THE LEXMARK E250/450 TONER CARTRIDGE

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Remanufacturing the Lexmark E250/450 Toner Cartridge

The Lexmark E250/450 Toner Cartridge

The Lexmark E250/450 were introduced in January 2006. They are replacing the E230/330/240/340 series of machines. These cartridges are not backwards compatible with the E230/240/series. The cartridges and chips are all new.

The new machines are based on a Lexmark 30, 35, or 45ppm (depending on the printer), 1200 DPI engine. With a street price of around $265.00(February 2007) for the E250, these machines continue to be very popular. It should be noted that the new cartridges have chips with new code. New E250/350/450 chips are now available. There are also different chips used for different regions of the world. It is too soon to say for certain, but I think it is a safe guess that it is the chips that are different.

This series of machines according to Lexmark have some new designs that set them apart from other similar printers. They feature a "Quiet Mode" which optimizes the settings to deliver "one of the quietest laser printers in the industry". (Basically it just slows the printer down and drops the sound level while printing from 53dBA to 49dBA). They also feature a new type of laser scanner unit (Print head). This new unit features a miniature pivoting mirror which reduces moving parts, and is supposed to increase reliability. Like most printers these days, these machines have an instant on fuser that has a first page out from sleep mode as fast as 6.5 seconds.

As with the E340 series, there are two cartridges used for this engine, a toner and drum unit. These machines also have standard and Return program (Prebate) cartridges and all have chips that shut them down. The "Return" chips must be replaced each cycle. It should also be noted that the OEM high yield cartridges only work in the E350 and E450 series, not the E250 series. To make it even more complicated, the HY cartridges for the E350 and E450 are different! A listing of the cartridges available as well as US pricing follows. As simple as these cartridges are, there is plenty of room for a nice profit.

Figure 1 shows the cartridge with the new felt style cover, and **Figure 2** shows a sample of the leakage found on just about every cartridge tested so far. None of the leakage showed on prints past the first or second pages, but it did show.
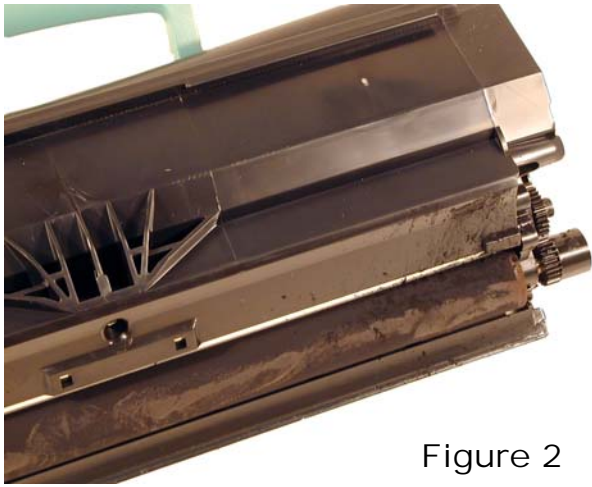

Figure 1

USA Sales: T 800.221.3516 F 888.791.9188
International Sales: T +1 631.590.1040 F +1 631.218.3285
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Figure 2

NOTE: These cartridges are not backwards compatible with the E230/240/series. The cartridges and chips are all new.

Cartridges For use in the E250/350; USA and Canada

Part#	Type	Yield	List Price
E250A11A	Std. Return cartridge	3,500	$95.50*
E250A21A	Standard cartridge	3,500	$122.50*
E352H11A	HY Return E350/352 ONLY	9,000	$175.50*
E352H21A	HY Standard E350/352 ONLY	9,000	$202.50
E250X22G	OPC Drum cartridge (All)	30,000	$37.50*

Cartridges For use in the E450; USA and Canada

Part#	Type	Yield	List Price
E450A11A	Std. Return cartridge	6,000	$111.00*
E450A21A	Standard cartridge	6,000	$138.00*
E450AH11A	HY Return cartridge	11,000	$167.75*
E450H21A	High Yield cartridge	11,000	$194.75*
E250X22G	OPC Drum cartridge (All)	30,000	$37.50*

Cartridges For use in the E250/350; Europe, The Middle East and Africa

Part#	Type	Yield
E250A11E	Std. Return cartridge	3,500
E250A21E	Standard cartridge	3,500
E352H11E	HY Return E350/352 ONLY	9,000
E352H21E	HY Standard E350/352 ONLY	9,000
E250X22G	OPC Drum cartridge (All)	30,000

Cartridges For use in the E450; Europe, The Middle East and Africa

Part#	Type	Yield
E450A11E	Std. Return cartridge	6,000
E450A21E	Standard cartridge	6,000
E450AH11E	HY Return cartridge	11,000
E450H21E	High Yield cartridge	11,000
E250X22G	OPC Drum cartridge (All)	30,000

Cartridges For use in the E250/350; Asia Pacific Region

Part#	Type	Yield
E250A11P	Std. Return cartridge	3,500
E250A21P	Standard cartridge	3,500
E352H11P	HY Return E350/352 ONLY	9,000
E352H21P	HY Standard E350/352 ONLY	9,000
E250X22G	OPC Drum cartridge (All)	30,000

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Cartridges For use in the E450; Asia Pacific Region

Part#	Type	Yield
E450A11P	Std. Return cartridge	6,000
E450A21P	Standard cartridge	6,000
E450AH11P	HY Return cartridge	11,000
E450H21P	High Yield cartridge	11,000
E250X22G	OPC Drum cartridge (All)	30,000

Cartridges For use in the E250/350; Latin America

Part#	Type	Yield
E250A11L	Std. Return cartridge	3,500
E250A21L	Standard cartridge	3,500
E352H11L	HY Return E350/352 ONLY	9,000
E352H21L	HY Standard E350/352 ONLY	9,000
E250X22G	OPC Drum cartridge (All)	30,000

Cartridges For use in the E450; Latin America

Part#	Type	Yield
E450A11L	Std. Return cartridge	6,000
E450A21L	Standard cartridge	6,000
E450AH11L	HY Return cartridge	11,000
E450H21L	High Yield cartridge	11,000
E250X22G	OPC Drum cartridge (All)	30,000

The Drum cartridge as noted above is used worldwide.

E250X22G	Drum cartridge	30,000	$37.50*

*Pricing as of February 2007 from the Lexmark Website

Machines based on this engine are the:

Lexmark E250d, E250dn, E350d, E352dn, E450dn

IBM InfoPrint 1601 Express, 1602 Express, 1612 Express and the 1622 Express

The IBM cartridges are as follows:

Part#	Type	Yield
39V1638	Infoprint 1601/1602 (E250) Return toner	3,500
39V1637	Infoprint 1601/1602 (E250) Std toner	3,500
39V1642	Infoprint 1612* (E350) HY Return toner	9,000
39V1641	Infoprint 1612* (E350) HY STD toner	9,000

* The 39V1638 and 1637 cartridges also work in the 1612 machines

Part#	Type	Yield
39V1640	Infoprint 1622 (E450) Return toner	6,000
39V1644	Infoprint 1622 (E450) HY Return toner	11,000
39V1643	Infoprint 1622 (E450) HY STD toner	11,000
39V1645	Photoconductor for entire 1610-1622 series	30,000

How to take test prints as well as cleaning the printer, a repetitive defect chart are covered at the end of the article.

Tools needed:

Toner approved vacuum.

A small common screw driver

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A Phillips head screwdriver

Needle Nose Pliers

Supplies Needed:

Lexmark E250/450 toner 100g for the low yield E250, 260g for the high yield E350, 160g for the low yield E450, and 295g for the high yield E450. (Preliminary weights testing is on-going)

Small bottle of Acetone (Available from your local hardware store)

Toner Magnet cloths

Lint-free synthetic cotton 4"x 4" pads

99% pure Isopropyl Alcohol

Cotton Swabs

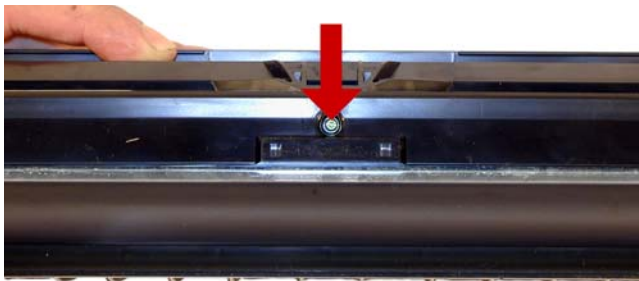1)   Remove the developer roller screw & cover.
See **Figure 3**

Figure 3

2) Remove the fill plug, and dump out any remaining toner. See **Figure 4**
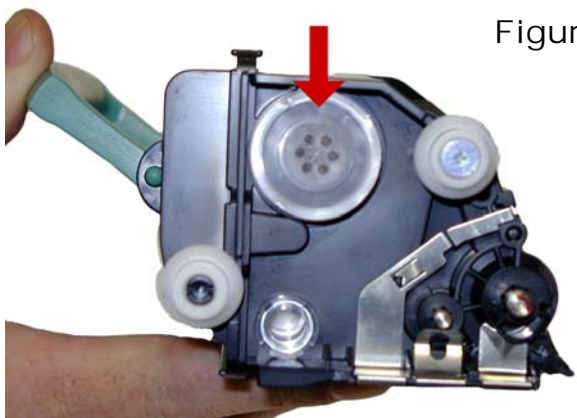
Figure 4

3) Remove the leaf spring. The dr. blade is a new type and will come loose. Place the blade aside. See **Fig. 5**

Figure 5

4) On the gear side of the cartridge, remove the developer roller drive gear. This gear is on tight, and you may need a small screwdriver to pry it off. See **Figure 6**
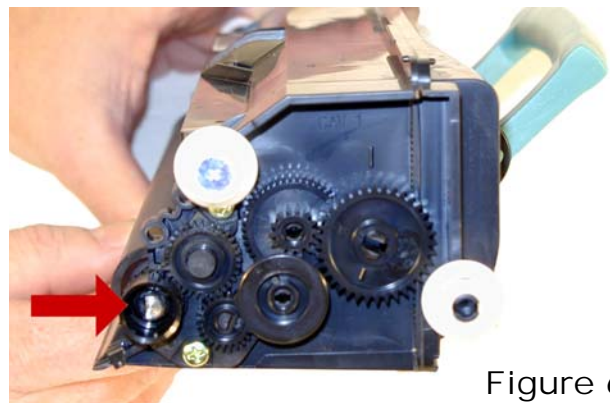
Figure 6
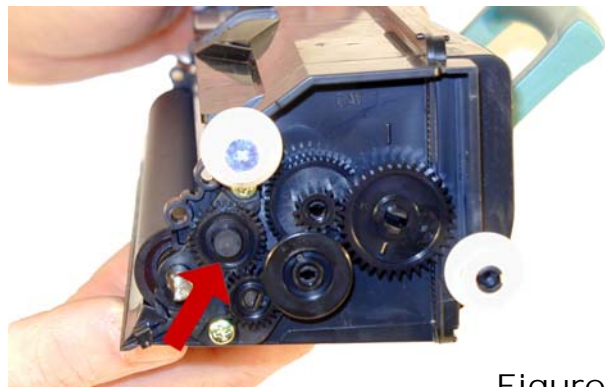
5) Remove the idler gear. See **Figure 7**

Figure 7

6) On the Non-gear side, spin the developer roller bushing so that it comes free. Remove the bushing. See **Figures 8 & 9**
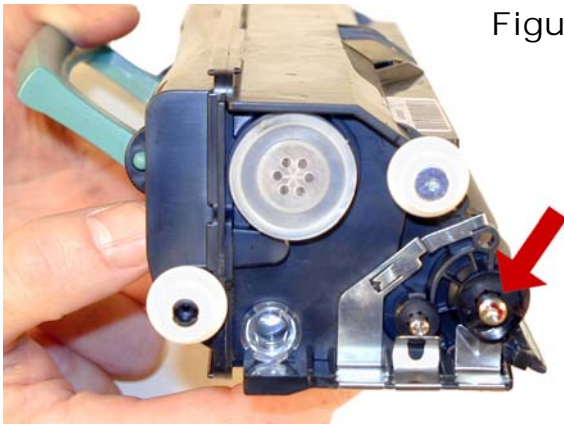
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Figure 8

8) Clean the Doctor Blade with a cotton swab and 99% Isopropyl alcohol.

9) Clean the white developer roller seals with a cotton swab. See **Figure 12**
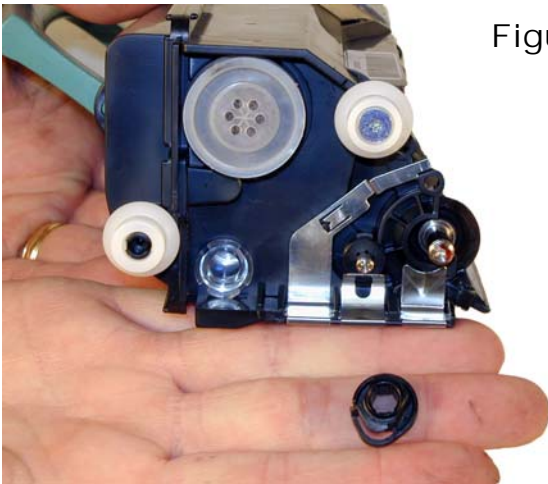

Figure 12

Figure 9

10) Wipe the developer roller with a clean lint free cloth, and re-install the developer roller. At this point we do not recommend that any chemicals be used to clean this roller. Install the keyed end of the roller to the gear side. See **Figure 13**

Figure 13

7) Remove the developer roller. Clean the toner feed roller with compressed air if available. See **Figures 10 & 11**

11) On the non-gear side, install the developer roller bushing and spin it so it locks in place. See **Figure 14**
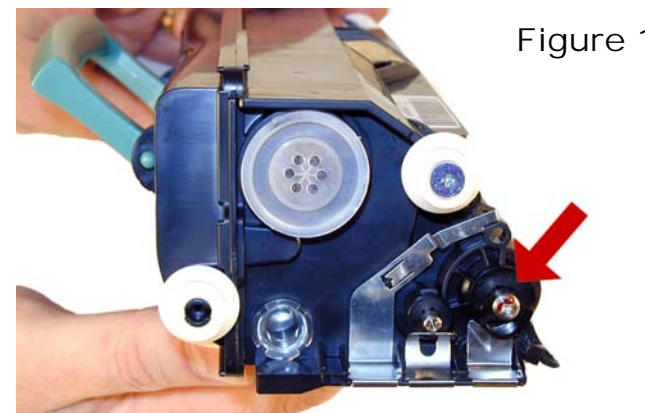
Figure 14

Figure 10

12) Install the idler gear and the developer roller drive gear. Make sure the developer roller drive gear meshes properly with the idler gear and that it is fully seated. See **Figures 15 & 16**
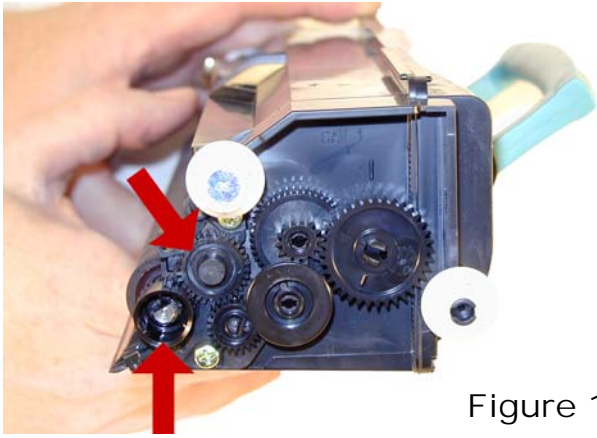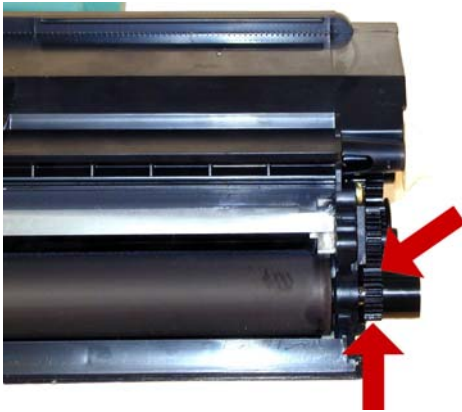
Figure 11

Figure 15

Figure 16

13) Install the doctor blade making sure it is positioned correctly and install the leaf spring. See **Figures 17 & 18**

Figure 17

Figure 18

14) Re-install the developer roller cover and screw. See **Figure 19**

Figure 19

15) Fill the cartridge with the proper amount of E330 toner and install fill plug. See **Figure 20**

Figure 20

16) There is a small clear window located under the fill plug. Make sure this window is clean. It is used to determine toner low. See **Figures 21**
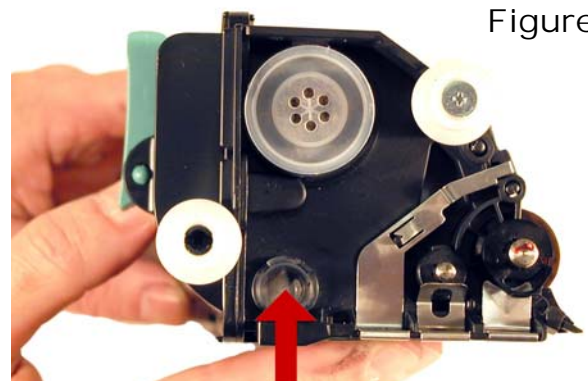
Figure 21

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17) Replace the chip. See **Figure 22**

Figure 22

Cleaning the Printhead glass

Open the front cover and remove the toner and drum cartridges. Locate the glass printhead lens in a recess above the cartridge bay. Wipe the glass down with a lint free dry cloth. Do NOT use any type of chemicals on the glass. Re-install the cartridges and close the cover.

Repetitive Defect Chart

38.2mm	PCR
47.8mm	Developer Roller
51.7mm	Transfer Roller
79.8mm	Upper fuser Belt
95.5mm	Lower fuser Roller
96.7mm	OPC Drum

18) If the felt cover is available, wrap the cartridge as indicated. This cover helps protect the developer roller from damage. Aftermarket covers are in development. See **Figure 1**

Figure 1

Printing test pages E450 Series

1) Press the "Key" button on the control panel
2) Press the "Down arrow" until REPORTS appears on the display
3) Press the Select button
4) Press the "Down Arrow" until the MENU SETTINGS PAGE, NETWORK SETUP PAGE, or PRINT FONTS appears on the display.

Printing test pages E250 Series

1) Make sure the printer is READY
2) Press the "Continue" button
3) Both the menu settings page and the network setup page will print out