

## Xerox C123 style Drum Cartridges...

13R589 - Cartridge Reconditioning Information for Xerox CopyCentre C118, C123, C128, C133 & WorkCentre M118, M118i, M123, M128, M133, Pro123, Pro128, & Pro133.

There are plenty of the C123 series machines out there and more being sold each day. They're reported as performing very well in the field. They don't break down all that much from what I'm told, so that makes servicing the cartridges and modules that much more important. This is another example of one of those "win-win" situations. You can rebuild a cartridge, save your customer money, while making a healthier profit for yourself... all while keeping the used cartridge out of a landfill. I'll start with a bit of an introduction to the cartridges along with some details about them and then get into the disassembly procedure highlighting any tricks or possible pitfalls to avoid.

Like many of the recently released models, these machines employ a relatively new technology for the CRUMs (Customer Replaceable Unit Monitor chips). They use an RF Chip (Radio Frequency). This type of chip does not make any physical or electrical contact with the machine at all. Instead a radio emitter / reader board waits for the CRUM on the cartridge to slide into close proximity. That board can read the chip's type and copy count, and then write to the chip to update the copy count (the count is kept on the cartridge's CRUM). The CRUMs, drums, blades, charge rolls and the toner refills are all available.

When you start taking one of these Drum Cartridges apart, you'll find that it has two halves... The lower half is the Developer Unit with its augers and magnetic roller. The machine is dual component, so there is developer material in there. The upper half houses the Charge Roll, Drum and Cleaning Blade.

The cartridge's reorder number is 13R579: for CopyCentre C118, C123, C128, C133, WorkCentre M118, M118i, M123, M128, M133, Pro123, Pro128, Pro133. Good for between "up to" 60,000 pages, these cartridges sell for around \$230.- retail. For some reason, if you run short runs of 1 or two pages at a time, the yield is a lot lower (as low as 32K). The 60K stated yield is based on running 6 pages on average each time the machine is used... if you were to run very long runs (500 to 1000 pages per run), the yield supposedly climbs up to nearly double the stated yield.

A cousin, the Phaser 5500's cartridge (113R670, sells for around \$280.-) turns out to have the same procedure, but it uses a different RF Chip, so they won't be interchangeable out of the box. There could be other differences as well.. time will tell. As you can see, there is room for some profits on these babies.

The procedure for disassembling / cleaning and reassembling a C123 Drum Cartridge has a few tricks to it. I did like that they used the same size and type of screw throughout the cartridge (Phillips head)... that was nice of 'em. It's a fairly easy cartridge to get into but the reassembly requires paying attention to a few details. Lets tackle the procedure...



1. Remove the Front Cover (2 screws) and disconnect the connector for the Toner Sensor.

2. Remove the Rear End Cover (3 screws... see Photo #1). The white coupling for the mag roll drive will now fall right off for you.

3. Extract the rear white Drum / Mag Roll Bushing from the end of the drum (it is what joins the upper and lower halves at this point). This will allow you to separate

the upper and lower halves of the rear end. Gently lift the upper half with the drum up a bit till you can re-insert the Drum Collar / Bushing into the drum while remaining liberated from the mag roll on the lower half (See Photo #2).

4. Remove the Inner Front Cover from the front (3 screws... see Photo #3).

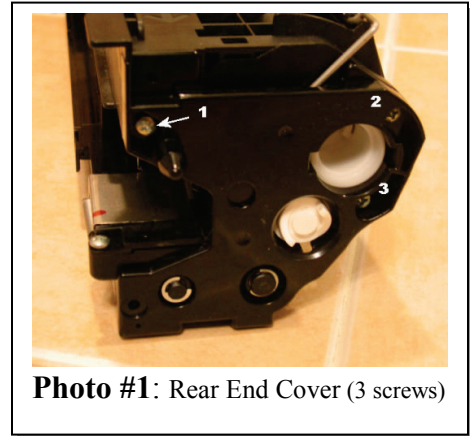
5. Release the Front Drum Bearing's Ground Contact (1 screw) and gently remove the contact from the front end of the D'-Shaped Mag Roll shaft. Then you can slide the front drum hub off. Lift the entire upper assembly up and re-insert the front Drum Hub to keep the drum secured. Be careful as both the front and rear Drum Hubs are now loosely inserted. (see Photo #4)

6. The Drum Shutter can easily be removed at this point (pay attention to the two springs for the shutter to make sure you can reinstall them properly later).

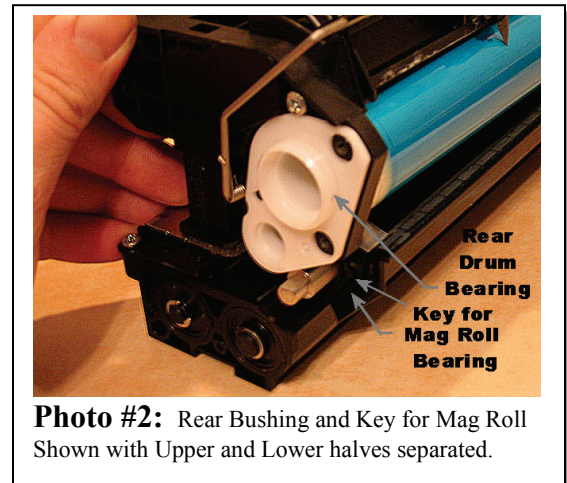
7. Carefully Remove the Drum with its front and rear Bushings. Put the drum in a dark place where it will be safe.

8. The Charge Roller can now be removed from its cradle bearings. Then, the Drum Cleaning Blade is held on by 2 screws. Clean the Waste Auger and the Waste Chute.

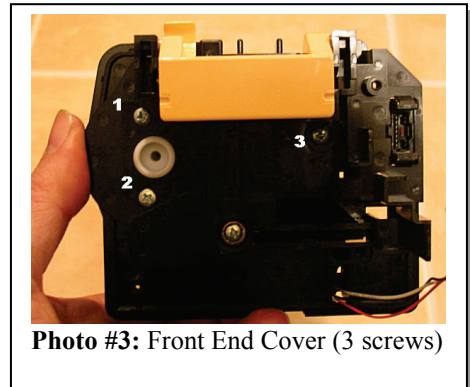
9. Replace the RF Chip (See Photo #5) which is found on the right side of the Top Cover assembly closer to the rear (See Photo #5).



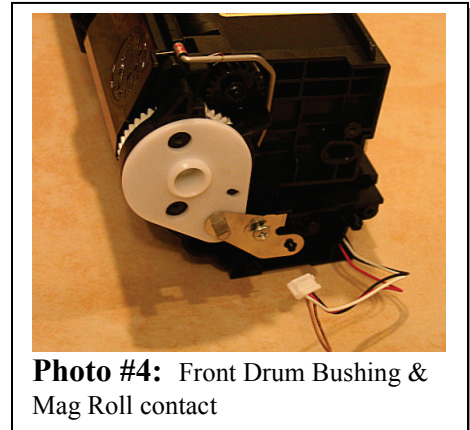
**Photo #1:** Rear End Cover (3 screws)



**Photo #2:** Rear Bushing and Key for Mag Roll Shown with Upper and Lower halves separated.



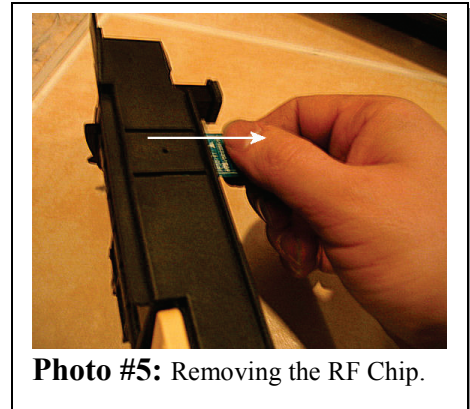
**Photo #3:** Front End Cover (3 screws)



**Photo #4:** Front Drum Bushing & Mag Roll contact

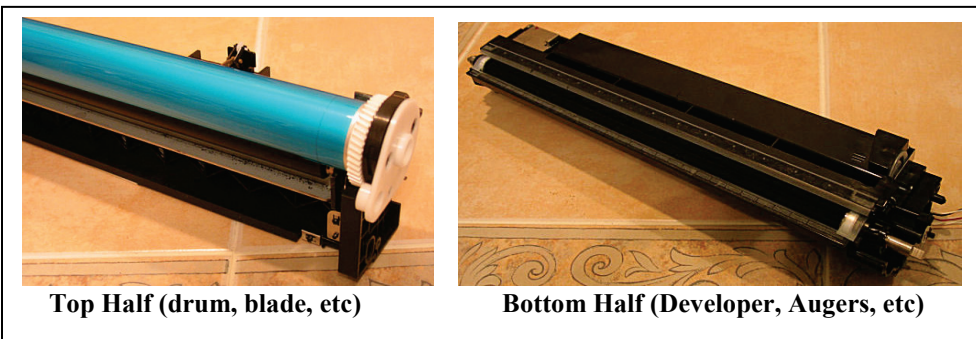
10. Clean up the Lower Developer Assembly... but avoid using a vacuum cleaner (the toner sensor should be removed prior to any vacuuming or it can be blown by static discharge).

11. Reassemble the unit. Pay special attention to the Mag Roll's inner rear bearing (the black one). Refer back to Photo #2 for the location of this inner bearing. It can walk out and it's keyed so that if it has moved out of place and you don't notice it, you'll run into difficulties (the Mag Roll Drive Coupling will not turn properly). Be careful with the drum and its bushings... I found it easiest to work on the front end first, then once the front Drum / Mag Roll Bushing is back in place, work on the rear end.



**Photo #5:** Removing the RF Chip.

If you ever need to replace the RF Chip and don't plan to go any deeper into the unit, you will need to create some room for it to slide out. You can do so by releasing the rear Drum / Mag Roll Bushing, lift the rear up a little bit and reinstall the Drum Bushing to help protect the drum. The Chip will then have enough clearance to slide out all the way. The side of the chip which has the electronic components mounted on it should be facing inward.

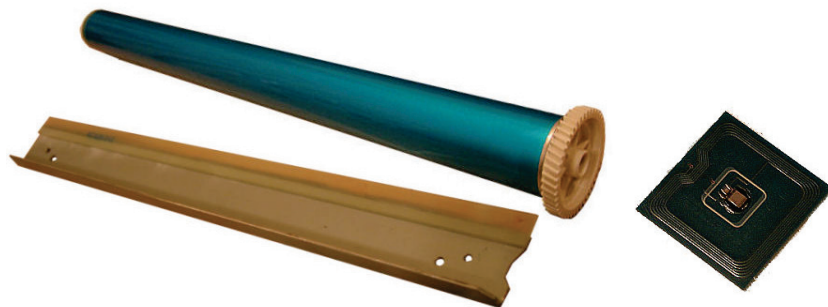


**Top Half (drum, blade, etc)**

**Bottom Half (Developer, Augers, etc)**

Important Pieces:

- Drums
- Cleaning Blades
- RF Chips



Here are a few of the Status Codes which relate to the Drum Cartridges... a complete listing was presented in a previous ENX article which covered the machine itself (ENX Magazine - June 2007).

Code	Description
091-401	Drum is near end of life (the count is about to expire on the CRUM)
091-912	Drum Cartridge is not present (or not seated properly)
091-913	Drum Cartridge end of life (time to replace the cartridge or at least the CRUM)



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201-387-7776

- 091-914 Drum Cartridge CRUM communication failure
- 091-915 The machine failed to write to the Drum Cartridge CRUM  
Wrong Drum Cartridge type was detected (for example if you installed a European cartridge in a US machine)
- 091-916
- 092-910 ATC (Automatic Toner Concentration) Sensor Failure

I hope this is the start of something beautiful for your business. These cartridges will likely become an important staple in our copier repair diet in the years to come. Repair and Enjoy!

*Britt works for The Parts Drop, a company whose primary business is providing parts, supplies and information for Xerox brand copiers, printers and fax machines. You can find more information, including many of Britt's past ENX articles on their website, [www.partsdrop.com](http://www.partsdrop.com). If you'd like to read more about Xerox brand office equipment, there's also a complete listing of past articles under contributing writers on the ENX website ([www.ENXMAG.com](http://www.ENXMAG.com)).*