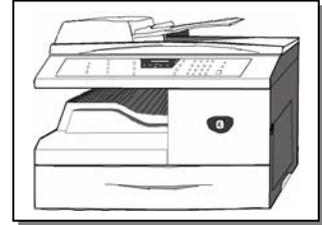


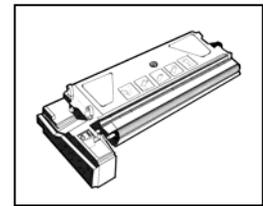
New Frontiers... Xerox Workcentre 312 / Pro412 / M15 / F12 TONER CTG. REFILL INFO. (part 1)



Ok folks... ready for some new models? These appear to be the next wave of Xerox digital copiers / printers / fax machines in the low volume market. The Workcentre 312 and Pro412 have been marketed mostly as Copiers although they are perfectly capable as Printers as well. Same goes for the M15 & M15i which continue to be sold today by Xerox Authorized Distributors... along with the Fax version which is the F12.

At first glance, these look an awful lot like the XD100 series machines, but looks are deceiving. It's not a Sharp made machine... These machines were manufactured by Samsung... they have quite a different logic and interface from the Sharp / Xerox's we've all gotten to know and love. In a pair of articles, we'll go over some points of interest. We'll start with the stuff everyone asks first... what's the deal with the Toner Cartridges and the Drum Cartridges? Next article we'll look at the machine itself... what makes it tick and how do we troubleshoot problems.

All of the models released to date use the same version of the Toner Cartridge which is sold under the reorder number 106R584. The machine uses mono-component toner (no developer in there)... so don't even think about trying out XD100 style toner in there (even though the machine and even the cartridge kind of looks similar in shape to the XD's). The Refill Toner is already available out there so you can help new customers right off the bat.



The new toner cartridges sell for right around the eighty dollar mark, so they're not quite as expensive as the XD's and such, but there is still plenty of room to make some money refilling these while saving your customer money. These toner cartridges have a stated yield of 6,000 copies assuming a 5% coverage of print per copy.

The procedure for refilling the toner cartridge is pretty straight forward. There are a few things which you'll want a heads-up on such as stuff which will fall off and disappear on you if you're not watching for it. So here goes...

First take note of how the toner waste sump feels a bit wobbly... that's normal and it'll help you know what to expect later when you reassemble things. Remove the toner waste sump from the front of the cartridge (2 screws). Be careful... the two coupling pieces which transfer drive from the cartridge to the waste sump gears are not captive (they'll fall right off). Pull back the shutter on the waste sump and empty it on out.

Next remove the plug from the toner fill hole. If you choose to clean out the toner compartment (not entirely necessary unless you find a difference between the OEM and generic refill toner which is unlikely), this cartridge is safe to vacuum because there are no static sensitive toner sensors to worry about. Use a funnel to pour in the refill toner.

Use a vacuum and some toner clean-up cloths to clean up the outside and the waste sump. If the cartridge is particularly dirty, you may choose to remove the rear plate (3 screws) to expose the electrical contacts and gear drives. Be careful because the gears are not captive and will fall off easily.

On the rear of the cartridge you'll also find a small block with 2 contact points on it. This block houses what you might at first suspect to be a fuse... in fact it turns out to be an indexing resistor (most likely this is how the machines tell cartridges apart from one international market to another).

Now you can reassemble things... take care when installing the 2 coupling pieces to make sure drive is not lost to the gears on the waste sump. Don't over tighten the screws on the front waste sump... it's designed to have a little play in the waste sump, so it's normal for it to feel a bit wobbly as noted earlier.

The toner indicator should go away on it's own when the toner cartridge is full... the machine uses an eye looking through the center of the cartridge through a pair of little round windows on the top and bottom to determine when the toner is empty.

Now for the Drum Cartridge or CRU (Customer Replaceable Unit)... These are sold under the reorder number 113R663 and used to also be sold under the number 113R506... it's supposed to yield 15,000 copies and sells for around \$100.-.

Lets start with removing the darned thing from the machine... if all of the machines are like the one I've been looking at, you'll get a lot of calls from customers who have trouble extracting the drum cartridge from the machine. It tends to stick and needs considerably more effort to remove than feels normal (feels rather like it'll break before it comes out). The best way I found to get it out is by placing the back of your index finger against the machine's frame to the right of the drum, then get a good grasp on the front of the cartridge with your thumb & finger... that'll give you the leverage and control you'll need to extract the cartridge.

Now, with the drum cartridge out, you'll want to know how to disassemble and service the unit. As of yet, there are no drums nor other parts available although it's just a matter of time before we all start finding them out there in the market. Until replacement drums are ready, the only thing you can do for the customer is clean things up, check the cartridge out and reset the drum count. Following is the procedure for disassembling the drum cartridge.

First remove the front end cap (1 screw at bottom and release one clip on the right). Then extract the waste toner auger while you watch to catch the gear from the rear end which will drop off once the auger is removed (put the gear aside for safe keeping). Be careul not to lose the foam gasket from the rear of the auger (the vacuum could swallow it easily).

Remove the front drum shaft which serves to contact the drum ground clip inside the drum. Remove the PCR / Charge assembly (2 screws from the top and one from the rear end). Do not touch the PCR / Charge Roll as oil from finger prints can damage it.

To remove the drum, you will need to pop the rear end gear & shaft out (it is pressed in place and tends to be stubborn... use gentle prying and be careful not to damage the teeth on the gear). Once that's off, the drum will lift out. Also set aside the other gear on the rear which can now fall off.

Finally you can get the cleaning blade out (4 screws). Clean everything up and reassemble. That's all there is to the cartridge... you'll want to reset the drum count next.

The drum count is reset from the Control Console... no doubt it's a procedure which is covered in the User Guide. The User Interface is menu driven and rather easy to figure out if you spend a few minutes with it. Press the 'Menu / Exit' button and then scroll down to "Maintenance" and press 'Enter'. Then scroll down to "New Drum" and press 'Enter' again. Finally, press the left arrow to select "1 : Yes" and press 'Enter' again. Voila, the count is reset.

One more tidbit of info about the machine before I sign off till next month. You can run a report, which the machine will generate and print out for you, which will tell you things like Total Copy Count, CRU (customer replaceable unit) or drum cartridge count and the number of times the toner and drum cartridges were replaced. Press "Reports" and then scroll to "System Data"... then hit "Enter". Not bad... rather friendly really. Next month we'll take a closer look at the machine... Error Messages & Diagnostics (what little there is) and repair procedures.