

Repair the Copy Cartridges: Xerox DC12 style machines. (Docucolor 12 (DC12) & Docucolor 50 (DC50 or DCCS50)) Copy Cartridges...

This past summer ENX published a pair of articles about the Xerox Docucolor 12 copier / printer. We covered the status codes and diagnostic procedures. These machines continue to impress just about anyone who runs into one. Now that they're proliferating in the aftermarket world, it's time to have a look at how to service and repair one part of the machine which is sometimes overlooked by technicians... the Drum Cartridge.

Ok... so perhaps you're not the sort to recondition your own cartridges. Consider this... nowadays, more and more parts of the machines you work on are being dubbed "cartridges" or "modules"... so, soon, when you repair a fuser module, you'll technically be "reconditioning" the fuser module... your other choice if you aren't willing to recondition stuff would be to buy a new or rebuilt fuser from the OEM. If they rebuild it, they're doing a good part of the work for you and charging you accordingly. That would make sense if you're so busy you don't have time to repair fusers for your customers yourself. The point is... the Drum Cartridges might as well be fuser modules or developer units or any other part of the machine. Fix them too... that's what techs do best!

The Drum Cartridges are sold under a few possible reorder numbers. First there is the 13R559 (the "Metered" or FSMA version) which is reserved for machines which are originally set up for an OEM Field Service Maintenance Agreement (an agreement which includes the Drum Cartridges as part of the deal). Then there is the 13R558 which is the "Sold" version of the cartridge which is offered for machines which are no longer under their care. It is likely that machines which are supposed to use the 13R558 will reject the 13R559 cartridges. Although so far I haven't run into the "incompatible cartridge" problem... I believe it is an inevitable problem which will need solving.

These cartridges are pretty straight forward really. They have a Charge Corona Assembly which includes a charge wire and a scorotron grid. There's also a Precharge Corona Assembly on this cartridge. Then there's the drum itself ... not much different in most respects from a monochrome cartridge's drum except for its light blue color. There is also a cleaning blade and an auger which moves the waste toner out of the cartridge (in this case, the waste toner exits through a shuttered chute on the rear of the cartridge. Finally, there's a "Connector" or a CRUM (Customer Replaceable Unit Monitor) as Xerox likes to call it, on the rear of the cartridge. This Connector is the piece responsible for keeping track of the drum count for the machine. I've been told that the Connector is not needed if you have the means to reset the drum count from the diagnostics (I believe that you'd need the laptop, or PWS as they call it, to do this without a new Connector). The Drum Blades are spared by Xerox and the Connectors are repairable thankfully... hopefully some time soon, some fine drum manufacturer will make the drums available as well.

One unusual thing about these cartridges which is worth mentioning is the way in which drive is provided to the drum itself. I noticed there was no external drive gear, so I had to look at it for a few minutes to figure it out. The drum drive is accomplished by a long shaft in the machine with a coupling on the end. When you slide the cartridge into the machine, the drum actually slides over this shaft until the coupling seats on the mating coupling inside the front end of the drum. This means that if you want to inspect the drum drive coupling, you have to get a good flashlight and peer through the rear hole in the drum all the way in to the inside of the front end to see how the fins on the coupling are holding up.

Now to it... let's crack one of these things open. I think you'll like them, they're actually quite technician friendly. You'll need either a __mm Nut Driver or a #2 Phillips Head Screwdriver. It'd also be a good idea to have a technician's vacuum and some good toner clean-up cloths handy.

1.) Start with removing the Rear Cover (2 screws, see photo #1). When you remove the cover, take notice of how the helical waste auger gear sits on its shaft (with the collar in towards the cartridge) and then take it off as it is no longer captive and may fall off on its own or worse, it may get sucked up by the vacuum.

2.) Next go to the front end and remove the Front Cover (3 screws, see photo#2).

3.) You can remove the Charge Corona Assembly easily at any time during the procedure. It is fastened by one screw from the top on the front end, then you just lift the front end up till the rear pins clear the holes in the cartridge's frame. The Charge Scorotron Grid comes off with the Charge Corona Assembly. Clean it up good... you can use some alcohol on a cotton swab or a corona cleaning pen, if you've got one to clean the corona wire itself.

4.) The Right Rail assembly can come off now. It is held by 2 screws on the rear and 2 screws from the front (refer again to Photos #1 and #2).. Keep in mind that once the rail assembly is off of the cartridge, the drum is exposed on the bottom and becomes considerably more vulnerable. You must keep the cartridge standing up on its left side to avoid having the drum's surface come in contact with your work surface.

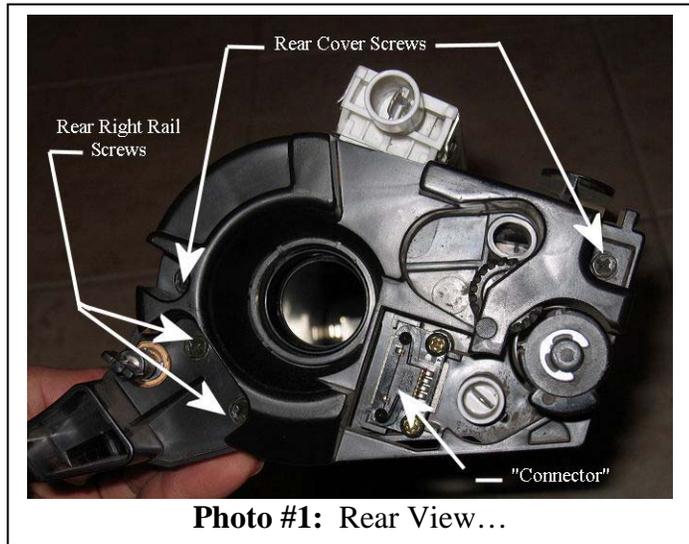


Photo #1: Rear View...

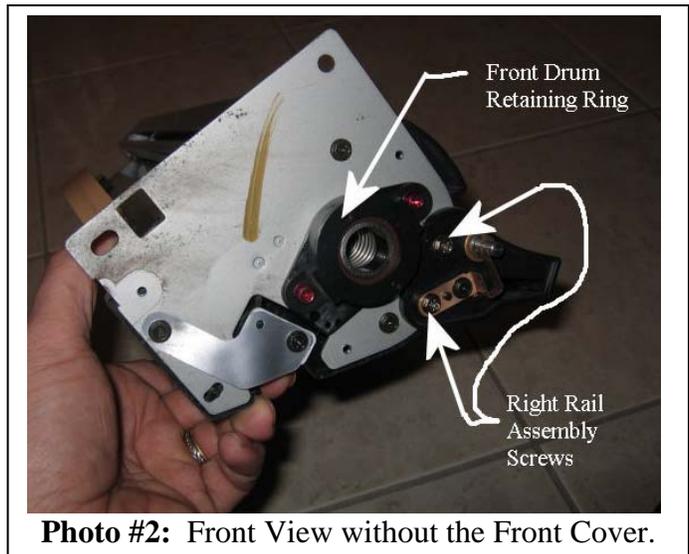


Photo #2: Front View without the Front Cover.



Photo #3: Front Drum Retaining Ring & Bearing Assembly.

5.) Next you'll want to remove the drum. To do this, you must first remove the front Drum Retaining Ring (2 red screws) which releases the spring loaded front bearing and bushing assembly from the drum. Second you'll compress two clips inside the drum's front end.. This allows you to slide the Drum Retaining Clip up off of the "right side" of the cartridge (if the cartridge is on its left side as recommended, the "right side" is actually facing straight up (see photo #4 & #5). Finally, the drum's front end can be lifted upward till the rear end is free of its collar. Protect the drum from light while you continue working on the cartridge.

6.) With the drum out, you can access the two screws which will allow you to release the Drum Cleaning Blade. Remove two screws from the cartridge's Top Cover. The cover and the blade will come off together now as the blade is "taped" to the top cover.

7.) Clean everything thoroughly and reassemble the cartridge.

8.) Replace the Connector on the rear of the cartridge and you're done! Good Job.

That's just about all there is to these drum cartridges. Hope you enjoy servicing them as much as I've enjoyed writing this introduction to them. Happy Reconditioning!

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 on their website www.partsdrop.com. There's a complete listing of past articles under contributing writers on the ENX website (www.ENXMAG.com) if you'd like to read more about Xerox brand office equipment.

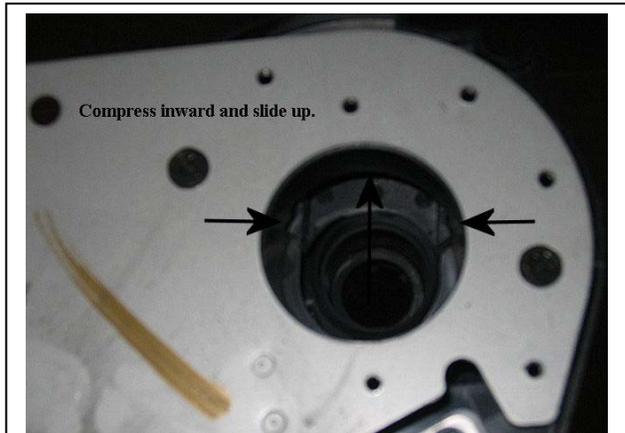


Photo #4: Front Drum Retaining Clip

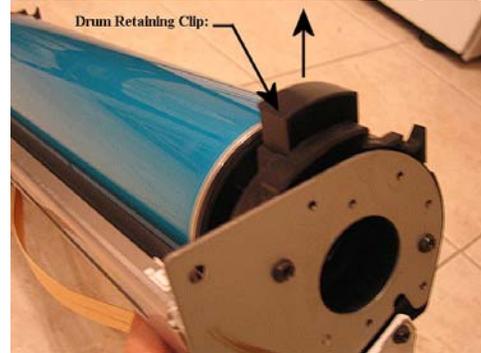


Photo #5 (Slide Retaining Clip up and out)

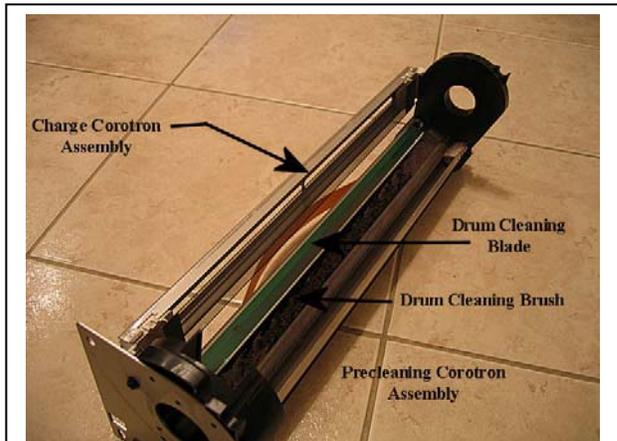


Photo #6: Inside the cartridge...