

SAMSUNG™ ML 1630 CARTRIDGE REMANUFACTURING INSTRUCTIONS



**SAMSUNG ML 1630
LASER PRINTER**



TONER CARTRIDGE

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Remanufacturing the Samsung ML-1630 Toner Cartridge

By Mike Josiah

First released in October 2007, Samsung ML-1630, ML-1631, ML-1630S, and SCX-4500 Printers are based on one of Samsung's newest engines. The ML-1630 series runs at 17 ppm with a maximum resolution of 600 dpi. The design is new for Samsung and all other printer manufacturers for that matter. They are pushing its sleek design as a nice office addition not only as a printer but aesthetically as well. One interesting thing is that the fuser uses a 2 lamp system. Most machines these days use a film and ceramic heater to fuse the toner. This system is more like the HP-8100.



Figure 1

These cartridges do not have a drum cover, and come new with a piece of heavy paper taped around the cartridge (see **Figure 1**). All new cartridges opened so far have shown some toner leakage on the drum that would have shown on any prints for at least a few pages.

The standard cartridge (Samsung part# ML-D1630A comes new with 40g toner, and is rated for 2,000 pages at 5% coverage. The starter cartridge however is rated for only 1000 pages. As with pretty much all cartridges these days, the cartridge has a chip, and it has to be replaced.

While this system uses all standard monochrome technology, the printer itself is extremely small and compact.

See **Figure 2** for a complete layout of the entire printer. I have not taken a machine apart yet, and I hope I never have too!

Cartridge troubleshooting as well as common error messages will be listed at the end of the instructions.

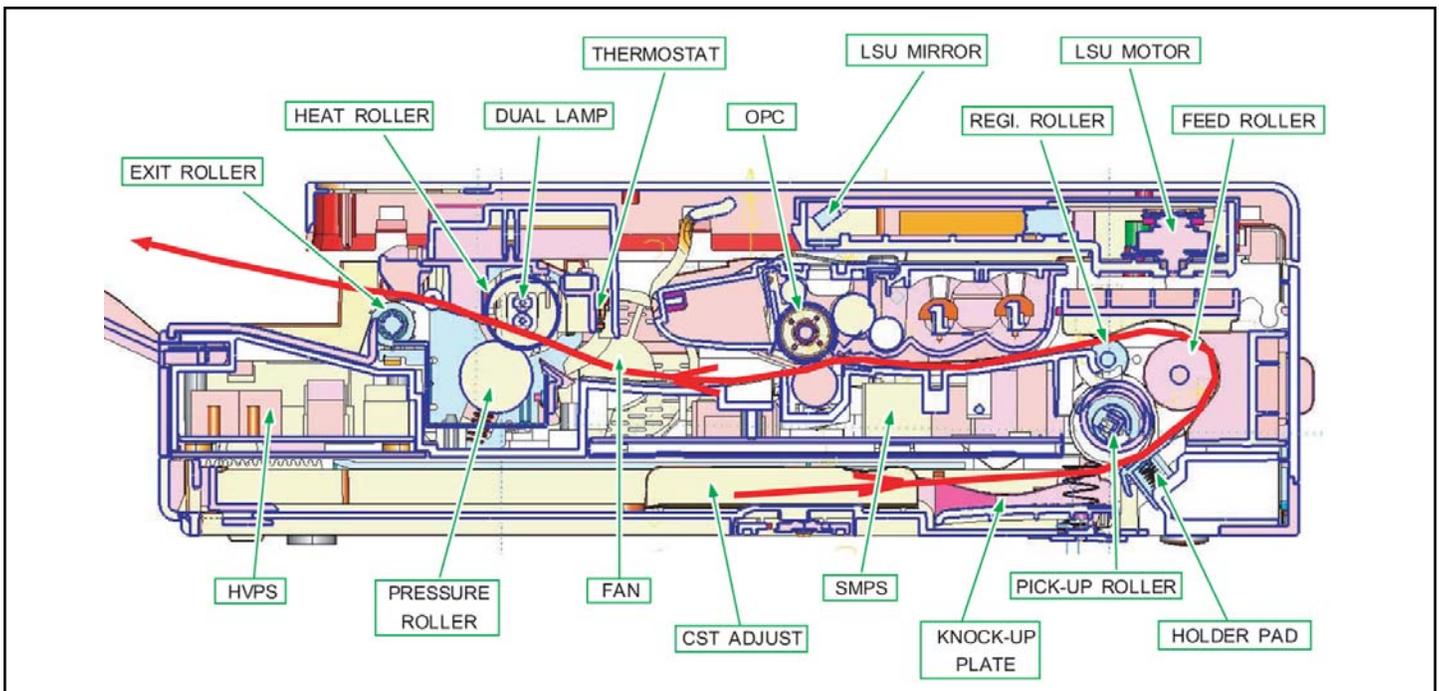


Figure 2

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REQUIRED TOOLS

1. Toner Approved Vacuum
2. A Small Common Screw Driver
3. A Phillips Head Screwdriver
4. Needle Nose Pliers

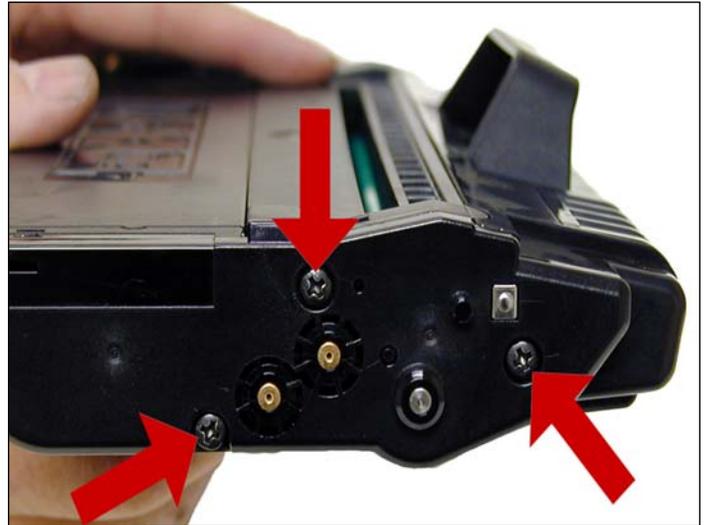
REQUIRED SUPPLIES

1. 40g Toner
2. New Replacement Chip
3. Conductive Grease
4. 99% Isopropyl Alcohol
5. Drum Lubricating Powder

NOTES



1. Place the cartridge with the handle up, facing towards you. Remove the three screws from the right side end cap.

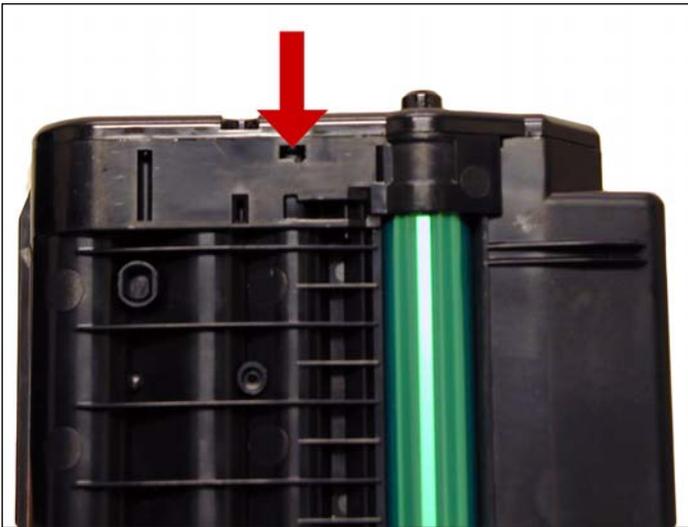


2. On the left side end cap, remove the three screws.

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3. While still on the left end cap, locate the top and bottom tabs.



4. Press in on these tabs, and remove the end cap.



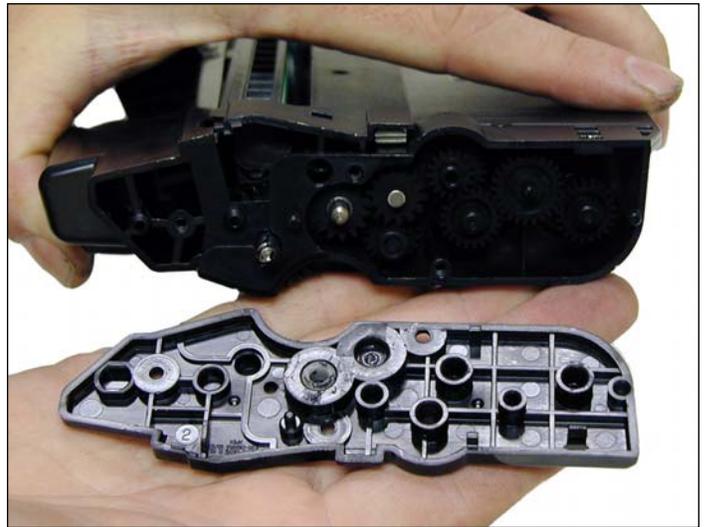
5. End cap removed.

NOTES

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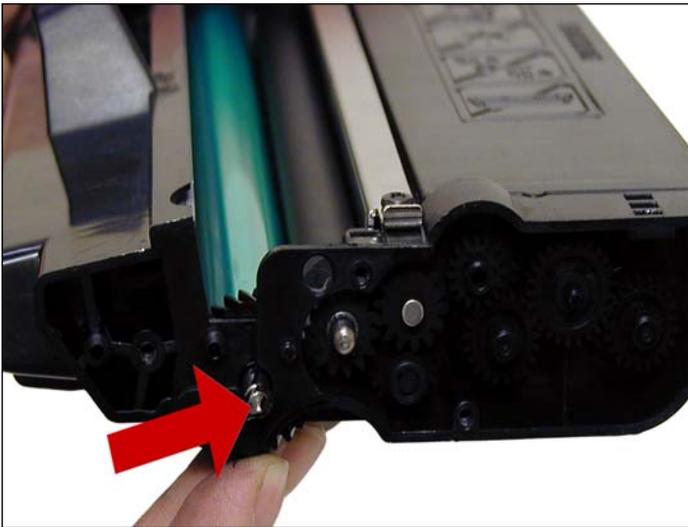
6. On the right side end cap, press in on the top tab and remove the end cap. The right side does not have a bottom tab, but it fits on very tight and must be carefully pried off.



7. Separate the two halves slightly, and lift off the middle top cover/PCR assembly.

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8. Pull the metal drum axle from the toner hopper clips on both sides.



9. Remove the drum/waste assembly.

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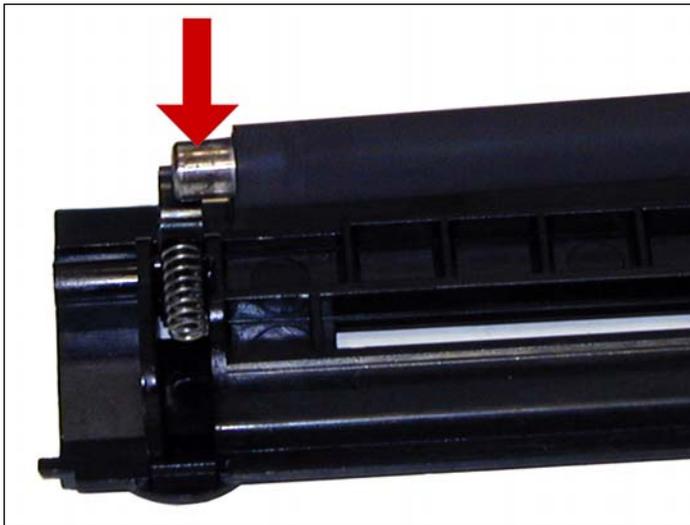
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NOTES

10. On the top cover, lift up on the PCR. Remove the PCR from the assembly. 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.

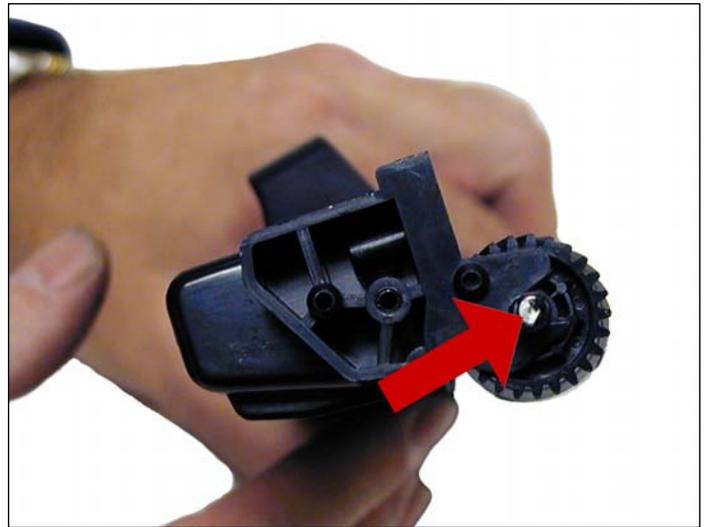


11. Place a small amount of conductive grease in each of the PCR holders, and replace the PCR.

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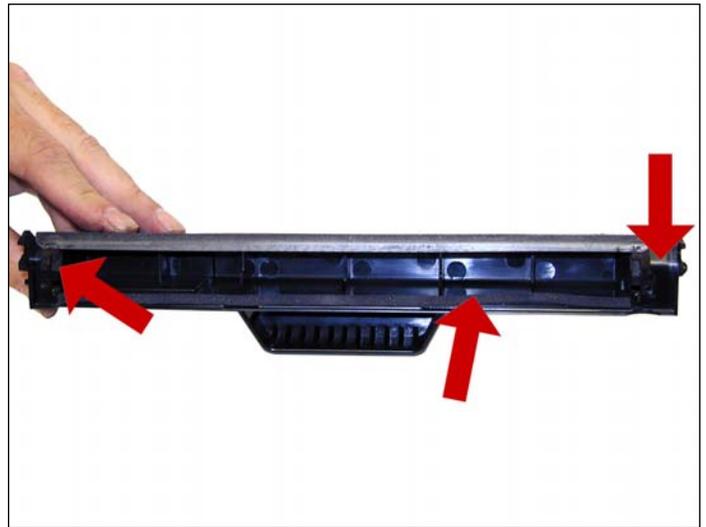
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12. Remove the drum axle from the clips on both sides of the waste assembly. Remove the drum.



13. Remove the two screws from the doctor blade, remove the blade.



14. Remove the two screws from the doctor blade, remove the blade.

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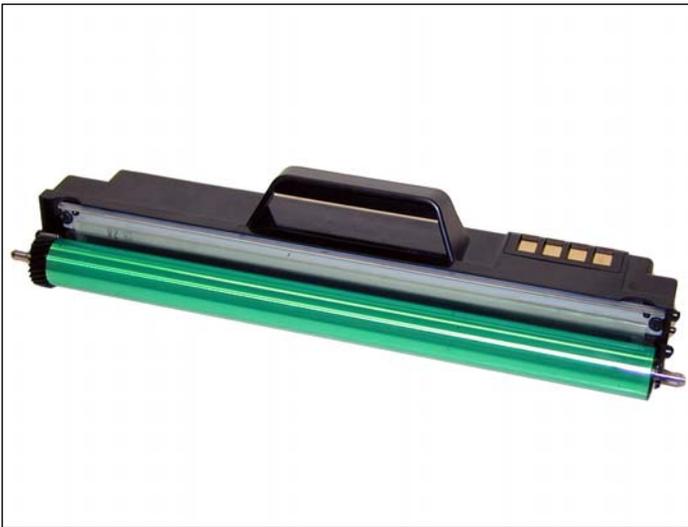
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15. Install the cleaned or new doctor blade and two screws.



16. The gear side of the drum axle shaft has conductive grease on it. Regardless of if you are replacing the drum or not, clean the old grease off, and replace with new.



17. Install the drum/axle into the clips of the waste toner assembly.

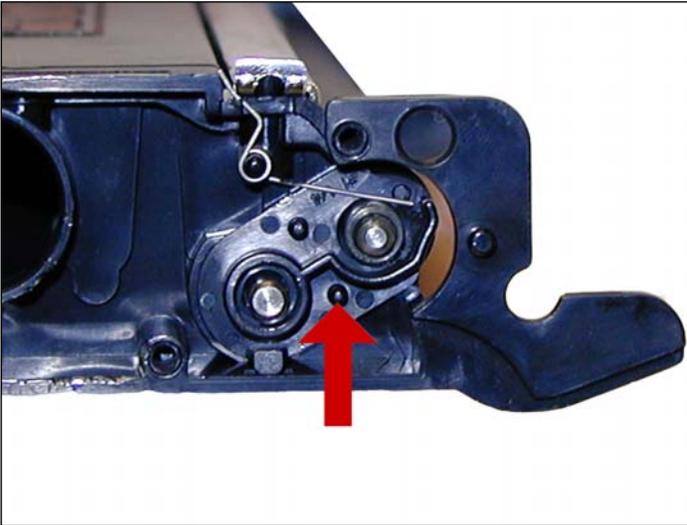


18. Carefully pry out the fill plug on the toner hopper, and dump out any remaining toner. The fill plug can be difficult to remove. Take a small common screwdriver and work it around the edge lifting slightly until it comes loose.

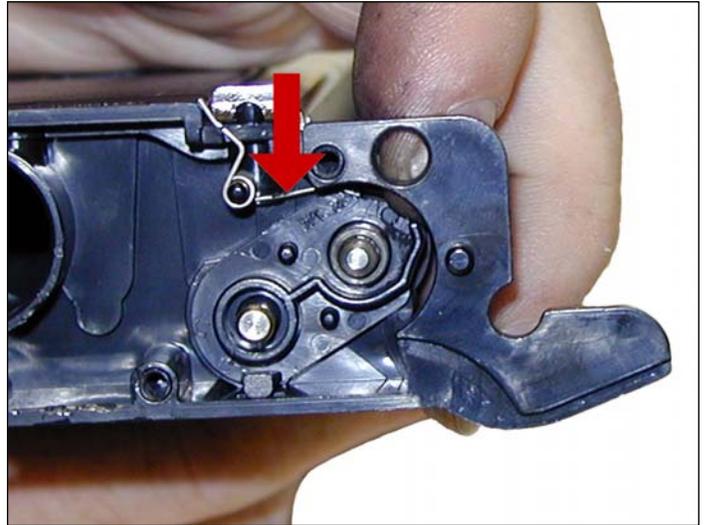
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19. On the fill plug side of the hopper, locate the double plastic bushing and contact spring.



20. Take the long tail of the spring and move it off the developer roller shaft so it sits against the bushing.



21. Press in on the bushing tab, and remove the bushing. Be careful not to lose the spring.



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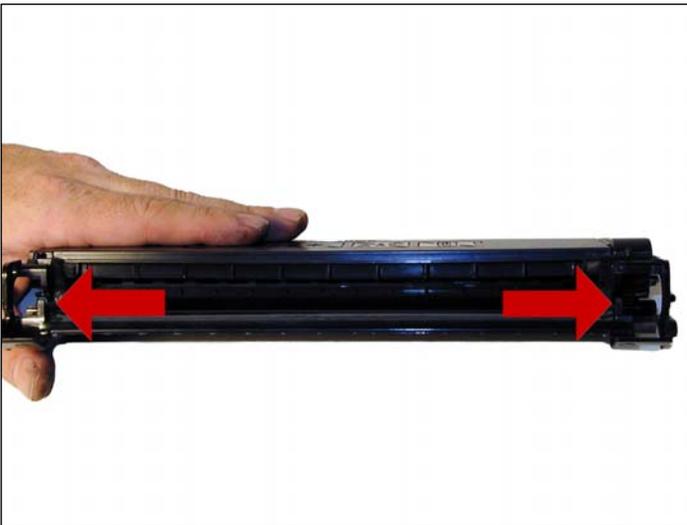


22. Slide the developer roller over, and lift out to remove.

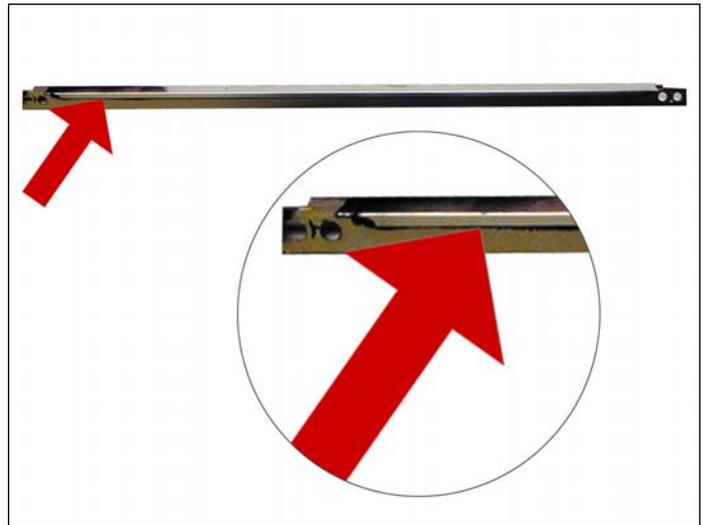


23. Remove the 2 screws from the doctor blade, remove the blade.

Clean out all the remaining toner from the hopper.



24. Make sure the doctor blade sealing foam and the developer rollers seals are clean and intact.



25. Clean the doctor blade edge so there is no evidence of build up along the edge. If any buildup exists, the cartridge will streak. This blade can be cleaned with your preferred Samsung DB cleaner.

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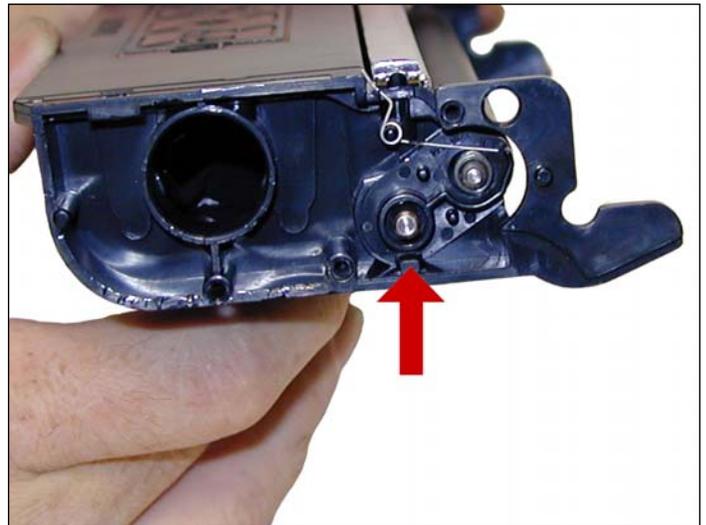
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26. Install the doctor blade and two screws.



27. Clean the developer roller with a dedicated DVR cleaner, and replace into the hopper. Install the gear side first.

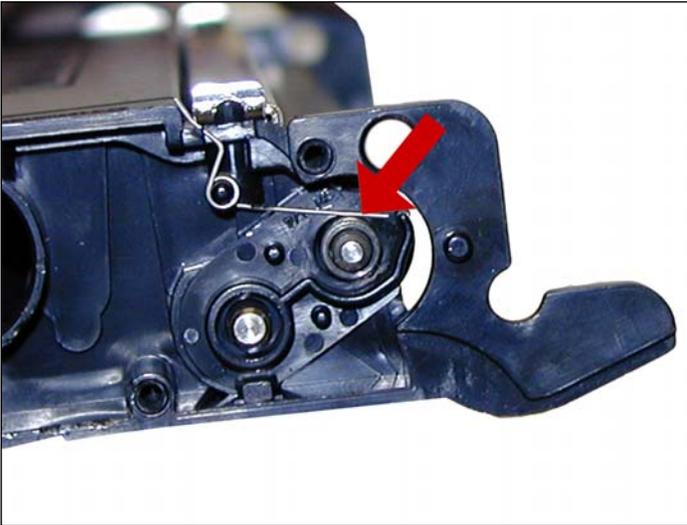


28. While holding the DVR contact spring back, install the double bushing. Make sure it snaps into place.

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29. Set the long tail of the contact spring so it touches the shaft of the developer roller.



30. Fill the hopper with 40g ML-1630 toner, replace the fill plug and check for leaks.



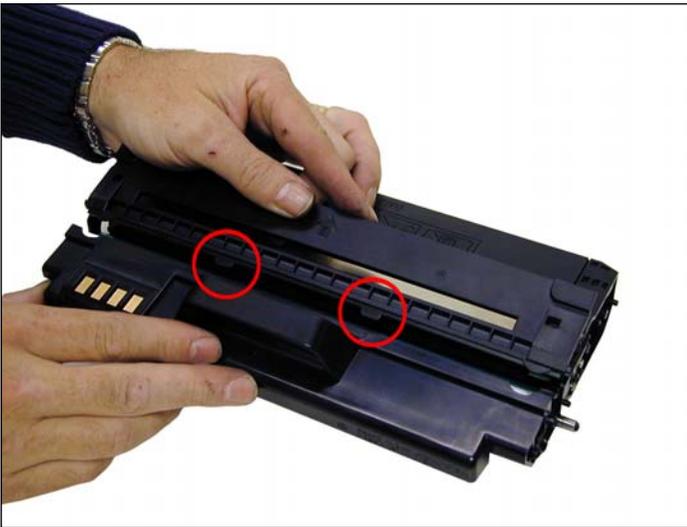
31. Snap the drum axle shaft into both clips on the toner hopper.

NOTES

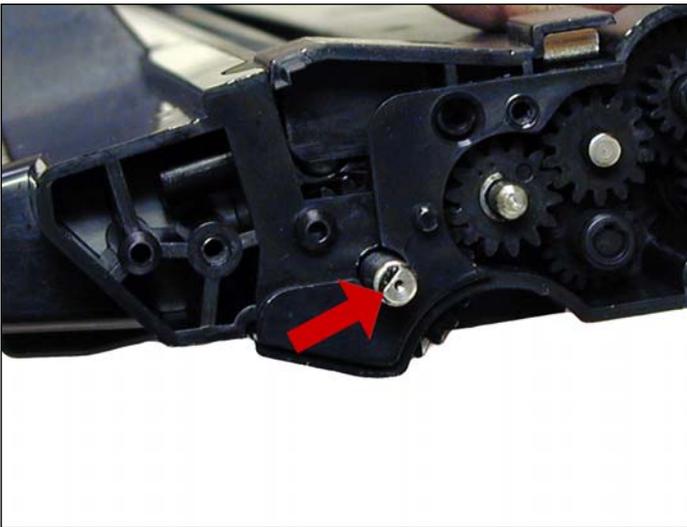
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32. Slide the middle top cover/PCR assembly into place. Make sure the two middle tabs fit under the edge of the waste hopper.



33. Take the right side end cap align the drum axle keyed end so it will fit into the keyed slot of the end cap. Snap the end cap into place.

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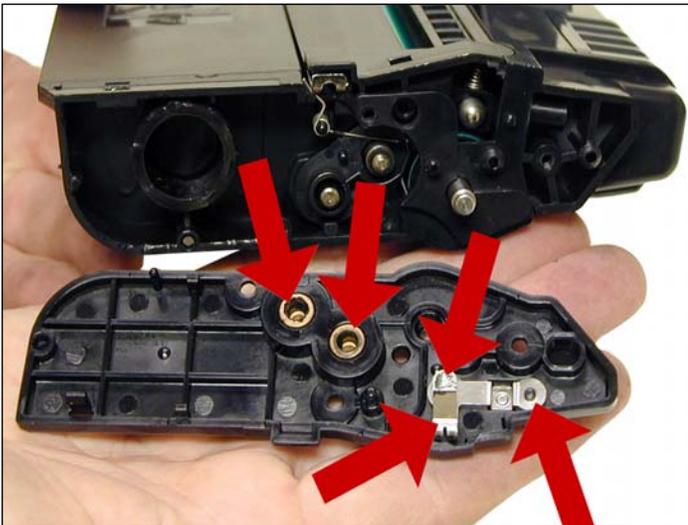
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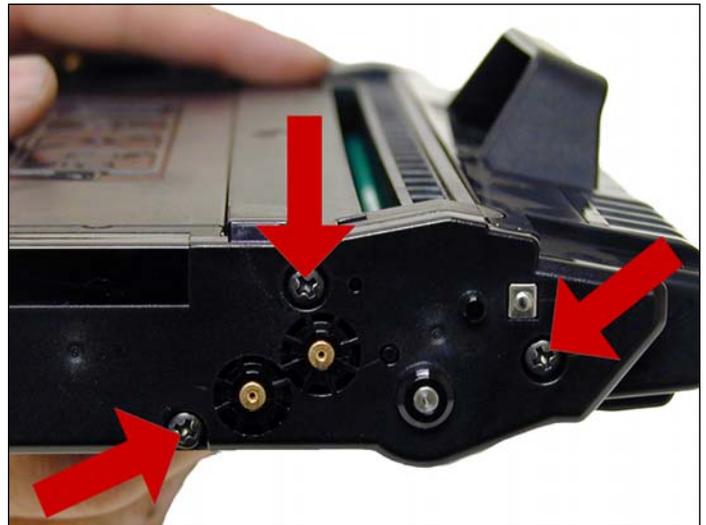
NOTES



34. Install the three screws into the end cap.



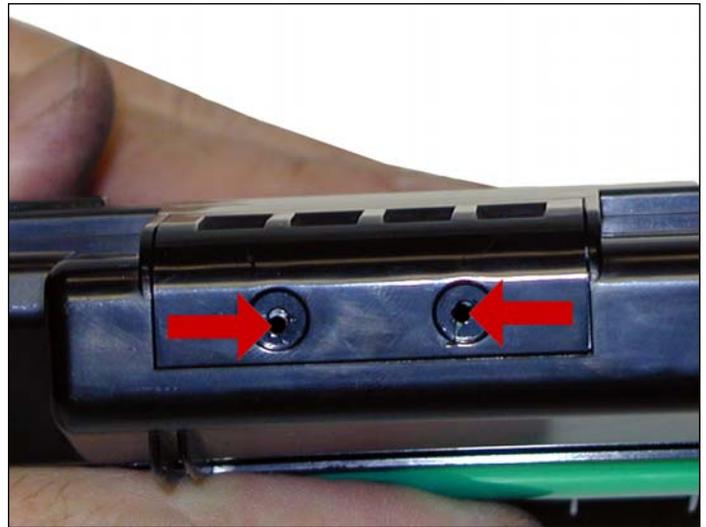
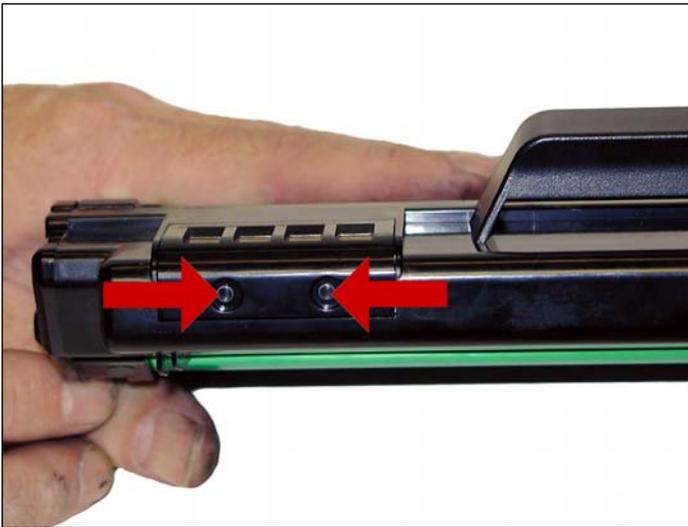
35. Clean the contacts on the left side end cap, and replace the conductive grease. Snap the end cap into place, and replace the three screws.



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36. To replace the chip, drill out the two plastic rivets with a small drill, remove the cover, and chip. I used a 5/64" bit.



37. Install the new chip and cover, insert 2 small screws that correspond to the holes drilled to hold everything in place.

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REPETITIVE DEFECT CHART

| | |
|-----------------------|---------|
| Upper Heat Roller | 77.09mm |
| Lower Pressure Roller | 75.36 |
| OPC Drum | 62.8mm |
| Transfer Roller | 47.1mm |
| Supply Roller | 46.9mm |
| Developer Roller | 35.2mm |
| PCR | 26.7mm |

PRINTER ERROR MESSAGES

- !!T1 Toner Exhausted
- !!T2 Invalid toner. (Cartridge has been refilled but the chip has not been replaced)
- !!T3 Cartridge not installed correctly or missing
- !!T4 Non Genuine Toner, cartridge not compatible with this machine. (Too soon yet to see what causes this)
- !!CO Top cover open
- !!EE Internal error
- !!JO Paper feed jam rear of machine
- !!J1 Paper jam rear of machine
- !!J2 Paper jam Exit area.

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