

SAMSUNG® ML 2250 CARTRIDGE REMANUFACTURING INSTRUCTIONS



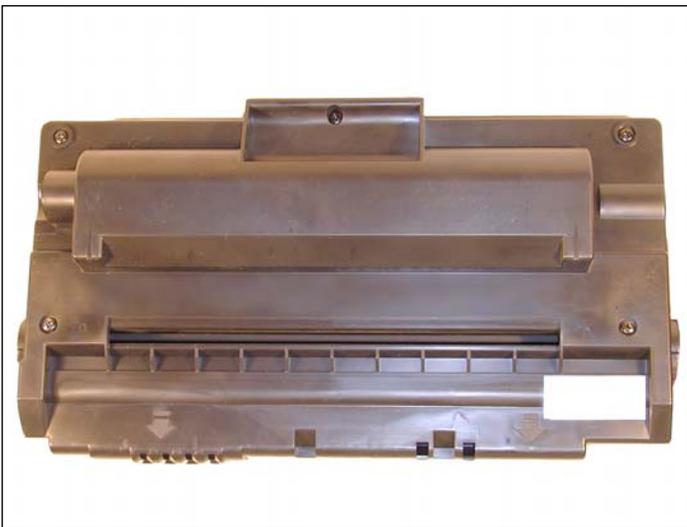
SAMSUNG ML 2250 TONER CARTRIDGE

REMANUFACTURING THE SAMSUNG ML-2250 TONER CARTRIDGE

By Mike Josiah

First released in July 2004, the Samsung ML-2250 printers are based on a 22ppm, 1200dpi engine.

These cartridges are very similar to the ML-1750, but there are differences. The main difference is that some of the ML-1750 cartridges have a fuse to reset the printer. The ML-2250 cartridges use a series of different chips. The actual ML-2250 doesn't use anything but all the rest so far use a special chip. A chart below will list all the different variations.



These images show different views of the cartridge, basically the 2250 series are a bit flatter than other Samsungs.

These cartridges do not have a drum cover, and come new with a piece of heavy paper taped around the cartridge. All new cartridges opened so far have shown some toner leakage on the drum that would have shown on any prints.

The standard cartridge (Samsung part# ML-2250D5/XAA) comes new with 120g toner, and is rated for 5,000 pages at 5% coverage. Other brands based on the 2250 have a low yield cartridge rated for 3,000 pages. They are also listed in the chart below. In some cases, the cartridges do not have the branded part number on them. For those cases, we have listed the part numbers that are on the cartridge label (Samsung manufacturing code):

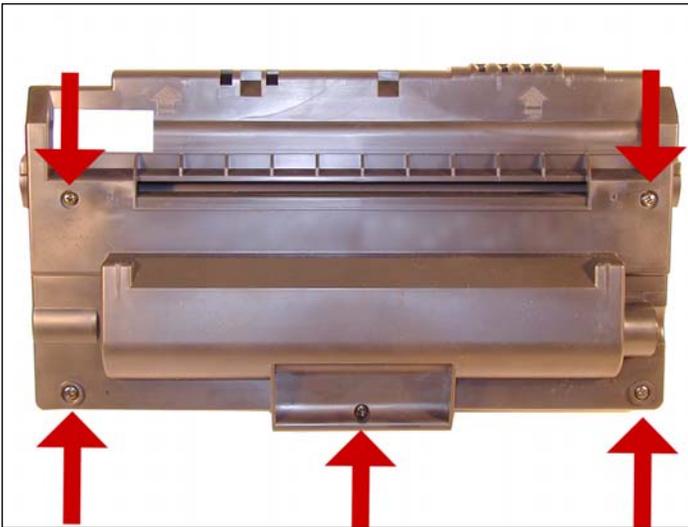
Model	Yield	OEM Part #	Secondary #	Chip?	Typical Aftermarket Toner Weight
Samsung ML2250, 2250M, 2251, 2251N, 2251NP, 2252, 2252W, 2255G	5000	ML-2250D5/XAA	ML-2250D5/XAA	N	120
Samsung SCX-4520, 4720, 4720F	3000 5000	SXC4720D3/XAA SXC4720D5/XAA	SXC4720D3/XAA SXC4720D5/XAA	Y Y	75 120
Dell 1600n	3000 5000	310-5416 310-5417	KR-OK4671 KR-OK4210	Y Y	75 120
Xerox Phaser 3150	3500 5000	109R00746 109R00747	ML2250D4/P31540 ML2250D5/P31541	Y Y	75 120
Xerox WorkCentre PE120/PE120i	3500 5000	109R00601 109R00606	SXC4720D4/PE120 SXC4720D5/PE121	Y Y	75 120

REQUIRED TOOLS

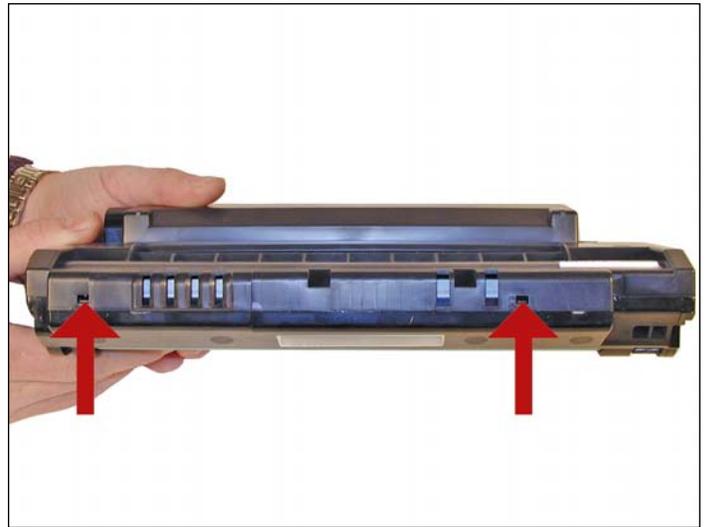
- Toner approved vacuum
- A small common screw driver
- A Phillips head screwdriver
- Needle nose pliers

REQUIRED SUPPLIES

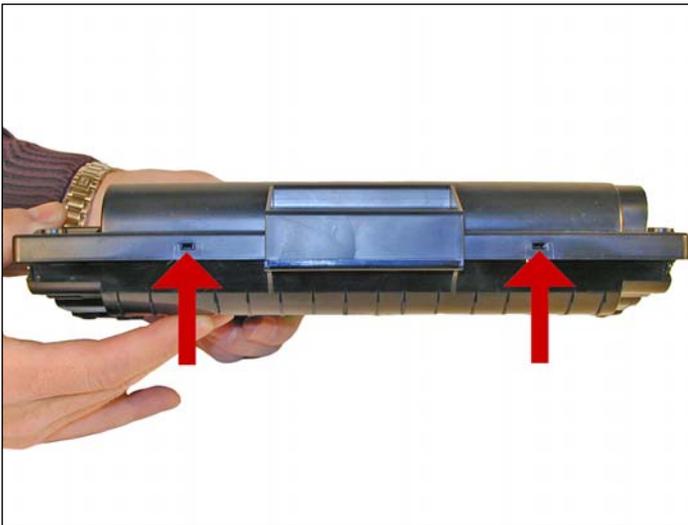
- Samsung 2250 Toner either 75g or 120g depending on yield
- Conductive Grease
- Drum lubricating powder



1. Place the cartridge with the handle facing up. Remove the five top cover screws.

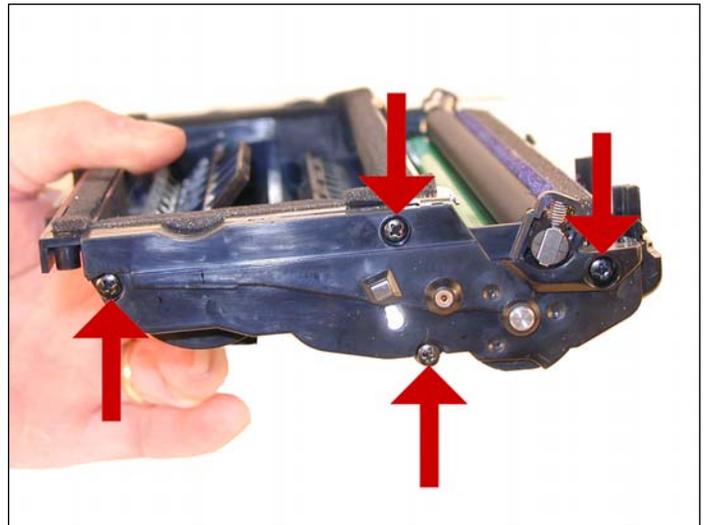


2. On the front edge of the cartridge, there are two tabs. Press these two tabs in, and lift the front edge of the cover up.

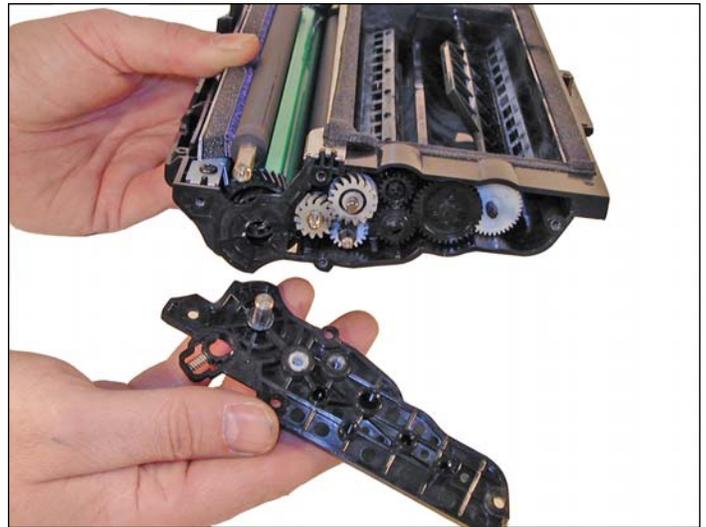
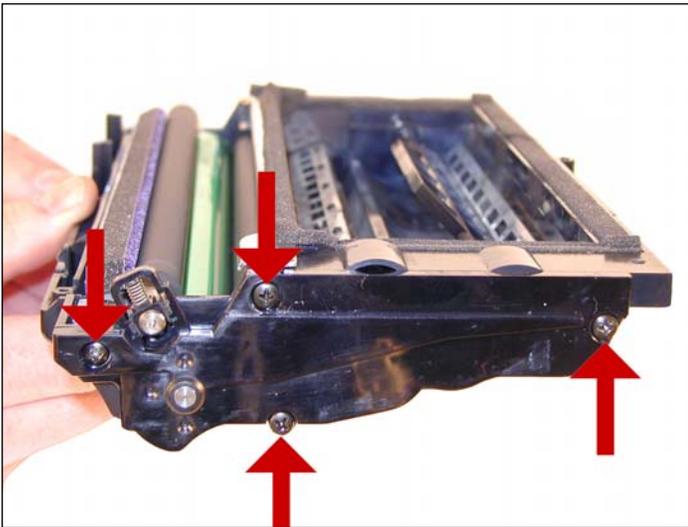


3. Next to the handle of the cartridge to the right and left, there are two more plastic tabs. GENTLY press them in, and remove the cover.

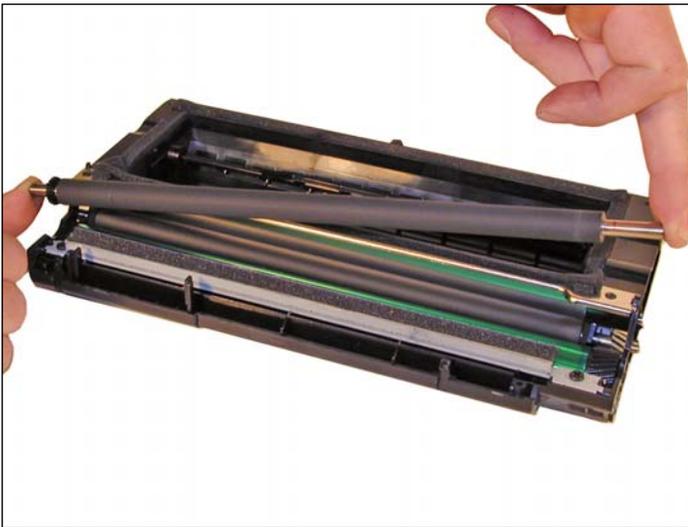
CAUTION: The upper half of the toner hopper is being removed. If there is a lot of toner left in the hopper, it can dump out all over! Vacuum the hopper clean.



4. With the toner hopper away from you, remove the four screws on the left side end cap. Remove the end cap.



5. Remove the four screws on the right side end cap. Remove the end cap.



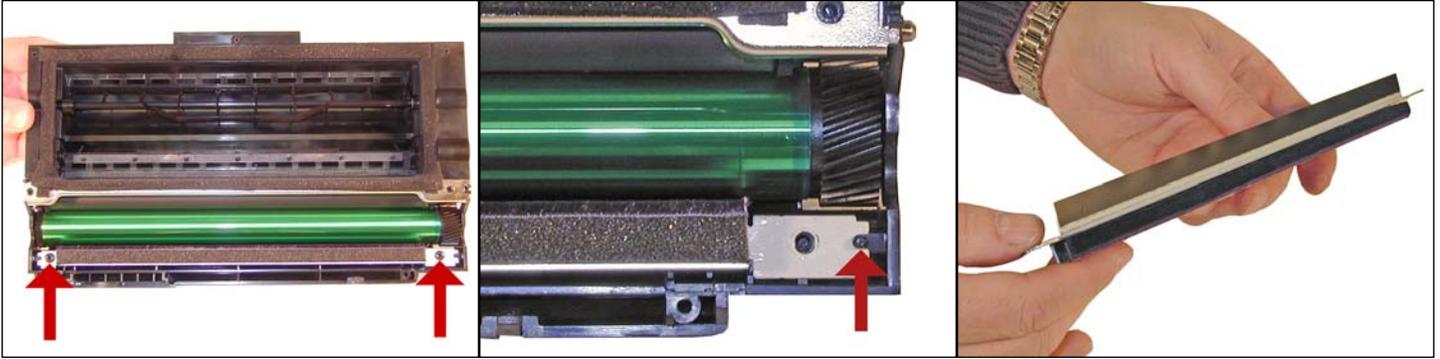
6. Remove the PCR.



7. Also on the right side there is a series of gears under the end cap. Make a note of the location of each gear, and remove them.

Clean the PCR with your normal PCR cleaner.

WARNING: Do not clean the OEM PCR with alcohol, as this will remove the conductive coating from the roller. If the PCR is an aftermarket, follow the cleaning methods recommended by the manufacturer. If the PCR is an OEM, we recommend it be cleaned with your standard PCR cleaner.



8. There are two screws on the PCR cleaner assembly. Remove them and gently pry the blade up. Be careful not to damage the alignment pins. This PCR cleaner also has what can be considered a wiper blade. It is a very flimsy blade attached to the metal bar. Wipe this blade down with a clean lint free cloth before re-installing.

It is very important that the PCR cleaner be cleaned. Vacuum or blow off any residual toner from the foam/felt.

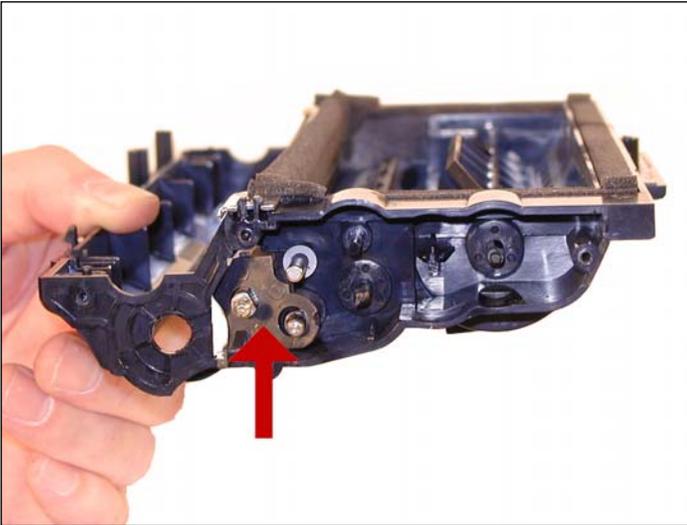


9. With the PCR cleaner assembly removed, the drum can easily be removed by lifting it out.

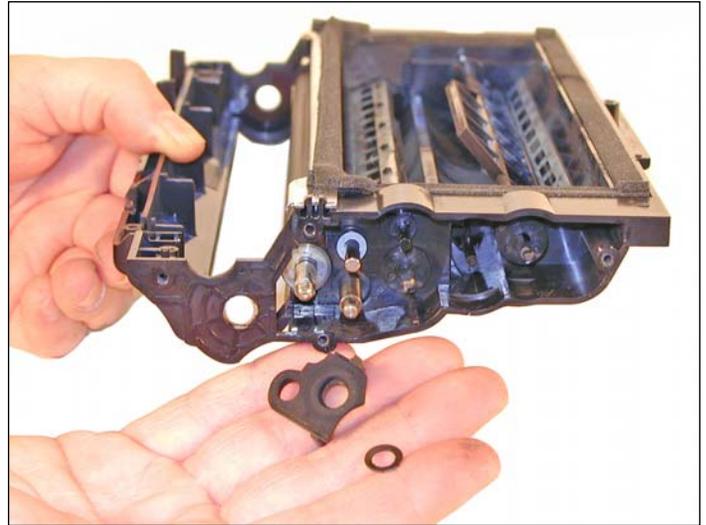
Clean out any remaining toner from the cartridge.



10. Press in on the bottom tab of the developer roller plate (right gear side) to release it.



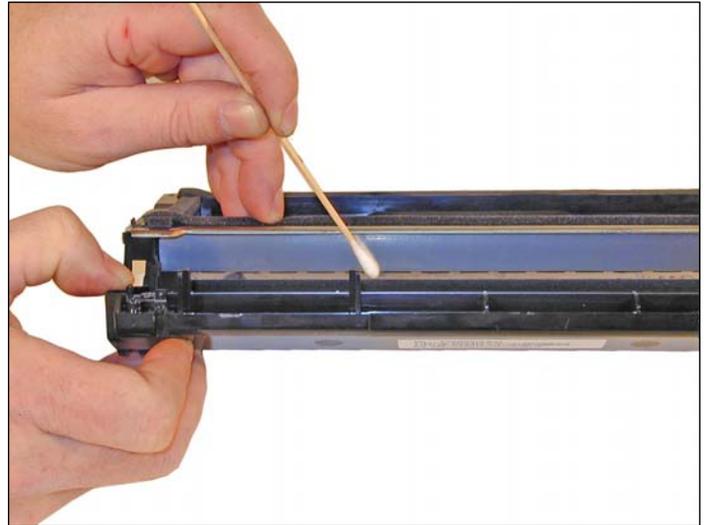
11. With a small common screwdriver, press the entire plate towards the edge of the developer roller cavity, and lift up. The plate should come loose.



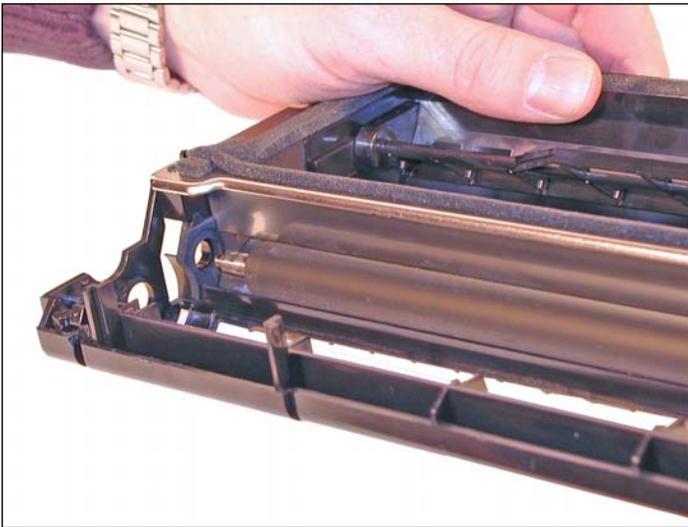
12. Gently pry out the roller plate from the cartridge. The foam seal, and possibly a plastic flat washer will come out with it. Be careful not to damage the foam seal, or loose the flat washer.



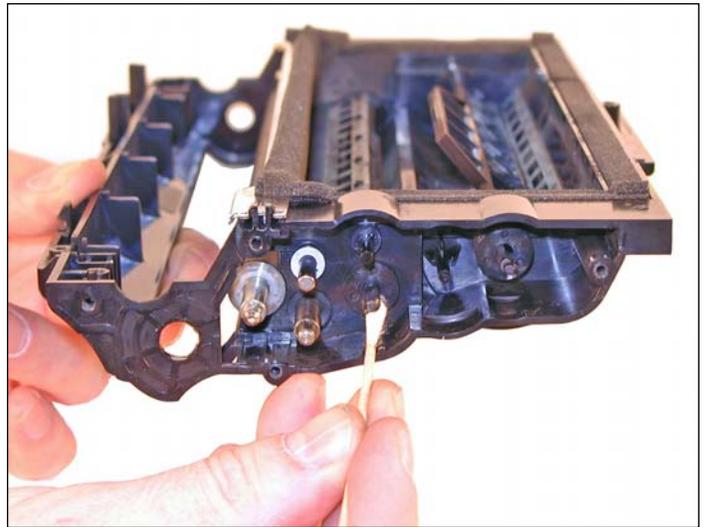
13. Remove the developer roller. Be careful not to damage or lose the flat washers on the roller.



14. It is highly recommended that the doctor blade be cleaned. Failure to do so will cause streaking. The doctor blade can be cleaned with out removing it. Dampen a cotton swab with alcohol, and clean the blade. Be careful not to press too hard and damage the blade. If the blade has a heavy buildup of toner on it, clean it with acetone, and then alcohol. Removing the blade is difficult because of the foam seals attached. If the seals are torn, the cartridge will leak. That is why we do not recommend it. Once replacement doctor blades are available, they will have to come with replacement foam.



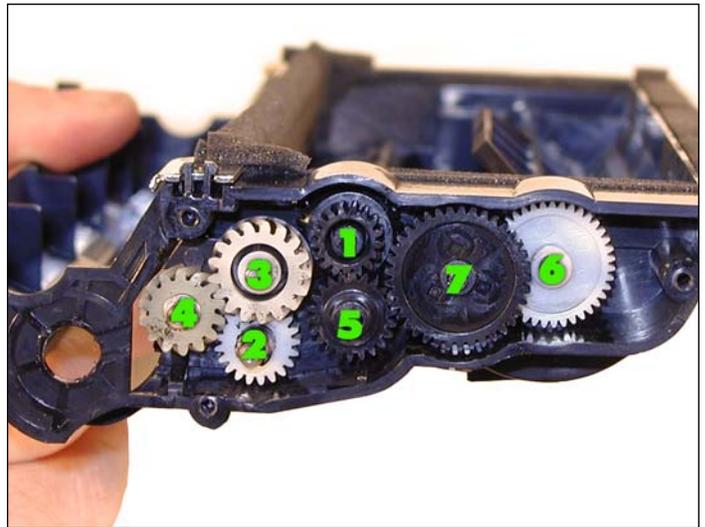
15. Replace the developer roller, and flat washers.



16. If no grease is left on the gears and gear shafts, or it is contaminated with toner clean it all off. Replace it with white lithium grease. Be sure to clean and grease the gear shafts, and inside the gear.



17. Install the roller plate. Make sure the tab is locked in place.



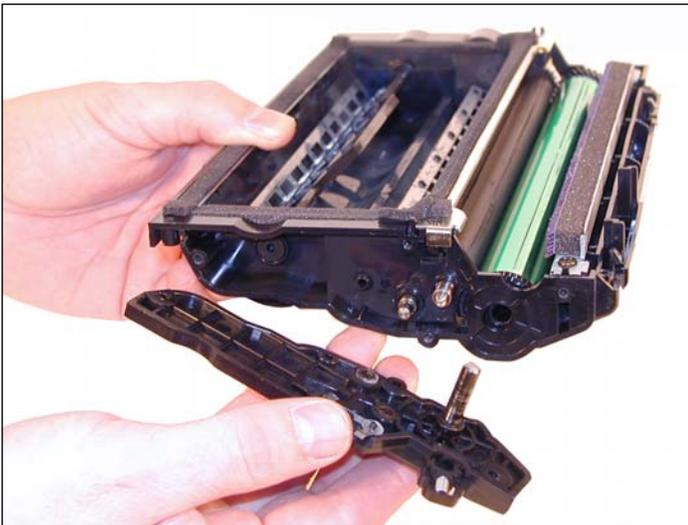
18. Replace the roller plate and seven gears. Look carefully at the picture of the gears. Each gear must fit in this exact way. The gears labeled in order of installation.



19. Install the new drum in place.



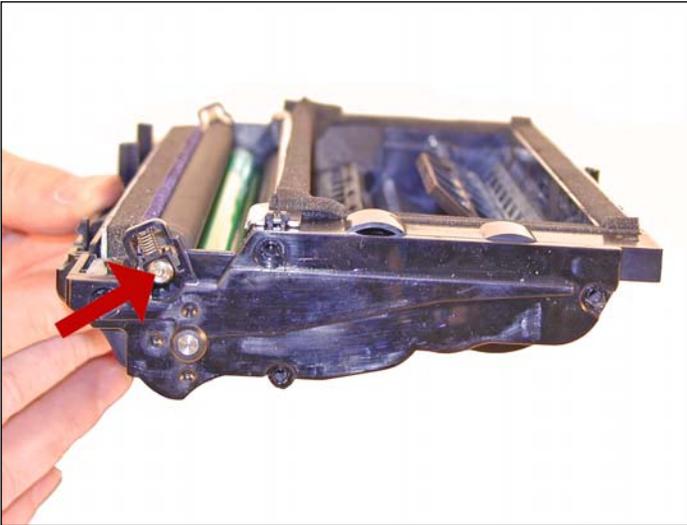
20. Install the PCR cleaner assembly.



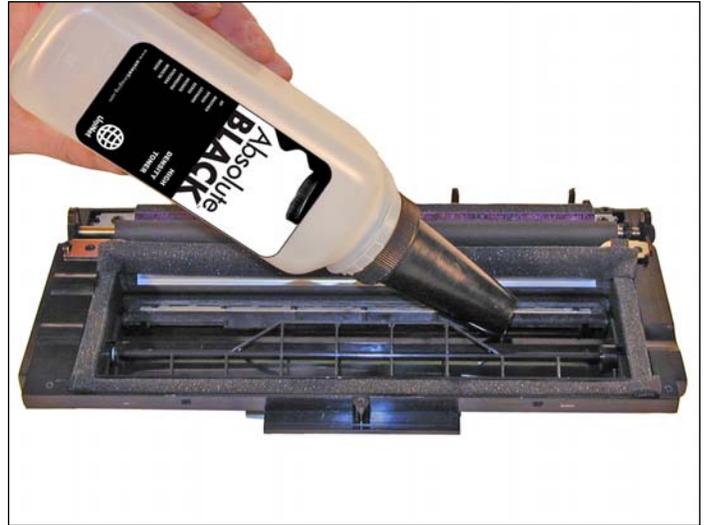
21. Clean the conductive grease off the left side (non gear) end cap and replace with fresh grease. Replace the end cap and four screws.



22. Install the PCR. Make sure that the PCR gear is on the correct side and that the shaft is in the PCR holder.

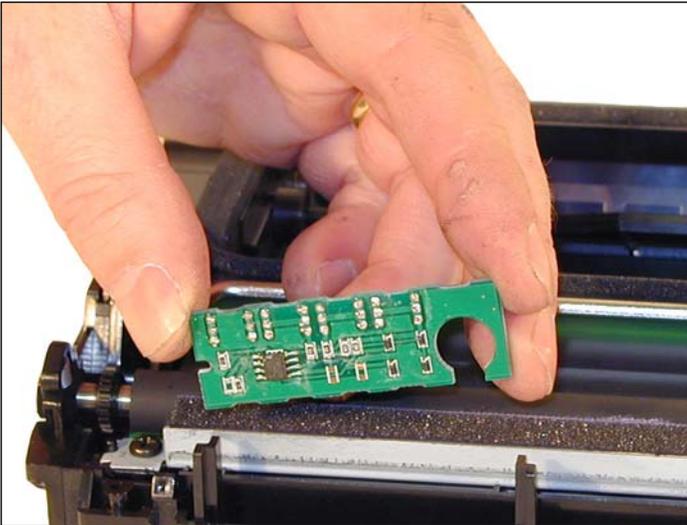


23. Install the right side end cap, and 4 screws. Make sure the PCR fits correctly in its holder, and all the gears are aligned.

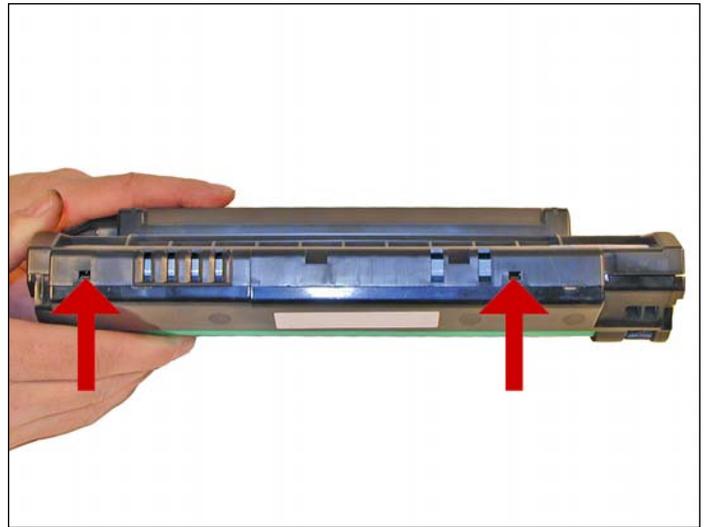
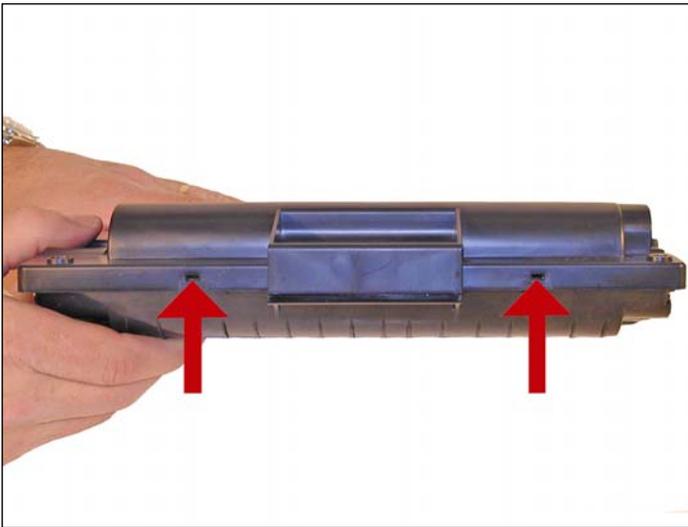


24. Fill the hopper with the appropriate amount of toner.

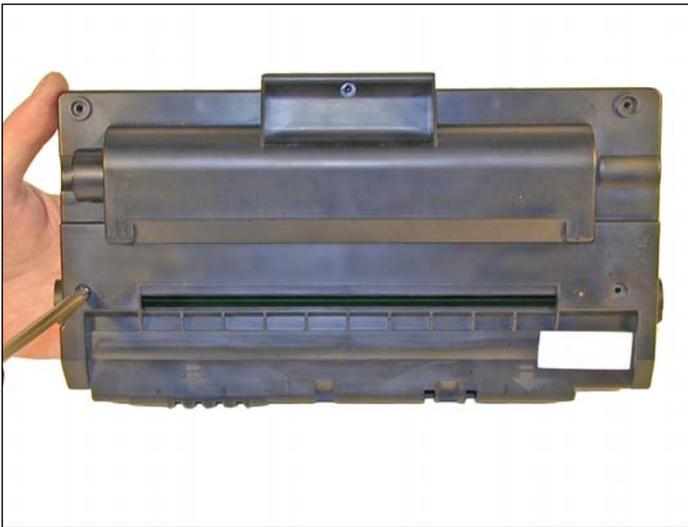
This can also be done through the fill plug, but the fill plug tends to leak and will probably have to be sealed with silicon.



25. Replace the chip. Make sure the chip you install is the correct one for the machine it is to be installed in. New reset boxes are now available that can change the personality of the chip across the full line. This will enable you to test the cartridge in your test machine, and then change the chip to work in your customer's machine if different.



26. Carefully snap the cover on making sure all the tabs lock in place.



27. Install the five screws in the top cover.

NOTE: All of the following is based on the ML-2250. Other branded machines may be different.

Printing Test Pages

Test pages from these machines are very easy to run. Timing is the only issue here.

Demo Page

Press and hold the "CANCEL" button for 2 seconds. A demo page will print out.

Configuration Page

Press and hold the "CANCEL" button for 6 seconds. The configuration page will print out.

Cleaning Page

Press and hold the "CANCEL" button for 10 seconds. The cleaning page will print out.

COMMON CARTRIDGE PROBLEMS

Even Light Prints

Check to see if the Toner Save feature has been enabled. The Toner Save light will be on. This is accessed from the printer driver properties.

Dirty or Bad Primary Charge Roller (PCR) Located Inside the Cartridge

This will show on the test print as vertical gray streaks down the page, as a gray background throughout the page, as ghosting where part of a previously printed area is repeated, or as a mark that repeats every 38mm.

Dirty PCR Connection

This will show as horizontal dark black bars across the page, or as shading throughout the page.

Scratched Drum

This will show a very thin, perfectly straight line that runs from the top to the bottom of the test page.

Chipped Drum

This will show as a dot or series of dots that repeat every 76mm.

Light Damaged Drum

This will show up as a shaded area on the test print that should be white. Again this will repeat every 76mm.

Bad Wiper Blade

This will show as either a gray line approximately 1/8" thick, or as shading across the entire page. In either case there will be a film of toner on the drum surface.

Bad Developer Roller

This will show up as light print or as a mark that repeats every 44mm.

Machine Error Codes

These machines do not have a display panel. They use a series of LED's to indicate a problem. There are two lights on the control panel, the ONLINE/ERROR, and the TONER SAVE lights. The Online light is a two color LED, Red and Green.

The user manual for these machines only has very basic information listed as follows:

1. If both lights are blinking, the machine has problems and needs service.
2. If the ONLINE light is on steady RED, and the toner save light is off, there could be a number of problems. Either there is a paper jam, the front cover is open, or the toner cartridge is empty.
3. If the ONLINE light is on blinking GREEN, and the toner save light is off, there could also be a number of problems or reasons. If the printer is receiving data, the ONLINE/ERROR LED will blink slowly. If the printer is printing, the ONLINE/ERROR LED will blink fast. The ONLINE/ERROR will also blink if it is in the manual feed mode, and no paper is in the manual feeder, or if the CANCEL button was pressed while the printer was receiving data.

