

SAMSUNG® ML-2250

TONER CARTRIDGE REMANUFACTURING INSTRUCTIONS



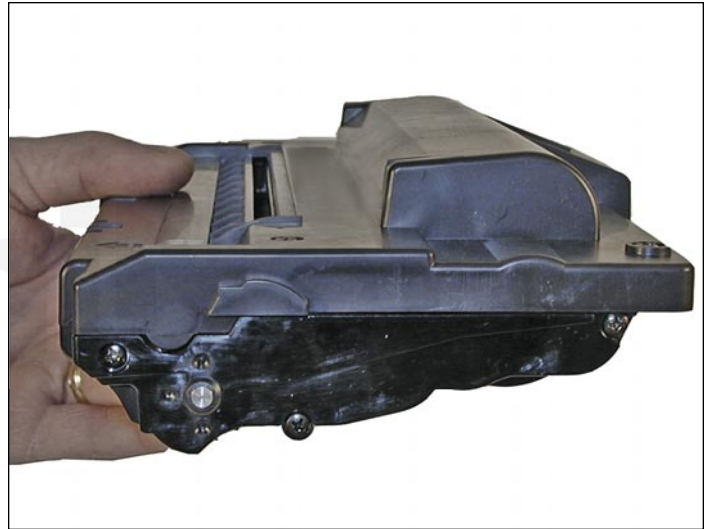
SAMSUNG ML-2250 TONER CARTRIDGE

REMANUFACTURING THE SAMSUNG ML-2250 TONER CARTRIDGE

By Mike Josiah and the Technical Staff at UniNet

First released in July 2004, the Samsung ML-2250 printers are based on a 22-ppm, 1200 DPI 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 does not use anything but all the rest so far use a special chip. A chart below will list all the different variations.



Shown are different views of the cartridge; basically the 2250 series are a bit flatter than other Samsung engines.

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 number 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).

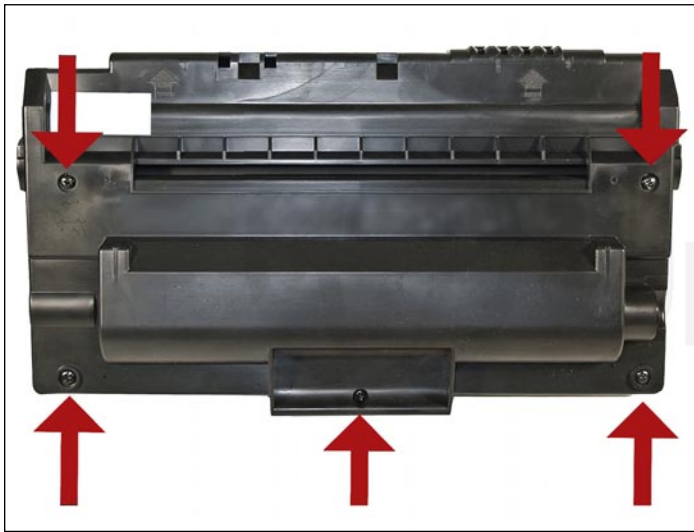
Model	Yield	OEM Part #	Secondary #	Chip?	Typical Aftermarket Toner Weight
Samsung ML-2250, 2250M, 2251, 2251N, 2251NP, 2252, 2252W, 2255G	5,000	ML-2250D5/XAA	ML-2250D5/XAA	N	135
Samsung SCX-4520, 4720, 4720F	3,000	SXC4720D3/XAA	SXC-4720D3/XAA	Y	100
	5,000	SXC4720D5/XAA	SXC-4720D5/XAA	Y	150
Dell 1600n	3,000	310-5416	KR-OK4671	Y	85
	5,000	310-5417	KR-OK4210	Y	150
Xerox Phaser 3150	3,500	109R00746	ML-2250D4/P31540	Y	90
	5,000	109R00747	ML-2250D5/P31541	Y	155
Xerox WorkCentre PE120, PE120i	3,500	109R00601	SXC-4720D4/PE120	Y	95
	5,000	109R00606	SXC-4720D5/PE121	Y	135

REQUIRED TOOLS

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

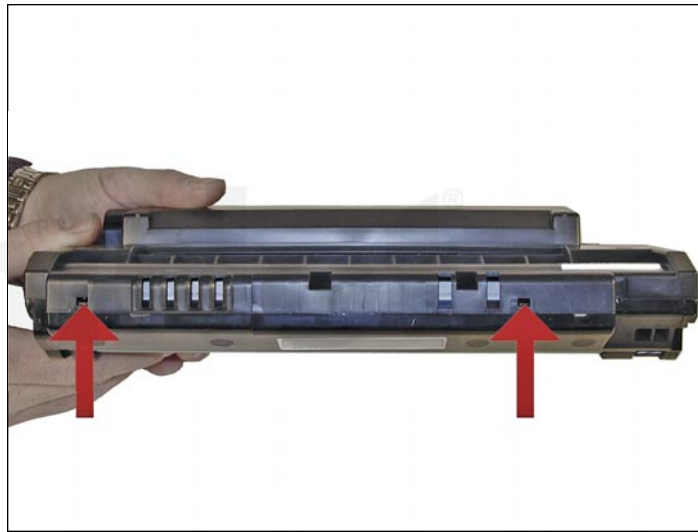
REQUIRED SUPPLIES

New replacement toner for use in Samsung ML-2250 (135g for 5,000 pgs)
 Conductive grease
 Drum lubricating powder



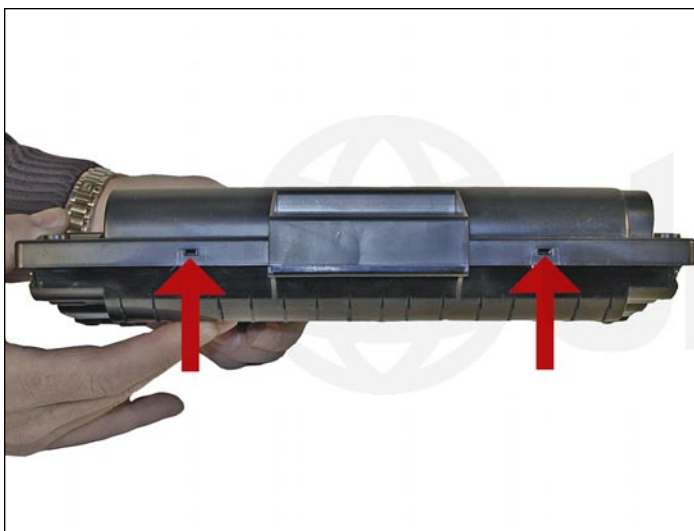
1. Place the cartridge with the handle facing up.

Remove the five top cover screws.

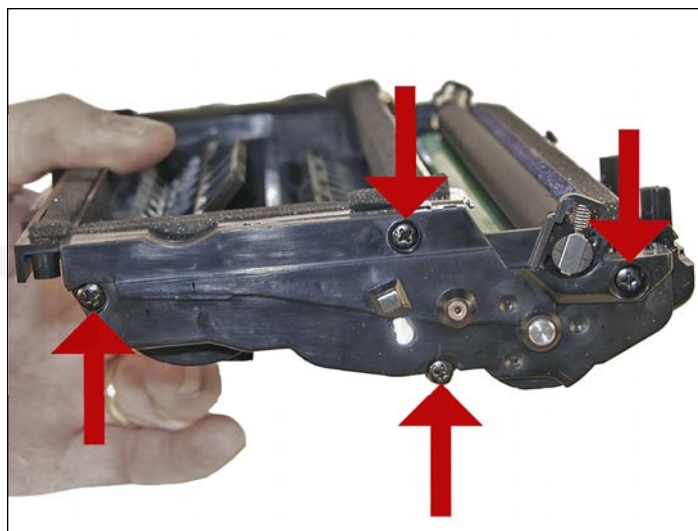


2. On the front edge of the cartridge, there are two tabs.

Press the two tabs in, and lift the front edge of the cover up.

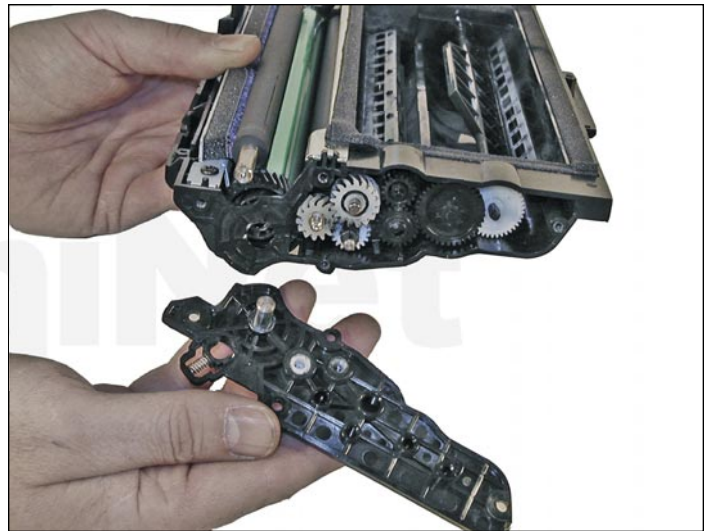
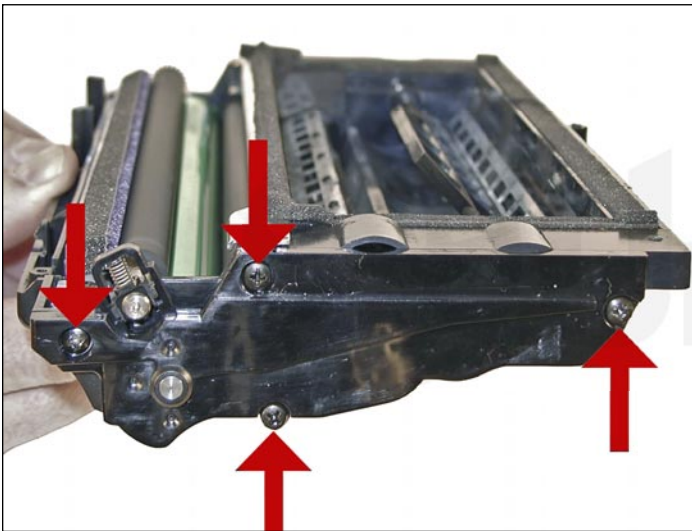


3. Next to the handle of the cartridge (right and left), there are two more plastic tabs. GENTLY press them in, and remove the cover.



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

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.

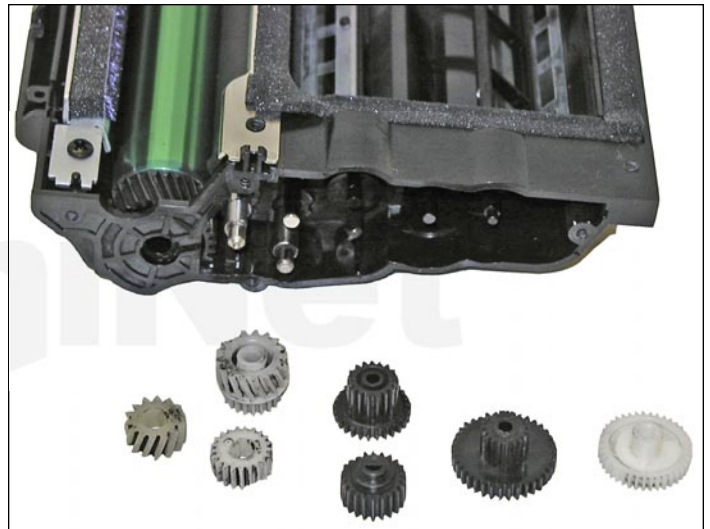


5. Remove the four screws on the right side end cap.

Remove the end cap.

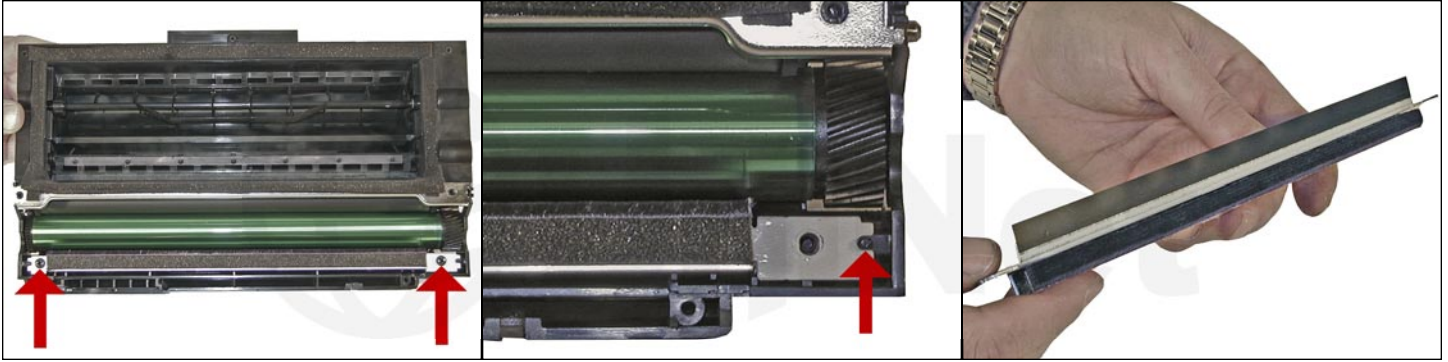


6. Remove the PCR.



7. Also under the right side end cap, there is a series of gears. Note the location of each gear, and remove them. Clean the primary charge roller (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.



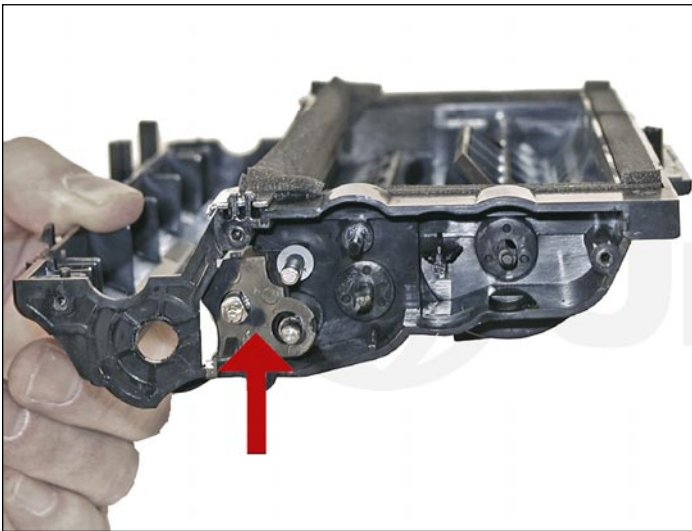
8. There are two screws on the PCR cleaner assembly. Remove them and gently pry the blade up. Be careful not to damage the alignment pins. This PCR cleaner also has what can be considered a wiper blade. It is a very flimsy blade attached to the metal bar. Wipe this blade down with a clean lint-free cloth before re-installing. It is very important that the PCR cleaner be cleaned. Vacuum or blow off any residual toner from the foam/felt.



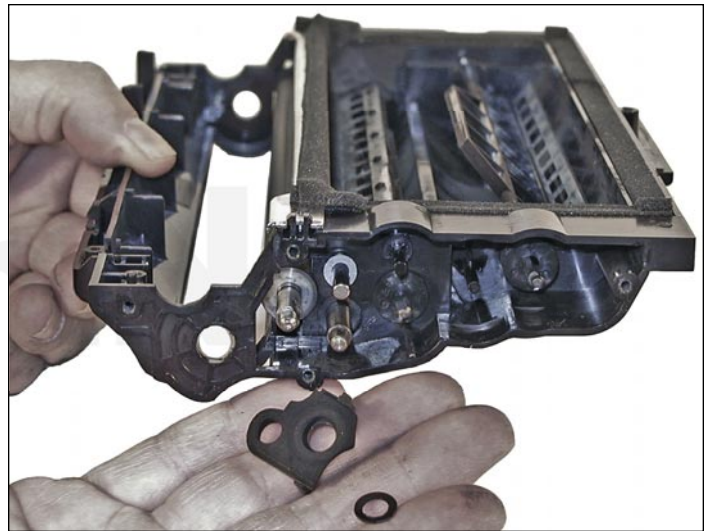
9. With the PCR cleaner assembly removed, the drum can now be easily removed by lifting it out. Clean out any remaining toner from the cartridge.



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.

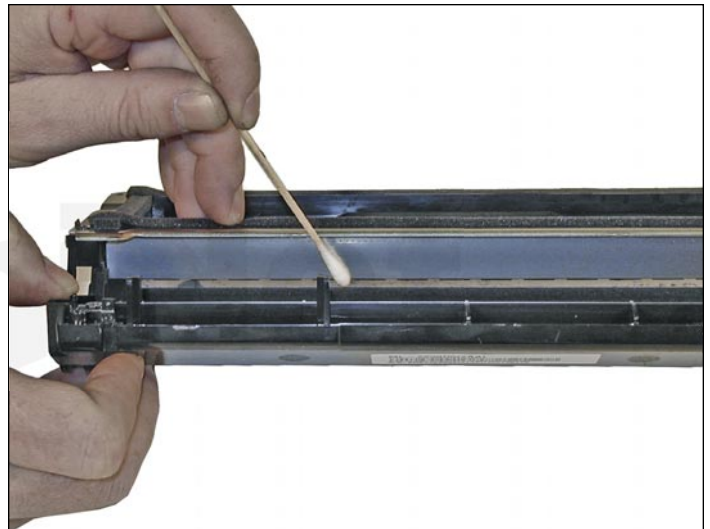


12. Gently pry out the roller plate from the cartridge. The foam seal, and possibly a plastic flat washer will come out with it. Be careful not to damage the foam seal, or lose the flat washer.



13. Remove the developer roller.

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

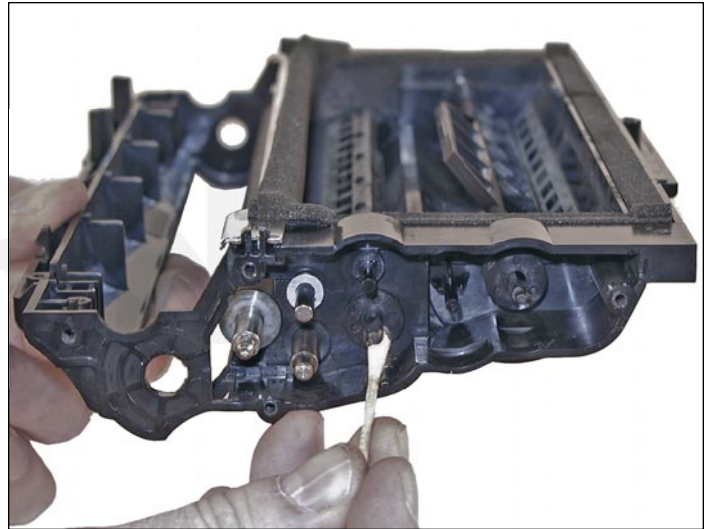


14. It is highly recommended that the doctor blade be cleaned. Failure to do so will cause streaking. The doctor blade can be cleaned WITHOUT removing it. Dampen a cotton swab with alcohol, and clean the blade. Be careful not to press too hard and damage the blade. If the blade has a heavy build-up of toner on it, clean it with acetone, and then alcohol.

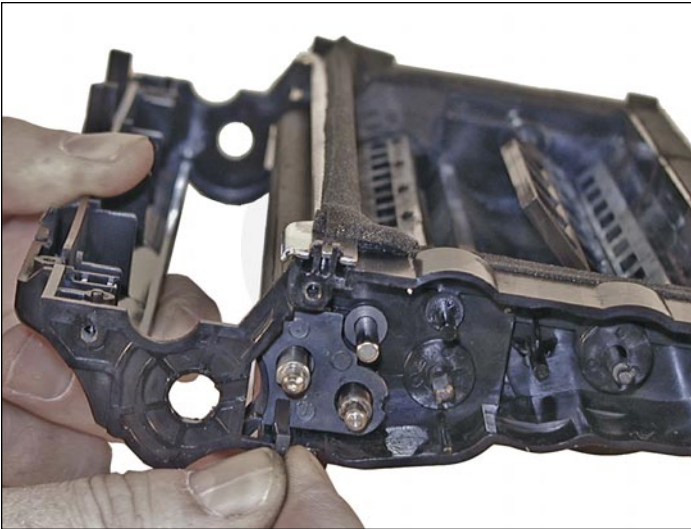
Removing the blade is difficult because of the foam seals attached. If the seals are torn, the cartridge will leak. That is why we do not recommend it. Once replacement doctor blades are available, they will have to come with replacement foam.



15. Replace the developer roller, and flat washers.

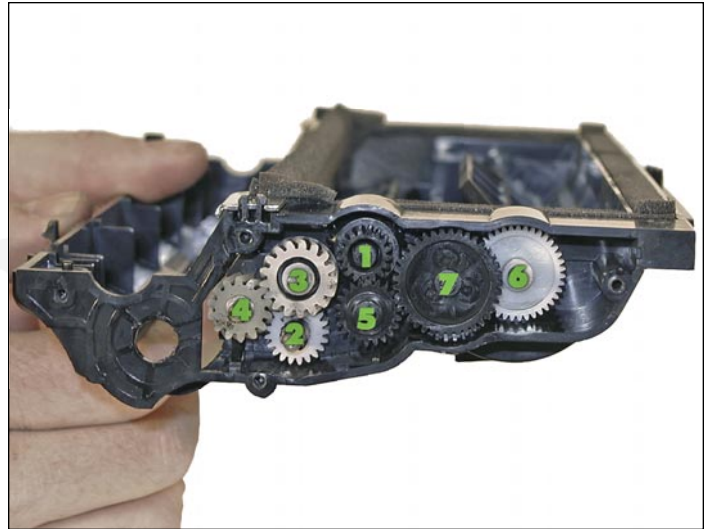


16. If no grease is left on the gears and gear shafts, or if it is contaminated with toner, clean it all off. Replace it with white lithium grease. Be sure to clean and grease the gear shafts, and inside the gear.



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 are labeled in order of installation.



19. Install the new drum in place.



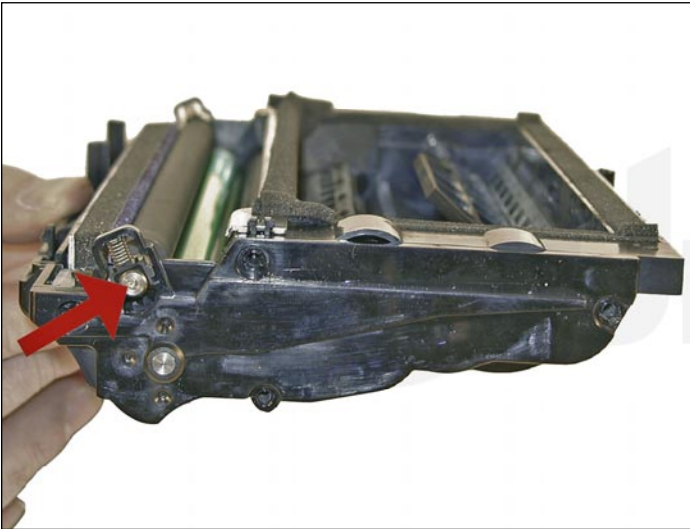
20. Install the PCR cleaner assembly.



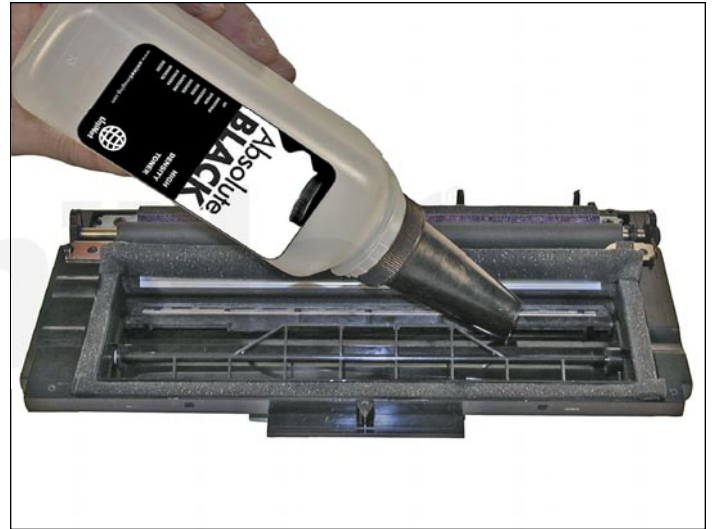
21. Clean the conductive grease off the left side (non gear) end cap and replace with fresh grease. Replace the end cap and four screws.



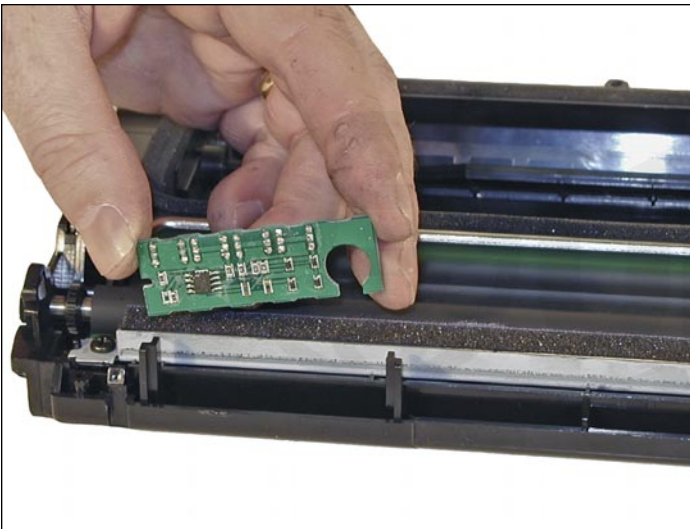
22. Install the PCR. Make sure that the PCR gear is on the correct side and that the shaft is in the PCR holder.



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

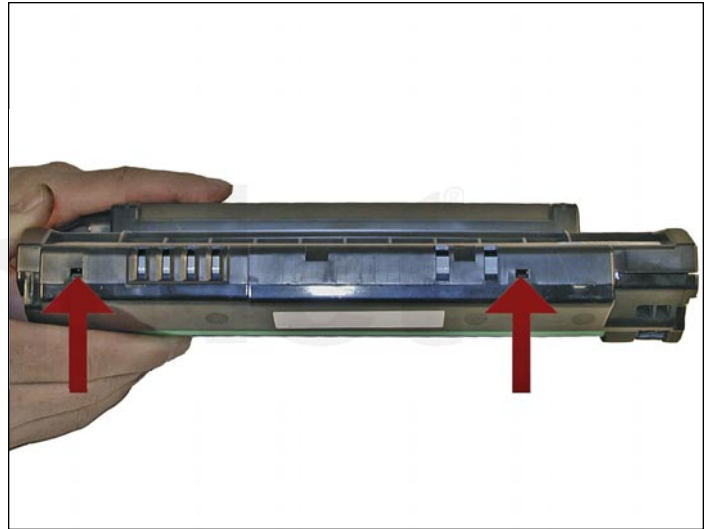
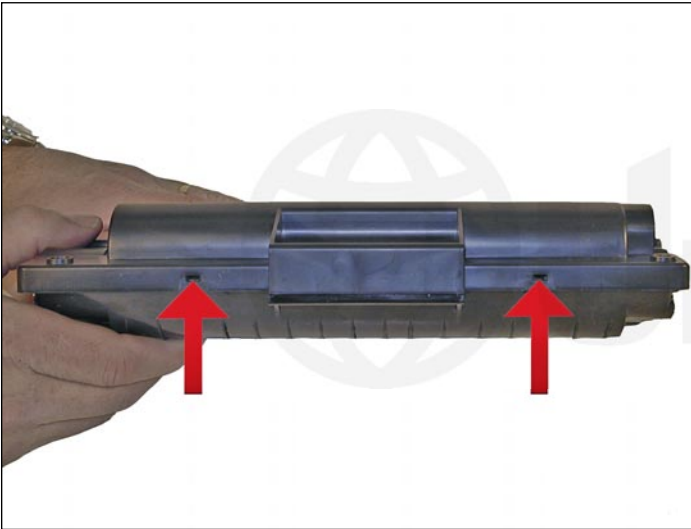


24. Fill the hopper with the appropriate amount of toner. This can also be done through the fill plug, but the fill plug tends to leak and will probably have to be sealed with silicon.



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.

PRINTING TEST PAGES

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

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

Demo Page: Press and hold the "CANCEL" button for two seconds. A demo page will print out.

Configuration Page: Press and hold the "CANCEL" button for six 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) Inside 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 76 mm.

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

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 44 mm.

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 Light, 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 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.