

TECHNICAL DOCUMENT

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Remanufacturing the Samsung SF-830 Drum Cartridge



First released in February 2002, the Samsung SF-830 is a 12ppm fax engine that runs at 600 dpi. The Samsung drum cartridge SCX-5312R2 is rated for 15,000 pages. These drum units are very similar in function to the Sharp AL-1000 in that they have a long plastic auger that moves the waste toner along into a small cavity at the end which in turn dumps into the waste chamber on the toner cartridge. As with the AL-1000 drum units. These cartridges are very simple to remanufacture.

As of this writing (12/03), new Drums, Wiper Blades, and PCRs are not available. The OEM parts will all go another cycle, but not more than that. Check with your supplies to see if supplies are available.

Current Machines based on the SF-830 engine are:

All the Samsung machines so far use the SCX-5312R2 cartridge

Samsung SCX-5112

Samsung SCX-5312F

Samsung SCX-5315F

Samsung SCX-5115

Samsung SF-830

Samsung SF-835P

Samsung Msys 830

Samsung Msys 835P

All the Xerox machines with the exception of the M15 and M15i use the 113R506 cartridge; the M15 machines use the 113R663 cartridge. Both are rated for 15,000 pages. We were not able to obtain either of the Xerox cartridges at the time of this writing. We will update any differences/compatibility issues at a later date.

Xerox WorkCentre Pro 412

Xerox FaxCentre F12

Xerox WorkCentre M15

Xerox WorkCentre M15i

Xerox WorkCentre 312

Xerox WorkCentre Pro 412

Machine and cartridge troubleshooting are covered at the end of this article.

Samsung SF-830 Drum Cartridge (Continued)

Supplies Required

Replacement drum (When Available)

Wiper Blade (When Available)

Conductive grease

Tools Required

Phillips head screwdriver

Small common screw driver

Vacuum approved for toner

Disassembly



Figure 1



Figure 2

- 1) Remove the screw located on the waste chamber. Press in on the tab, and remove the waste chamber. See Figure's 1 & 2

Samsung SF-830 Drum Cartridge (Continued)



Figure 3

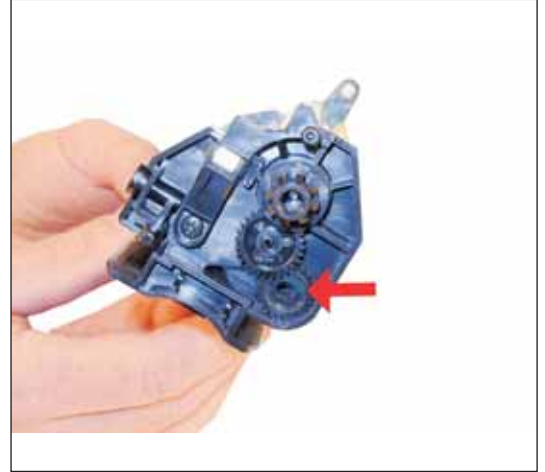


Figure 4

2) Remove the waste auger from the cartridge. The augers drive gear will come loose at this point. Remove the gear, and place aside. (The gear is on the opposite side of the cartridge). See Figure's 3 & 4



Figure 5



Figure 6

3) Vacuum the auger and foam seal clean. Vacuum/dump out any remaining bulk toner on the auger's chamber. See Figure's 5 & 6

Samsung SF-830 Drum Cartridge (Continued)



Figure 7



Figure 8

4) Remove the screw on the drum axle, and the drum axle pin. See Figure's 7 & 8

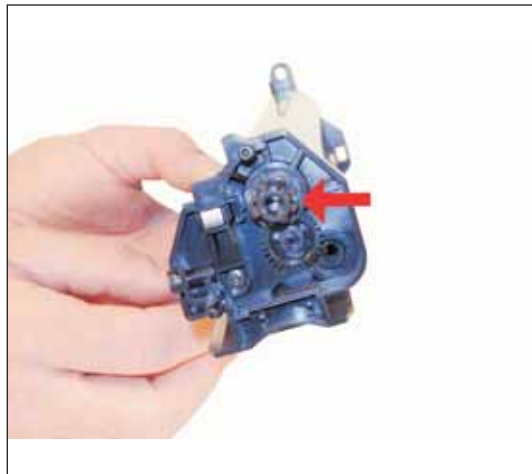


Figure 9

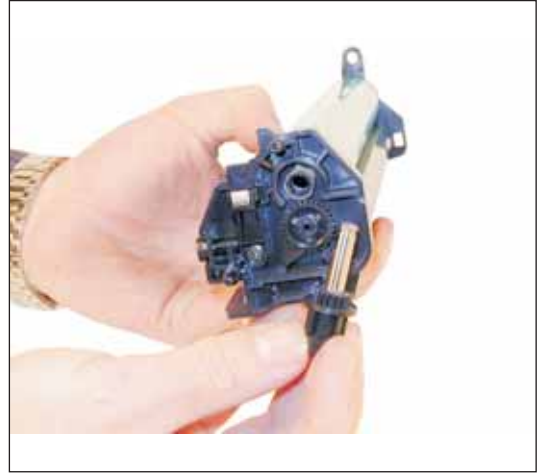


Figure 10

5) On the opposite side of the cartridge, pry out the drum drive gear and axle pin from the drum. Be careful not to damage the teeth when removing the gear. See Figure's 9 & 10

Samsung SF-830 Drum Cartridge (Continued)



Figure 11



Figure 12

6) Remove the drum. See Figure 11

7) On the right side of the cartridge, remove the screw and contact insert. The insert can be removed by pressing in on the plastic tabs. See Figure 12 & 13



Figure 13



Figure 14

8) Remove the two screws from the PCR assembly. See Figure 14

Samsung SF-830 Drum Cartridge (Continued)



Figure 15

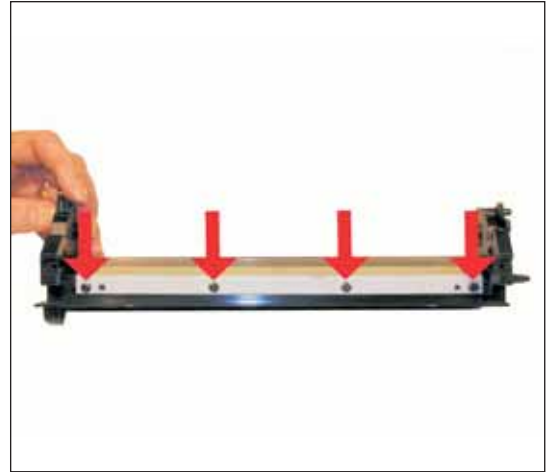


Figure 16

9) Press in on the PCR shaft from the right and lift the Assy. up from the left side. See Figure 15

10) Remove the 4 screws from the wiper blade, and remove the blade. See Figure 16

11) Clean out any remaining toner.



Figure 17



Figure 18

12) When new Wiper blades are available, the blade should be replaced. The OEM blades in our tests will last for one more cycle. We do not recommend that they be pushed farther than that. Install the new/cleaned wiper blade and 4 screws. See Figure 17

13) Clean the PCR with your normal cleaner used for Samsung cartridges. Wipe off the old conductive grease from the shaft. Re-install the PCR in the assembly. The longer bullet shaped end of the PCR is the right side. See Figure 18

Samsung SF-830 Drum Cartridge (Continued)

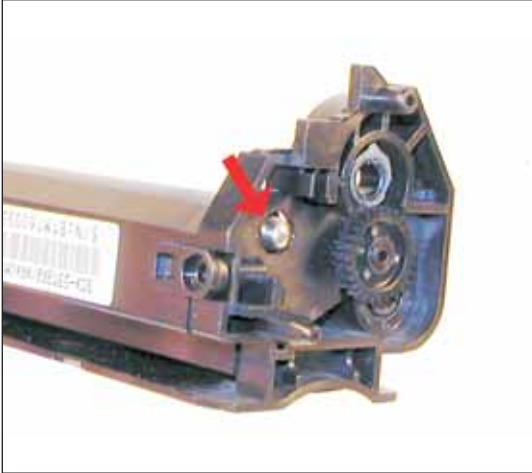


Figure 19

14) Install the PCR Assembly right side first. See Figure 19

15) Place a small amount of conductive grease on the tip of the PCR shaft. Clean all the old conductive grease from the contact plate, and replace it with new grease. Install it on the cartridge, install the screw. See Figure 20

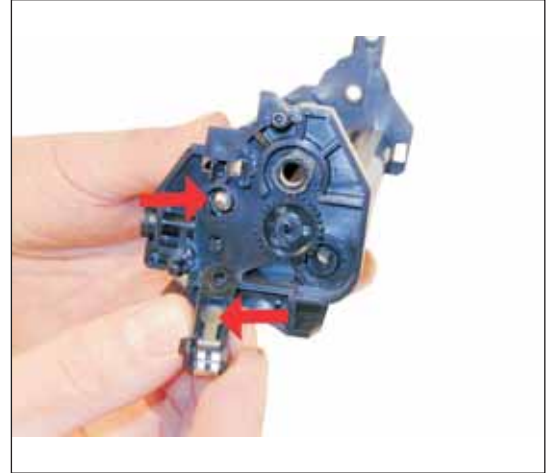


Figure 20



Figure 21

16) Install the drum gear side to the right. As with the wiper blade, the OEM drum if in good shape should run another cycle. Further than that is not a good idea. See Figure 21

17) Clean the old conductive grease off the drum axle pin. Place new grease on the shaft, and install into the cartridge. Install the axle screw. See Figure 22



Figure 22

Samsung SF-830 Drum Cartridge (Continued)



Figure 23

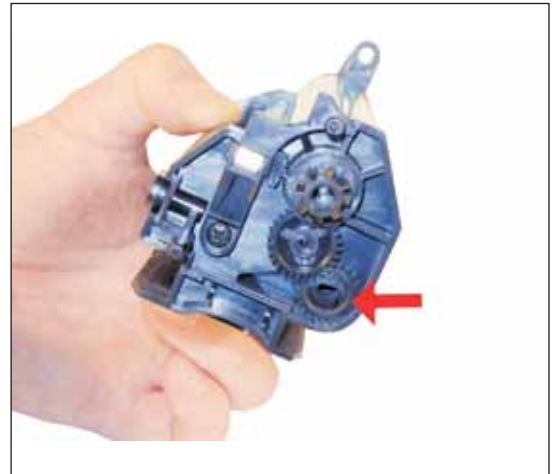


Figure 24

18) On the left side of the cartridge, install the drum drive gear/axle. Make sure the teeth of the gear meshes properly. See Figure 23

19) On the gear side, install the auger drive gear under the middle gear. Slide the auger keyed/foam seal side first. Make sure the keyed end fits into the keyed slot on the gear. See Figure's 24 & 25

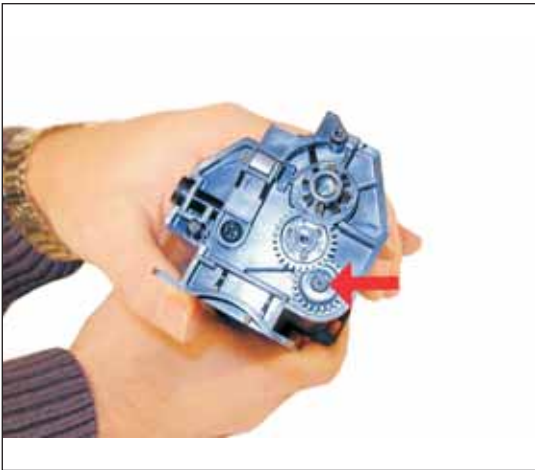


Figure 25



Figure 26

20) Install the waste chamber, and screw. See Figure 26

Samsung SF-830 Drum Cartridge (Continued)

CARTRIDGE TROUBLESHOOTING

No real problems have been noted so far. The repetitive defect table is as follows:

Drum: 94mm

PCR: 39mm

MACHINE TROUBLESHOOTING

As with most Samsung machines, the error codes are in plain English. There are however, a few messages that can be confusing (Different words are used for the same parts). They are as follows:

Drum Warning: The drum cartridge is nearing the end of its life

Drum Empty: The drum cartridge is finished.

No Developer Cartridge: This means the Drum cartridge is missing. Actual developer is not used in these machines. I'm not sure why they didn't use a "no drum cartridge message", but that is why we included the drum messages here.

Invalid cartridge: A non-Samsung Toner cartridge is installed, or the encoder piece is missing. See text at the beginning of the toner cartridge article.