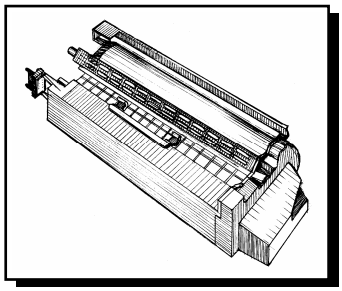
Servicing & Reconditioning Xerox brand 5340 style Copy Cartridges

5337, 5340, 5343, 5350, 5352, 5665, 5837, 5845, 5855



This Article is drawn from one which was originally published in ENX Magazine… It was later expanded to include the photography and more details and published in RS&R News.

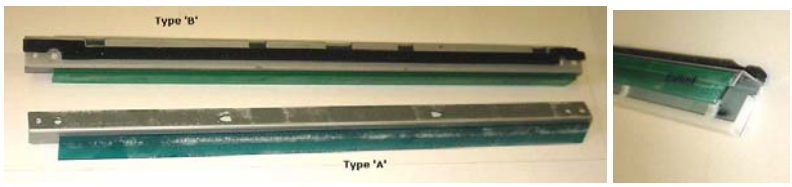
The 5340 style of machines are a series of mid volume, relatively fast workhorse machines… These are full featured analog copiers which, when they're working well, do a great job and need relatively little attention. One item which does need regular maintenance (or if you prefer, Reconditioning) is the Drum Cartridge, or "Copy Cartridge" as Xerox calls it. Service calls relating to a drum cartridge failure would report either an 09-300 code which means "Cartridge has reached end of life", or an 09-350 code which means "Waste Toner Full" (the waste toner is housed in the Drum Cartridge).

In this particular series, the cartridges are not considered to be customer replaceable. They're designed to be replaced by a technician. The main reason for the wisdom behind this is that if the Developer Unit is not cammed back before you slide the drum cartridge in or out… the drum will get gouged against the developer unit. If you're a reconditioning facility, it'd be a good idea to sell these only to technician customers…

There are two versions of the cartridges in this series which can be used interchangeably in spite of having a pronounced difference in appearance. We have gotten accustomed to referring to the one with the smaller front end as Type 'A'… and the one with the larger front end as Type 'B'. Type 'B' cartridges were first introduced when the newer models (5665, and later: 5837, 5845, 5855) entered the market. The type 'B' cartridge is sold under the reorder number 113R111. It has a much larger front end to it than the 13R71 (see the photo about "2 Types"… the Type 'B' or 113R111 is shown on the left). The drums which are spared by Xerox under the reorder number 1R539 will fit either version.

2 Types
Type 'B' on left, 'A' on right.

The Drum Cleaning Blade which we've found to be available in the market is the version which matches the ones found in the Type 'A' cartridge. It is a very typical looking blade… rubber adhered to a long angled piece of metal. The Type 'B' cartridge uses a blade which is more complicated looking… it has a 'U' shaped cross section to it. Amazingly, the Type 'A' blades can be used in the place of the type 'B' blade…the only significant difference is that there is a gap on top between the metal of the blade and the top cover of the cartridge which is filled by a gasket material adhered to the top of the type 'B' blade… you can use weather stripping to do the same job. The holes for the screws line up perfectly and the other differences are superficial.



Drum Blades… differences
Left photo: Type 'B' on top… Right photo: U-shaped Cross section of Type 'B'.

These cartridges are actually relatively easy to recondition. It's a simple matter of disassembly, a thorough cleaning, and reassembly… Unless you'll be there to reset the drum count from diagnostics, you'll need to replace the Connector on the back (or the fuse on the connector. In some cases, you'll also want to replace the Drum and Cleaning Blade.

Resetting the Drum Count is done one of two ways… you can replace the Connector on the rear of the cartridge which has a fuse on it or you can do it from the Diagnostics which we'll get to at the end of this article.

Following is a brief rundown of the procedure…

PROCEDURE:

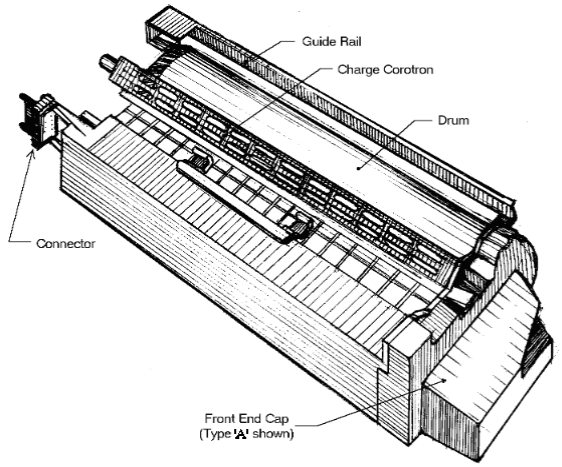
1. First check the drum for flaws (turns <u>counter-clockwise</u> if you're looking at the rear end). Look for scuff marks, scratches, or discoloration. Also see if the Cleaning Blade is leaving any streaks on the drum. Fingerprints and some minor scuffs may come off when you polish the drum later.

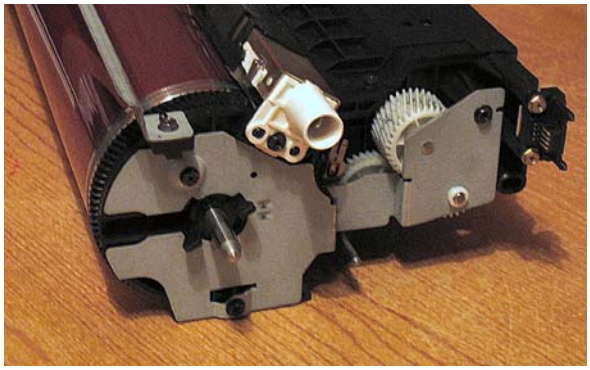
2. Remove the guide rail over the drum (2 screws) and the Charge Corotron (1 screw from the rear).

3. Remove the rear plate (3 screws). Pay close attention to the gears back there… several are no longer captive when you remove the plate. The large helical gear which sits on a shaft attached to the rear plate can be installed backwards if you're not careful. Slide the rear drum collar off the drum's shaft (see "Drum Shaft Collar" photo).

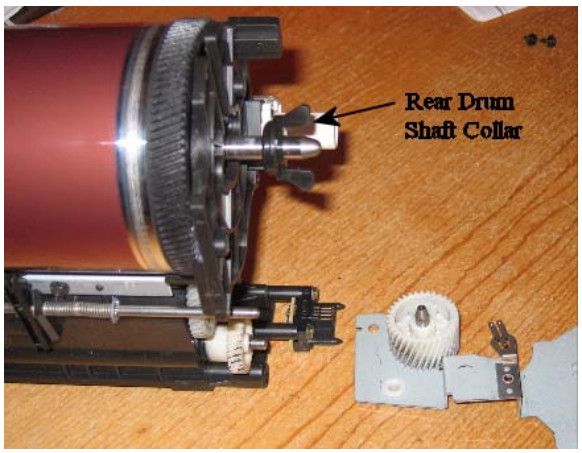
4. Now for the front end… Remove the front end piece (2 screws). For the Type 'A' cartridges, you'll remove the front drum plate which has the waste toner tube going through it (2 screws) the waste toner tube then pulls out easily. For the Type 'B', the enlarged front end serves as additional room for waste toner… when you remove the front end, the waste toner auger will pull out from the hole in the front end of the drum (this can get rather messy) and then it will pull out of the front end piece itself.

5. Next you'll want to remove the brass collar on the front end which serves as a bushing for the drum. (1 or sometimes 2





Rear View
(shows correct connector orientation, 3 screws for removing rear plate, and one screw on the charge corotron)



Drum Shaft Collar
(Also shown is the large helical gear on the rear plate)

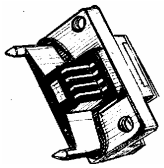
screws) (you may need to work it back and forth a bit ... it can be stubborn sometimes).

6. Lift the drum out. Empty the reclaim toner which is inside the drum. Inspect the drum & put it in a safe place away from direct light.

7. **Remove the top cover (2 screws). Clean everything well**.
Pay special attention to the toner brush located behind the Cleaning Blade. Clean the corona wire with isopropyl alcohol on a swab or a Corona Cleaning Pen. Take care not to damage the thin mylar Recovery Blade & the Scorotron Grid or its contacts. Inspect the blade for any imperfections. Replace the Cleaning Blade if necessary (if you do, use plenty of starting powder). If there are any minor scuffs or fingerprints on the drum, you may want to polish it with Drum Coat or a similar polish (use sparingly) ... be sure to remove any excess polish haze after letting the drum dry for a minute or two. Any polish left on the drum will increase the # of copies you need to run to "break in" the drum again (you'll get light copies for between 20 & 50 copies after a good polishing). If the drum is damaged or worn out beyond use, replace it with a new one.

8. Reassemble the cartridge. Return the drum carefully to its cradle… pay attention to the stripper fingers; that they don't scratch the drum's surface. Reinstall the front brass bushing as well as the rear drum shaft collar. Reinstall the rear plate. Once it is all together, turn the drum (counter clockwise when looking at the rear of the cartridge) to see that all is well.

9. **Remove the connector off of the back of the cartridge (2 screws) and send it in for repair.** If you're capable with a soldering iron, you can replace the fuse yourself. A 1/32 amp fuse would do the trick. It's also possible to **reset the Drum count from diagnostics** (it is designated as a 'HFSI' item (High Frequency Service Item). Read below about how this works.



If you are a tech rebuilding one of these cartridges and you plan to install it… read on for how to install and how to reset the drum count / status codes. If you are a reconditioning facility, you'll want to include this same basic information along with any cartridges you sell for this series of machines. The information should include a warning about camming back the DV Unit, also installation instructions and details about how to reset the drum count and status codes in the case that the machine does not reset automatically.

INFORMATION THE TECH WILL NEED:

1.) Warning: IT IS VERY EASY TO DESTROY YOUR DRUM DURING INSTALLATION! So follow the instructions carefully.

2.) Installation Instructions:

- First, turn off the power… open the front door and pivot the Toner Hopper away from the developer unit.
- Second, loosen the screw on the retaining bracket so that the bracket can be pivoted up and out of the way (see photo #1). Snug the screw in so that the bracket can't fall back down, or you may choose to remove the bracket all together.
- Next, open the Clamshell.
- **CAM BACK THE DV UNIT!** Turn the little yellow knob on the right, in the direction the arrows indicate, to cam the Developer Unit away from the drum (see photo #2). If you don't do this, the drum will get scratched all along the Developer Unit creating a score in the drum's

surface which runs from the front to the rear. If you close the clamshell and re-open it, you'll need to cam the DV Unit back again.

- **With the DV Unit cammed back…** you can now pull the drum cartridge out to you. Pull it straight out giving support under it.
- When installing the new cartridge, again, double check that the DV Unit is cammed back. **Be absolutely certain that the cartridge's top rail is correctly riding on the guide rail in the machine** and that the left bottom corner is sliding on the lower guide in the machine (both points are marked with yellow in the machine… see photo #3 for the top rail positioning). Also, make sure to slide the cartridge straight in and don't let it "rise up" as there is a metal piece above the drum near the front which is extremely close to the drum's surface.

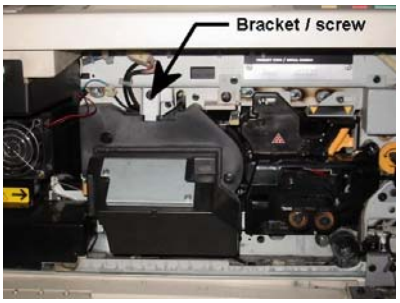


Photo #1

Photo #2

Photo #3

3.) Resetting the Drum Count and Status Codes 09-300 or 09-350:

For the 09-350 code… the machine must see that the waste sump is in fact empty (make sure that the window on top of the Copy Cartridge is clean and that the actuator on the float in the cartridge is not up in the window. Also make sure the sensor in the machine is clean).

If you installed a new connector or a new fuse on the old connector, then the codes are supposed to clear automatically when you first power up the machine. When the machine sees the new fuse in place, it attempts to blow the fuse right away… … if it succeeds in blowing the fuse, the drum count resets and the status code goes away. Sometimes the fuse can be stubborn, so if it doesn't reset right away, try turning off the power, wait a few seconds, turn the machine back on again. Try that at least 3 times before giving up on the fuse blowing. If it fails to blow for some reason, you can reset things from the diagnostics as follows:

4.) Resetting the Drum Count and Status Codes <u>from Diagnostics:</u>

To reset either Status Code, you need to get into Diagnostics… This is done by holding down the '5' and the 'Job Interrupt' button together while you turn on the machine… then as soon as the machine shows "powering up" in the display, you'll press the following sequence: '8', '7', '6', '5'. The machine will then display the current Status Code screen… you'll press the "Stop/Clear" button twice to dismiss the Status Code screen and get to the Diagnostics screen.

Now that you're in Diagnostic Mode (un-initialized), you'll want to go into DC131 which is for reading and writing to the Memory… **Warning:** When in DC131, never press "Reset File" nor "Reset All"… otherwise the machine will return large parts of the memory to default settings… the machine's defaults make it think it's in Europe… which will create some strange problems in the US such as having the machine looking for A4 paper instead of 8.5x11.

You get into the Adjustments File "DC131" by pressing "DC Routines" and entering the number "131" followed by 'Start' . Press "M/C Set" button on the touchscreen to go to the Machine Settings. Then scroll down to line 5 (copy cartridge total cc)... press 'New Val" and enter a zero (even if a zero is already shown). press 'Start' twice, wait 5 seconds, then turn off the power.

Wait 5 more seconds. Then go back into diagnostics... go into Fault File "DC120" (press "DC Routines" and enter the number '120', followed by 'Start'). Scroll down to line 6 (toner full reset)... press 'New Val" and enter a zero (again, even if a zero is already shown). Press 'Start' twice, wait 5 seconds, turn off the power... wait 5 more seconds and then turn it on again... the code should be gone and the Drum Count will have returned to '0'.

That's about all you need to know to rebuild these cartridges… and all the technician needs to know about installing them properly. Hope it serves you well. Happy reconditioning everyone!

The author, Britt works with The Parts Drop… a company which provides parts, supplies and information for Xerox brand office equipment… more information about Xerox machines can be found on their website www.partsdrop.com.