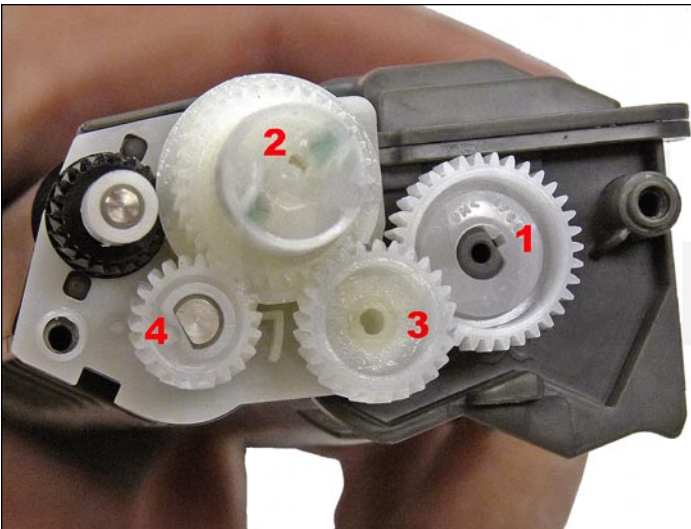




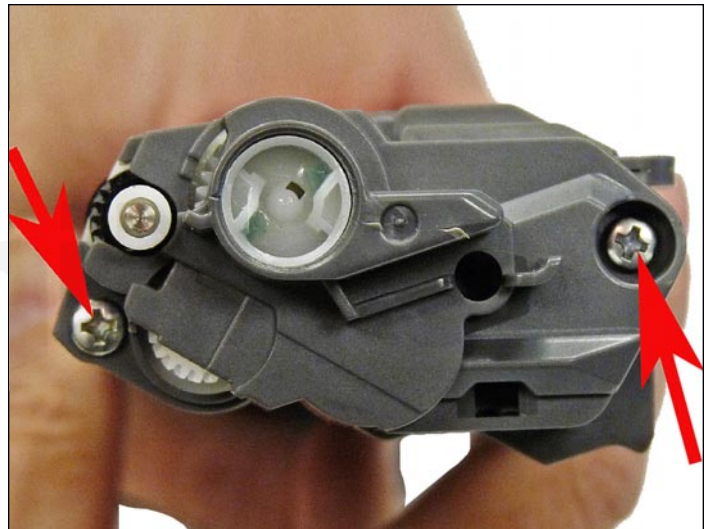
22. Install the black developer roller drive gear.



23. Install the white developer roller bushing.

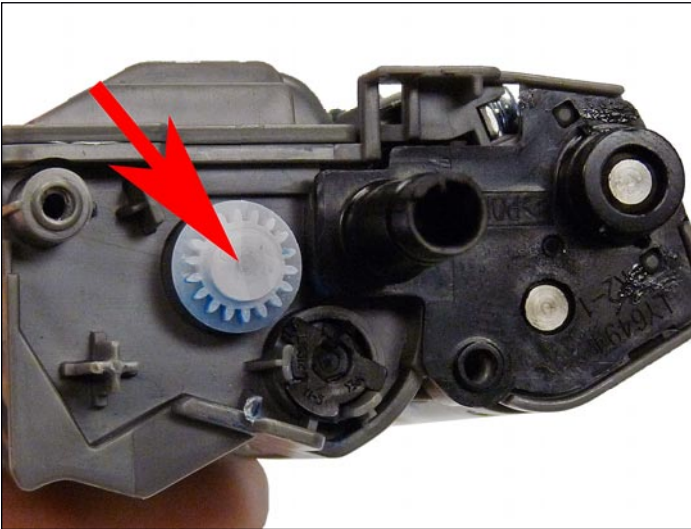


24. Install the four gears as shown.



25. Install the gear side end cap and two screws.





26. On the opposite side install the small black gear.



27. Set the gear and spring as shown. This is the proper reset gear position. The gear and spring must be set EXACTLY as shown. If you have a starter cartridge, these gears will not be present. Aftermarket gear and spring sets are available for both cartridges.

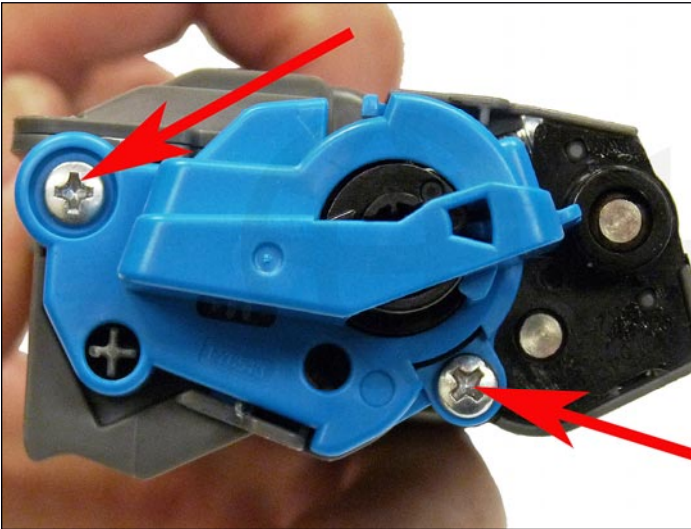


Left figure shows a High Yield reset gear.



Right figure shows a Standard gear.

Both need to be positioned the same way.



28. Install the reset gear end cap, and two screws.

Wipe the cartridge down to remove any remaining toner dust.



29. Install the developer roller cover. This is important as the developer roller is exposed and is easily damaged or contaminated.