# 2013 CARTRIDGE UPDATES

DELL 1130

SAMSUNG MLT-D205

SAMSUNG MLT-D104

SAMSUNG MLT-D101S

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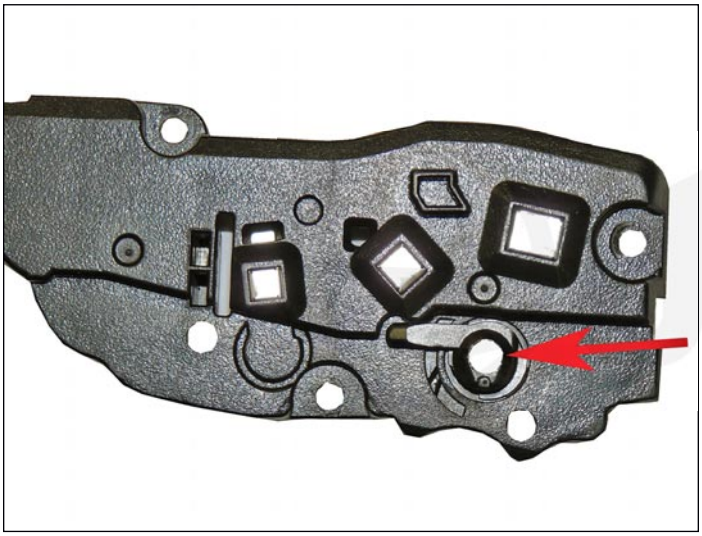
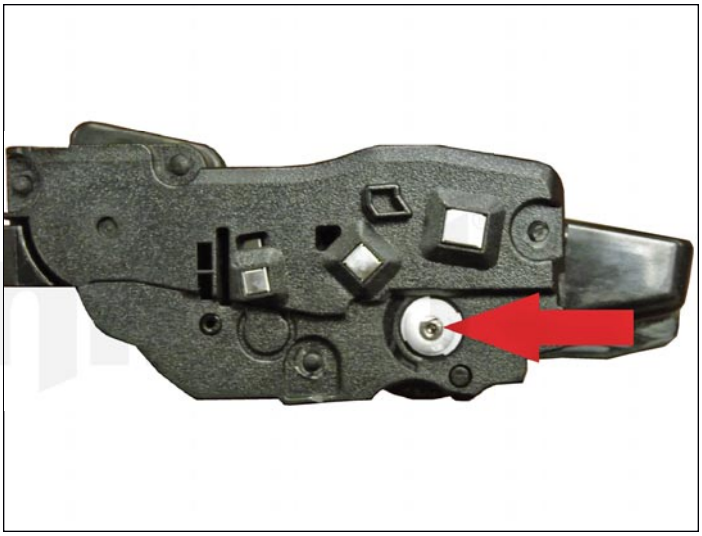
# 2013 CARTRIDGE UPDATES

**By Mike Josiah and the Technical Staff at UniNet**

Instead of writing a specific cartridge instruction manual, we thought it would be a good time to go over some changes to cartridges that happened in 2013 and to also alert you to possible issues with a specific series of printers. We will cover the following: remanufacturing mistakes; OEM changes to cores and how this affects you; as well a note on a printer series that could have catastrophic effects on your customer's printer if you're not aware of the issue.

Everything covered here has been featured in our UniNet newsletter. If you're not receiving them, please go to our website and sign up!





## DELL 1130 CORE CHANGE

**On the left picture you see the older black softer plastic bushing.**

**The right picture shows the newer (harder) white plastic bushing.**

This change was made because the softer black bushings were wearing out in an oblong shape and allowing the drum to move. Depending on the wear, light to severe banding will be seen on the printed page.

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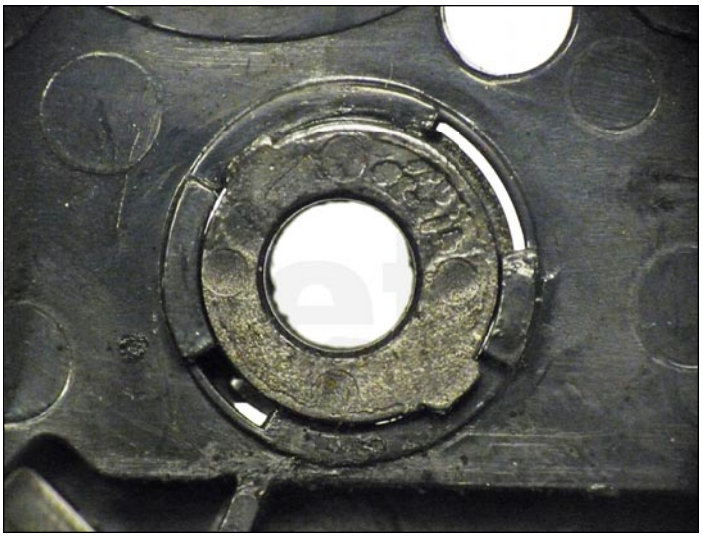
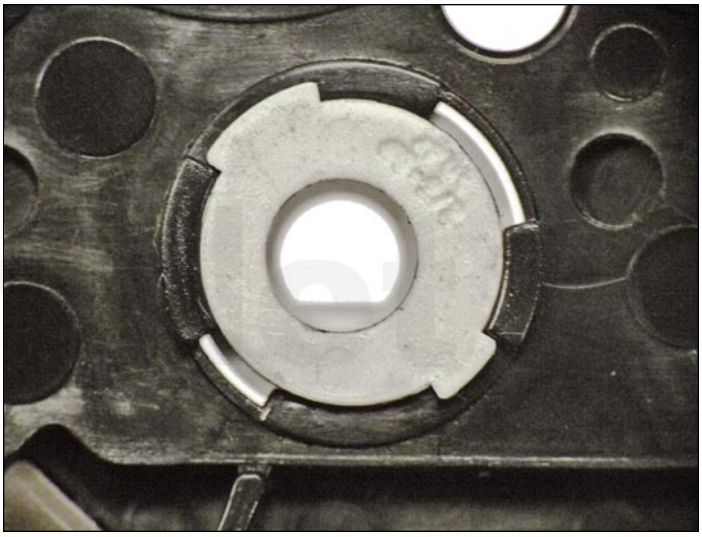


The old style end cap pictures are shown here with black bushings.

If you look at the drum axle bearing hole you'll notice wear marks and that the hole is slightly elongated.

You can also see small strands of plastic hanging off the center of the bearing.



The new end caps have a new drum axle bearing made of a much harder (and what appears to be) self-lubricating plastic.

This is an expensive upgrade so Samsung/Dell must have been having massive issues with these cartridges for them to do that.

With a cartridge that was banding, when we swapped out the end caps, the problem instantly went away and when we moved the end caps around to different cores, the problem followed them.

Take a look at the cores you have in stock. If you have the newer ones with the white plastic bearings, you should be fine, but if they have the older softer black bushings, inspect them carefully. If the hole is not perfectly round, your test prints will show banding.

No new replacement caps are currently available, but we are currently investigating a replacement bushing and/or end cap system.

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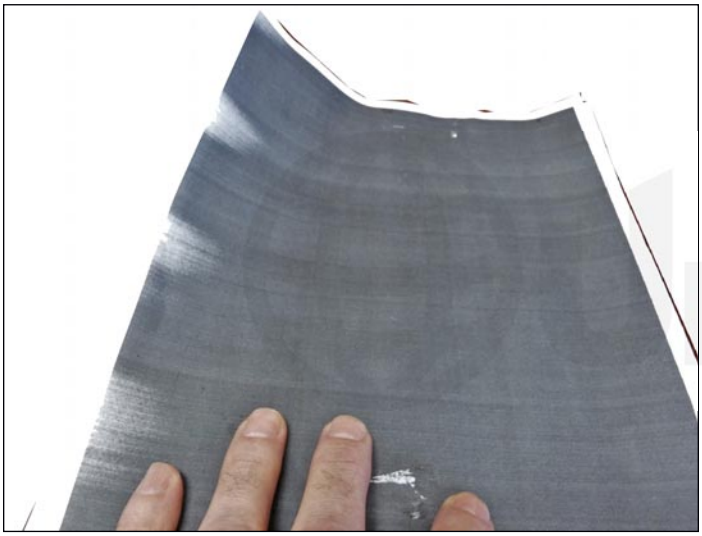
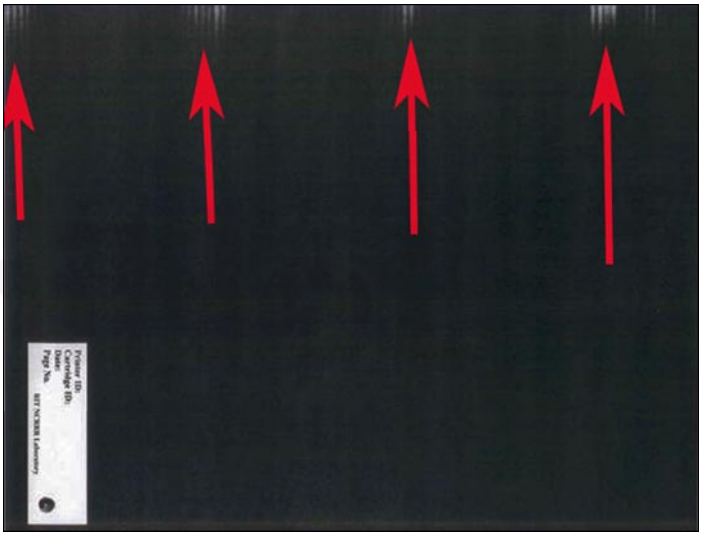
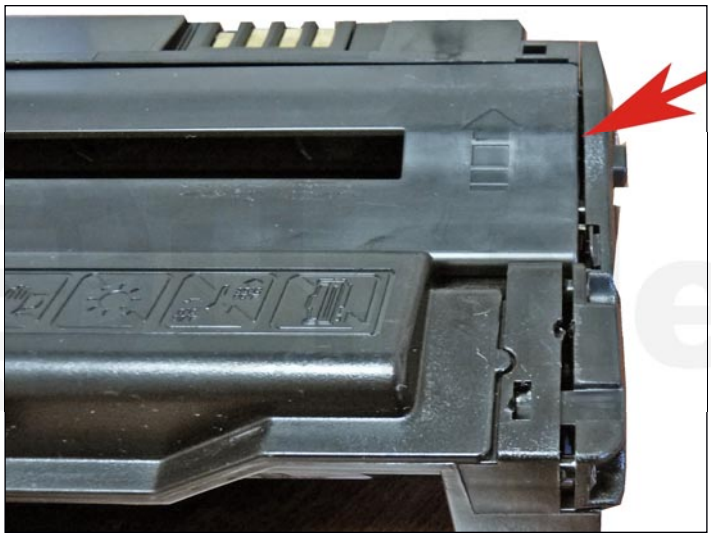
## SAMSUNG END CAPS (A GENERAL TIP ON ALMOST ALL CORES)

Most Samsung cartridge end caps these days are held in place with plastic rivets. These rivets (melted plastic posts) need to have the heads cut off and small holes drilled so that screws can be installed.





We have seen quite a few examples of problems with this process - not all the posts were drilled and screwed in place, screws were installed in the wrong place, or screws were not fully seated allowing the end caps to move. All these issues can cause banding.



**Two Examples of What Not To Do:** A Dremel type tool was used to cut the rivets off and drill the holes for the screws (a flat chisel X-ACTO type knife works best). The holes for the screws are now too large and the screws will not hold the end caps on properly. We have found that using a #29 drill bit and a #8 x ¼" self-tapping screw works best.

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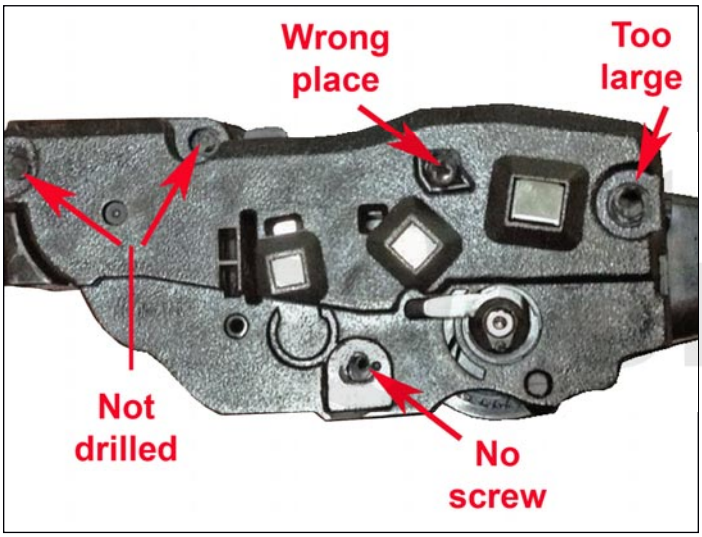


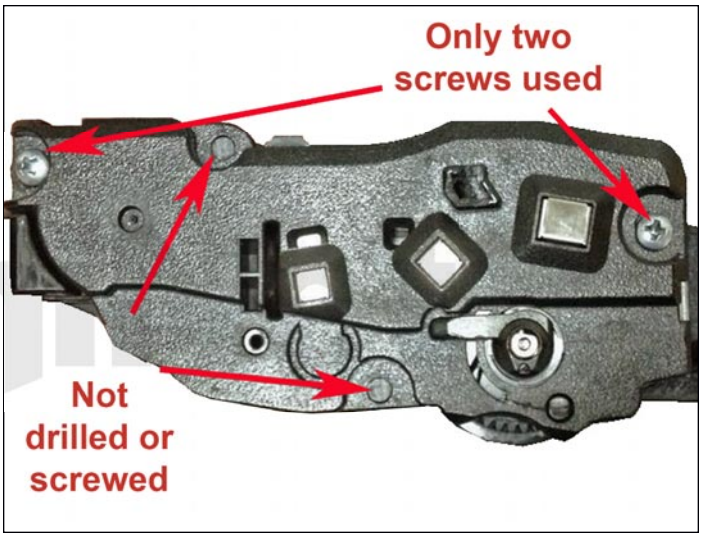


Shown are a few problems: posts were not drilled and screwed; only two screws were used instead of four; an extra screw was installed in the wrong place; and one of the holes (not screwed) is too large for a screw to hold that point in place properly.

Being careful in the initial setup of these cartridges will ensure even printing with no voids or banding and will also ensure you get the maximum life from your cores.

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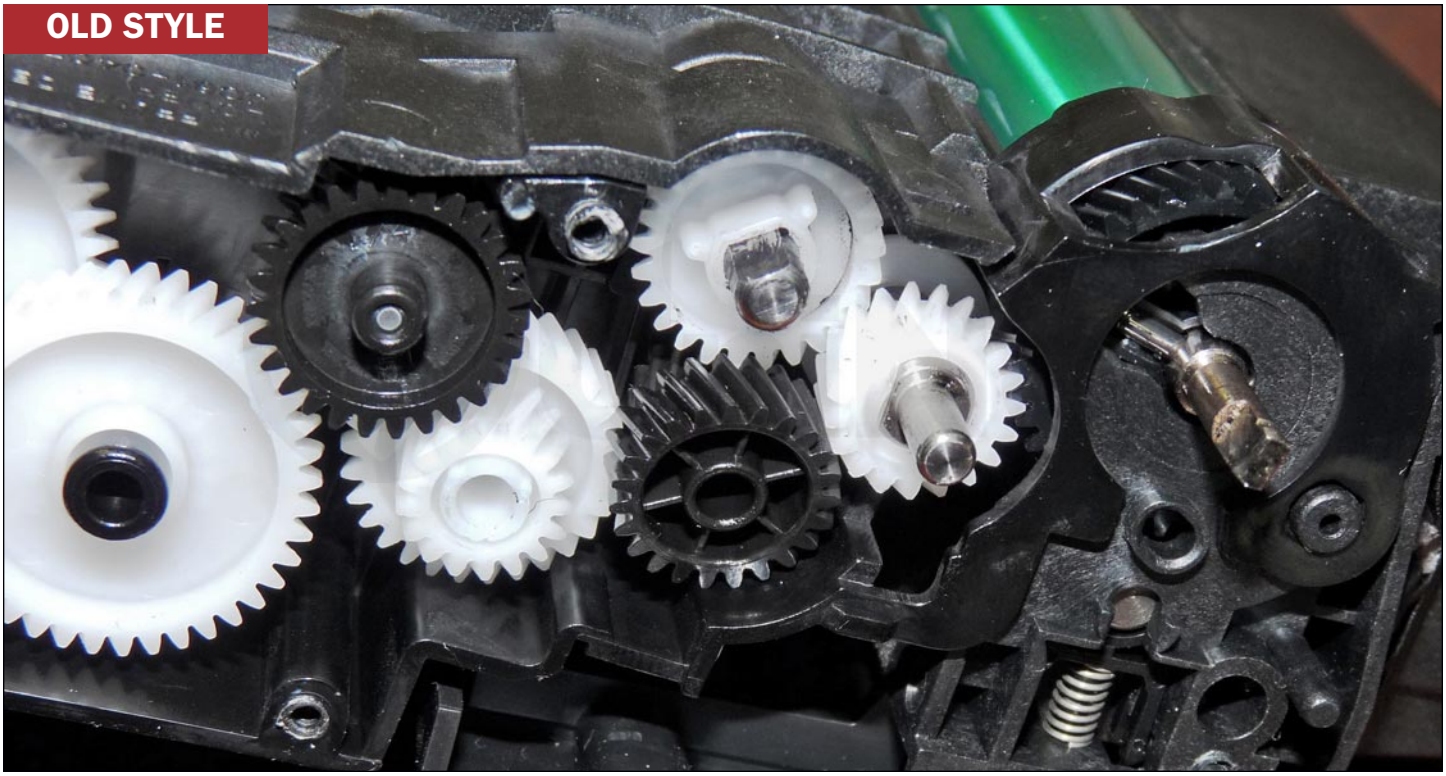
## SAMSUNG MLT-D205 CARTRIDGE

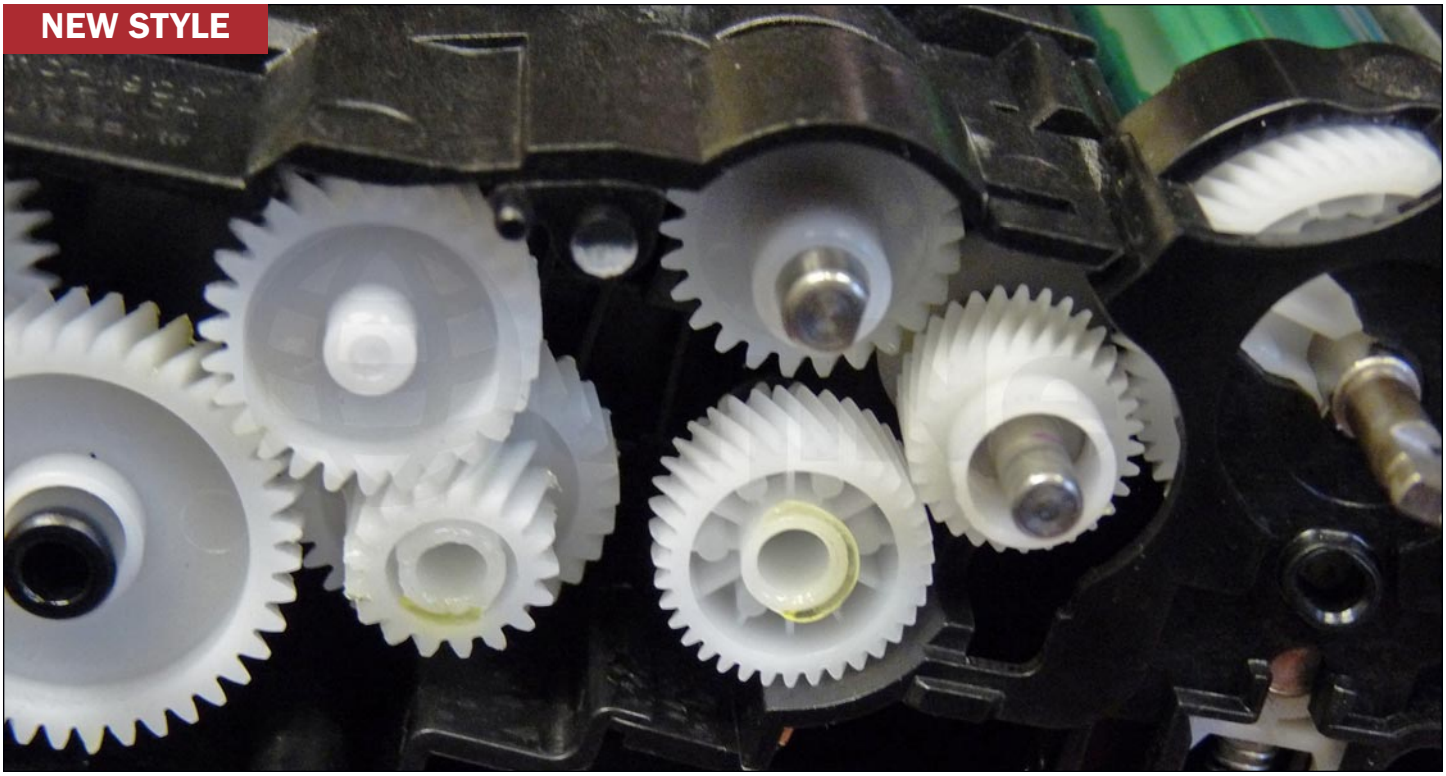
Samsung has made a change to the MLT-D205 cartridges. There is now a new style and an old style. The new style uses a new drive gear with more teeth. The old gear had 39 teeth, and the new one has 59 teeth. It is believed this change was made to enhance the grayscale capability of the cartridges (smoother grayscales).

Shown here are the full gear trains of both the **old** and **new** styles...

**OLD STYLE**



**NEW STYLE**



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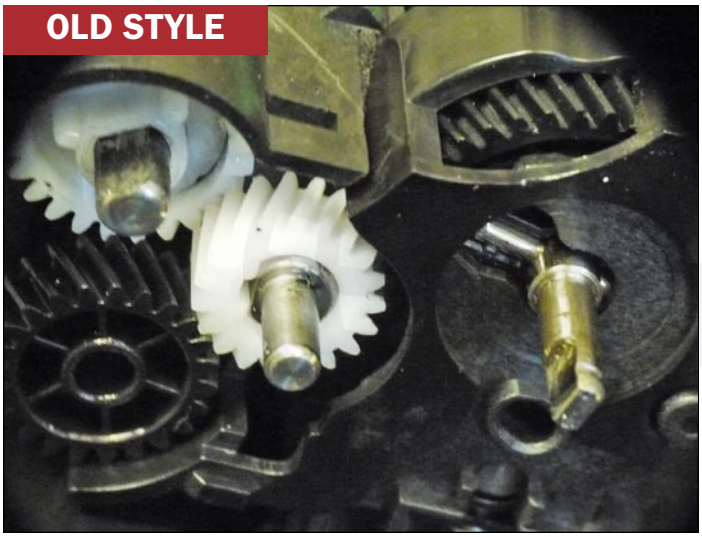
In addition to the new drive gear in the drum there are also two new internal cartridge gears.

Shown are the two old and new gears.





Shown are close-ups of the three new gears, old and new as installed in the cartridge.

The old drums will not work in the new cartridges, nor will the new drums work in the old cartridges.

UniNet has been working on this since the first cartridges appeared and now has a solution available: **#18694 SuMMiT® drum with gears for use in Samsung ML 3310, 3312, 3710, 3712, 3750, SCX 4833, 5737 (MLT-D205) (59-tooth gear)**

We will of course continue to stock the old version: **#17094 SuMMiT® drum with gears for use in Samsung ML 2950, 2955, 3310, 3312, 3712, 3750, SL-M 2870, 2820, 2670, 2620, SCX 4833, 5737 (MLT-D205) (old type gear)**

It is very easy to tell the old and new versions apart. Just look at the bottom of the cartridge. The fine tooth gear is the new style. The OEM old style has been black and to this point, the new OEM gear has been white, but there is no guarantee it will stay that way.

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## CHANGES TO SAMSUNG MLT-D104 CARTRIDGES

Samsung has made a change to the MLT-D104 cartridges. There are now shipping locks installed on the PCR shafts. These new locks run alongside the edges of the wiper blade as they fit through the cartridge. Because of this change a new wiper blade was needed.

UniNet is currently developing a new blade for these cartridges, and the instructions for this cartridge have been updated to show the differences between the two blades and the cartridges.

You can easily tell the two versions apart by looking at the top of the cartridge. There are colored plastic shipping locks visible on both the right and left sides. The top cartridge pictured above is the new version.

You can see the differences between the two blades.

The top blade is the new version.

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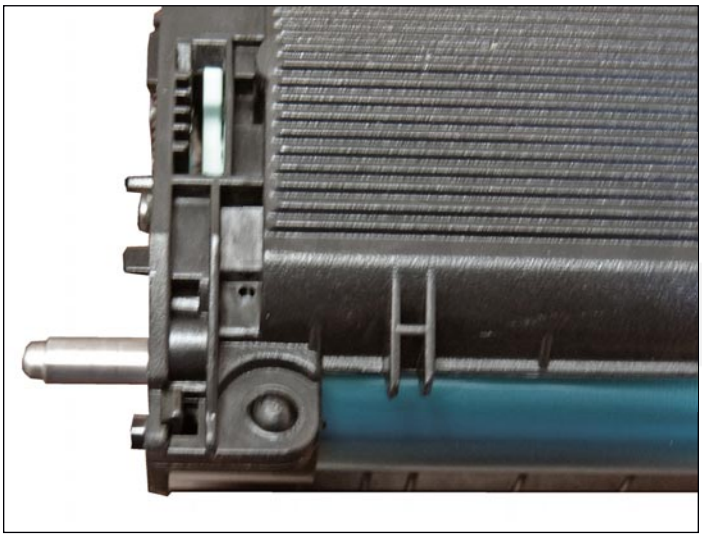

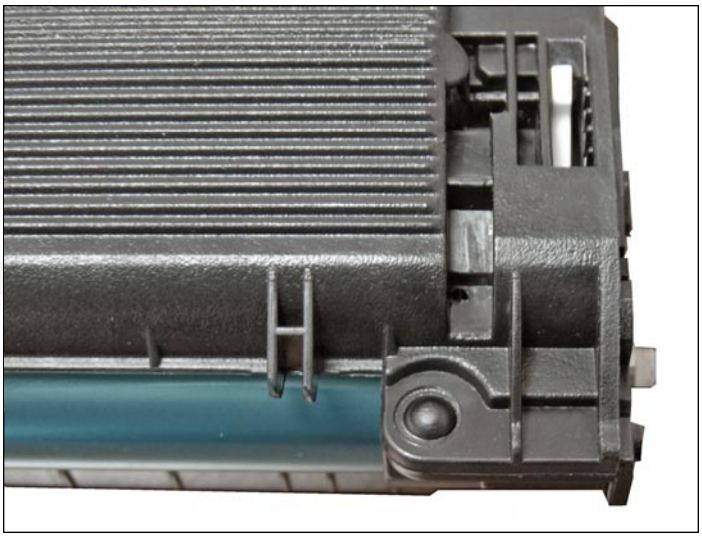

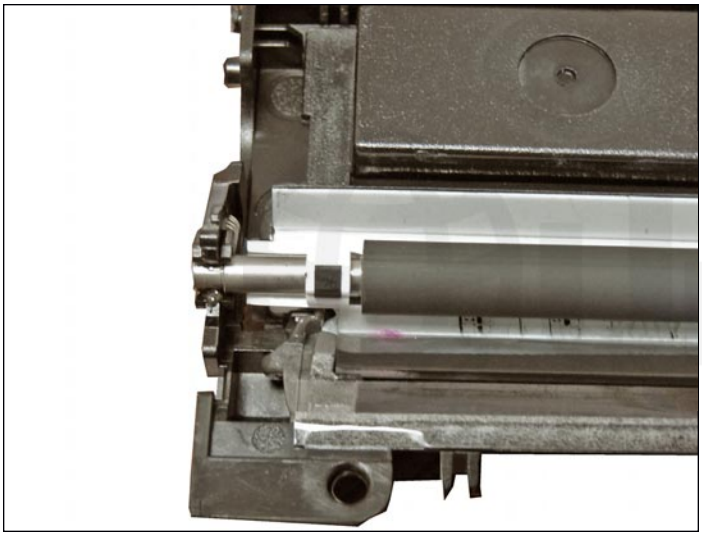

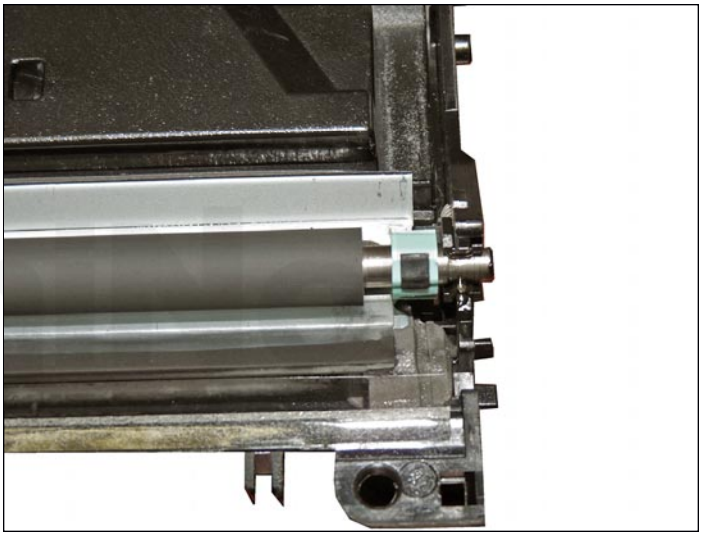

Shown are the two versions of the cartridges from the inside. The new version is pictured on top.

As mentioned earlier, new blades for these cartridges are in development.

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## LIMITATION IN SAMSUNG ML-2165, 2160 (MLT-D101S) PRINTERS

Samsung has built in a very devious cartridge replacement limitation on this series of printers in which there is a maximum limitation of 250 cartridges per machine allowed.

There are two issues with this system: one is that a testing bed can be rendered useless after testing 250 cartridges; the second is that an end user's machine can be rendered useless (or dramatically reduced) if the final chip is used during testing.

This means only 250 new cartridges (the OEM are included on the count) in total can be installed into the printer.

Whenever you insert a new cartridge (to be recognized by chip serial number) to the printer, the printer will count "+1" for the replacement. At the same time, the total accumulated number will be recorded to both the printer and chip of the cartridge.

Now comes the devious part: If you take this recorded cartridge to another printer, the install count record in the chip will be written to the printer and of course "+1" will be counted, and so on... In other words if you take a cartridge from a machine that has run 240 cartridges and install it in a brand new machine, that new machine will have a total life of nine cartridges remaining (240+1)! Once the replacement limitation of 250 has been reached, the printer will stop its functionality.

Thus we strongly recommend “do not test the toner cartridges with a new chip before delivery." Use an in-house testing chip (marked with bright paint) to run all the cartridge testing, and then after it has passed, install a new chip on the cartridge.

Otherwise, customer printers would be counted up to the number on the cartridge (from your testing printer), and once changed, it is unrecoverable.

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