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# THE KONICA MINOLTA 2400 BLACK & COLOR TONER CARTRIDGES



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# Remanufacturing the Konica Minolta 2400 Black and Color Toner Cartridges



The Konica Minolta 2400 Toner Cartridge

**F**irst released in January 2005, the Magicolor 2400 series of machines are based on a 20ppm Black 5ppm color print engine. The 2400 series has a base resolution of 600 x 600 Dpi, Enhanced resolution of 2400 x 600Dpi.

One interesting thing with these machines is like the 2300 series, there is a humidity/temperature sensor that feeds information to the main PCB. This information is used to help determine what the DC Bias voltages should be for optimum printing, and assists the fusing temperature control.

Unlike the previous 2300 series, these machines use chips on the toner cartridges, and they must be replaced each cycle. There are also different chips used for different regions around the world. Make sure you have the correct chip for your region.

The machines based on the 2400 series engine are:

- Magicolor 2400W
- Magicolor 2430DL
- Magicolor 2450
- Magicolor 2480MF
- Magicolor 2490MF
- Magicolor 2500WF
- Magicolor 2530DL
- Magicolor 2550DN
- Magicolor 2550EN

Although the 2300 cartridges at first glance look the same as the 2400 series, they are very different. See **Figures 1 and 2**. Note that the gears are on opposite sides.

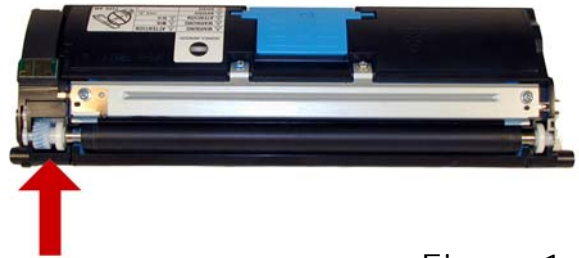


Figure 1



Figure 2

There are High yield cartridges as well as low yield cartridges available. In addition to the toner cartridges, there is also a separate drum unit as well as a waste box. The cartridges used by these machines by region are as follows:

**USA**

1710587-004	Black HY	4,500 pages at 5%	\$87.99 List*
1710587-007	Cyan HY	4,500 pages at 5%	\$133.99 List*
1710587-005	Yellow HY	4,500 pages at 5%	\$133.99 List*
1710587-006	Magenta HY	4,500 pages at 5%	\$133.99 List*
1710587-003	Cyan LY	1,500 pages at 5%	\$69.99 List*
1710587-001	Yellow LY	1,500 pages at 5%	\$69.99 List*
1710587-002	Magenta LY	1,500 pages at 5%	\$69.99 List*
1710591-001	Drum	45,000 Pages Black, 11,250 Color	\$153.99 List*

**Europe**

1710589-004	Black HY	4,500 pages at 5%
1710589-007	Cyan HY	4,500 pages at 5%
1710589-005	Yellow HY	4,500 pages at 5%
1710589-006	Magenta HY	4,500 pages at 5%
1710587-003	Cyan LY	1,500 pages at 5%
1710587-001	Yellow LY	1,500 pages at 5%
1710587-002	Magenta LY	1,500 pages at 5%
1710591-001	Drum	45,000 Pages Black, 11,250 Color

**Asia**

1710590-004	Black HY	4,500 pages at 5%
1710590-007	Cyan HY	4,500 pages at 5%
1710590-005	Yellow HY	4,500 pages at 5%
1710590-006	Magenta HY	4,500 pages at 5%
1710590-003	Cyan LY	1,500 pages at 5%
1710590-001	Yellow LY	1,500 pages at 5%
1710590-002	Magenta LY	1,500 pages at 5%

**Japan**

1710588-004	Black HY	4,500 pages at 5%
1710588-007	Cyan HY	4,500 pages at 5%
1710588-005	Yellow HY	4,500 pages at 5%
1710588-006	Magenta HY	4,500 pages at 5%
1710588-003	Cyan LY	1,500 pages at 5%
1710588-001	Yellow LY	1,500 pages at 5%
1710588-002	Magenta LY	1,500 pages at 5%

\* The pricing on all cartridges is current as of August 2007.

These machines are based on a carousel type color engine. It is virtually identical in design to the 2300 series so there is no need to go into it again here. One interesting note is that sometimes when the printer stops, the carousel does not stop in a position where a cartridge can be removed. Even when you tell the printer to rotate it sometimes does not stop in the correct location. Konica Minolta apparently knows this as they have included a release switch that can be accessed from the right side of the printer with a small screwdriver or pen. Depressing this switch allows the carousel to



freely rotate and you can then remove the cartridge (s). See **Figure 3**

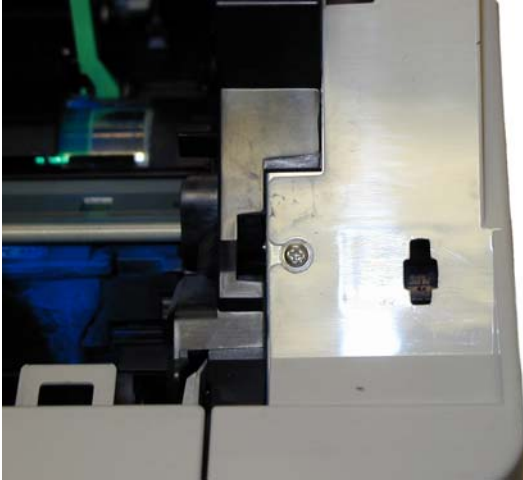


Figure 3

The cartridges themselves are very easy to remanufacture and as you can see from the pricing above, can be very profitable.

Taking test prints, cartridge troubleshooting as well as minor printer troubleshooting will be covered at the end of this article.

#### Required Tools

- Toner approved vacuum or toner approved dust collector system
- A small screw driver (Common Style)
- A Phillips head screwdrivers
- Needle Nose Pliers
- Jewelers screwdriver set

#### Supplies Required

- 2400 Dedicated Color Toner
- Shipping cover
- Lint free Cloths
- Conductive grease

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



Figure 4

2) On the gear side of the cartridge, remove the three silver screws from the end cap. See **Figure 5**

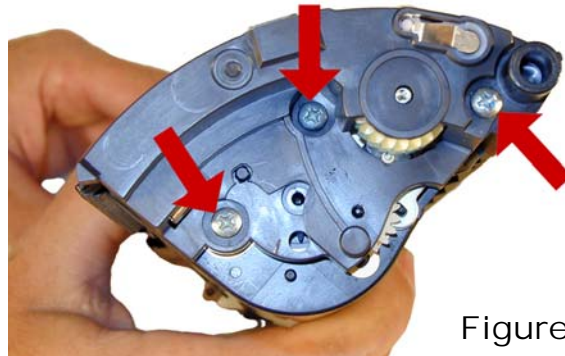


Figure 5

3) Remove the end cap. See **Figure 6**

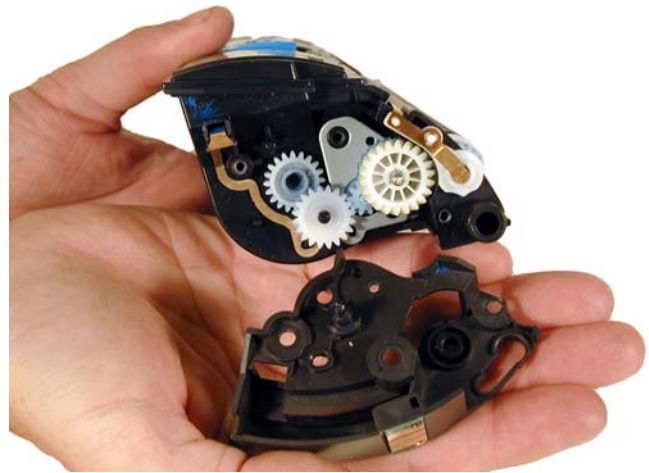


Figure 6

4) Remove the larger drive gear and the two smaller gears next to it. Leave the mixing blade gear in place. See **Figure 7**

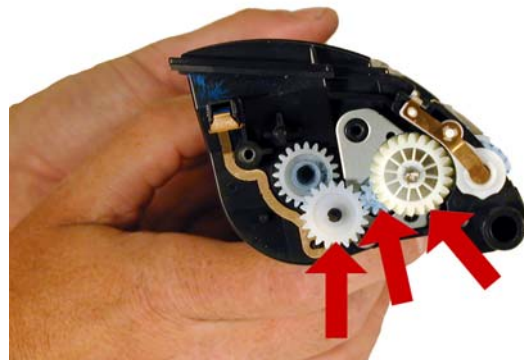


Figure 7

5) Remove the doctor blade contact screw. See **Fig. 8**

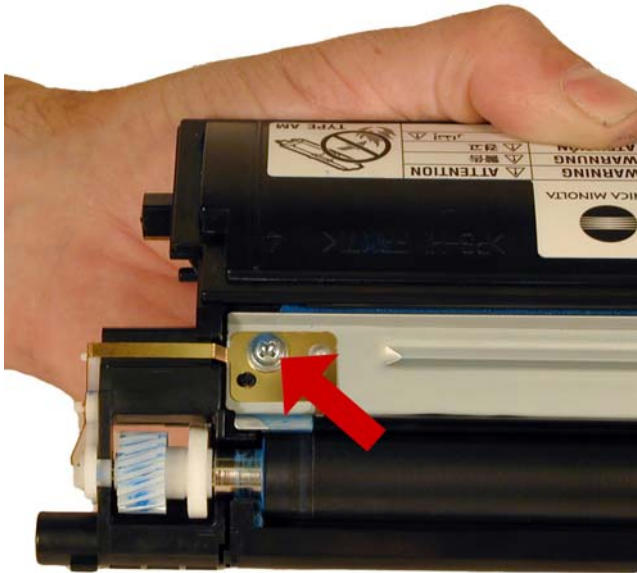


Figure 8

6) Remove the contact/bushing assembly. See **Fig. 9**

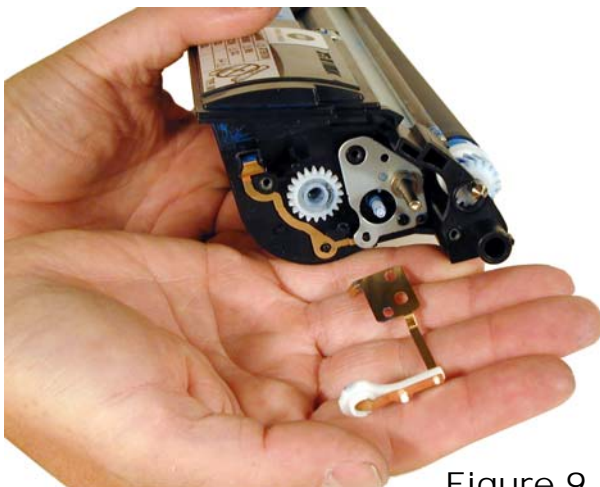


Figure 9

7) Remove the white bushing from the non-gear side by prying up the center tab and rotating the bushing counter-clockwise until it stops. Pry the bushing off the developer roller shaft. See **Figures 10 & 11**

8) Remove the doctor blade cover by prying up the three tabs as indicated. Remove the cover. See **Figures 12**

9) Remove the developer roller and gears. See **Fig. 13**

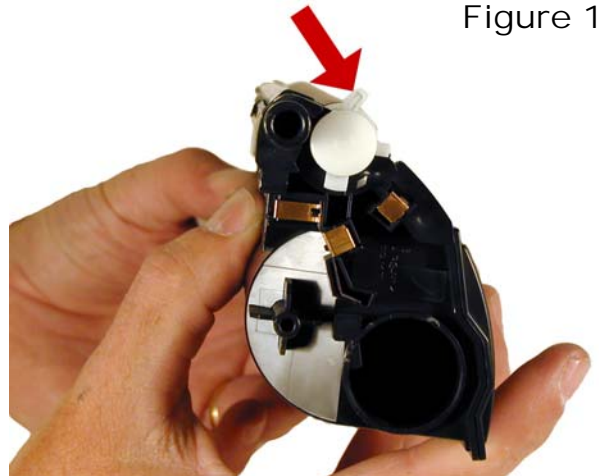


Figure 10



Figure 11



Figure 12

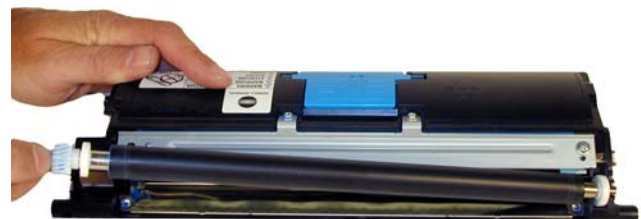


Figure 13

10) Remove the two screws from the doctor blade. Remove the doctor blade. See **Figure 14**



Figure 14

11) Remove the three screws on the sealing blade assembly. See **Figure 15**

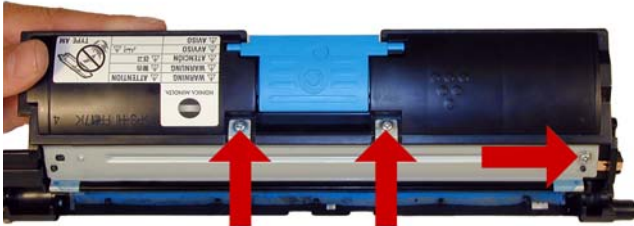


Figure 15

12) Pry up the sealing blade assembly and lift off. The entire foam seal assembly will come off with it. Be careful not to tear the seals. See **Figure 16**

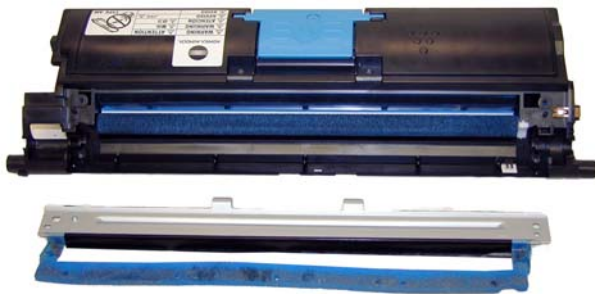


Figure 16

13) Clean out any remaining toner from the hopper and the feed roller. See **Figures 17**

14) Remove the small screw from the feed roller contact plate, remove the plate. See **Figure 18**



Figure 17

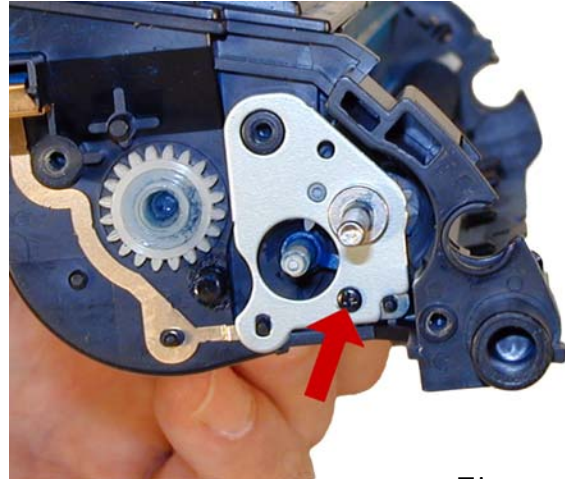


Figure 18

15) Check to ensure that the contact to the feed roller is clean, and that the two gears are clean and greased. If not clean them and re-grease the gears with white lithium grease. See **Figure 19**

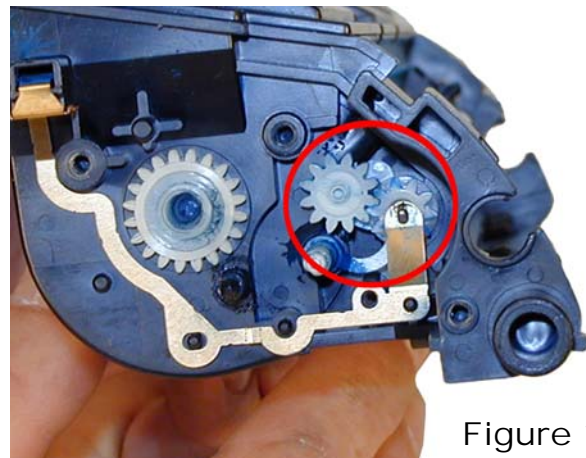


Figure 19

16) Re-install the feed roller contact plate and screw. See **Figure 20**

17) Install the cleaned sealing blade assembly, seals, contact, and three screws. Make sure the foam aligns with the plastic pins. See **Figure 21**

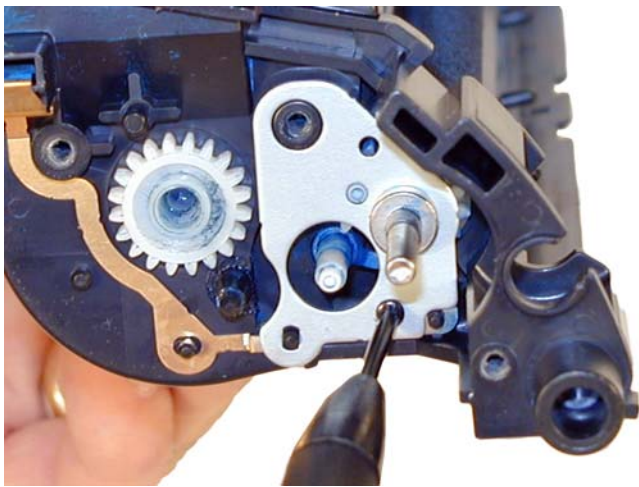


Figure 20

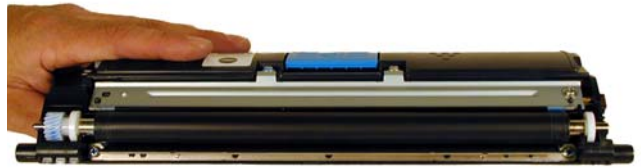


Figure 23

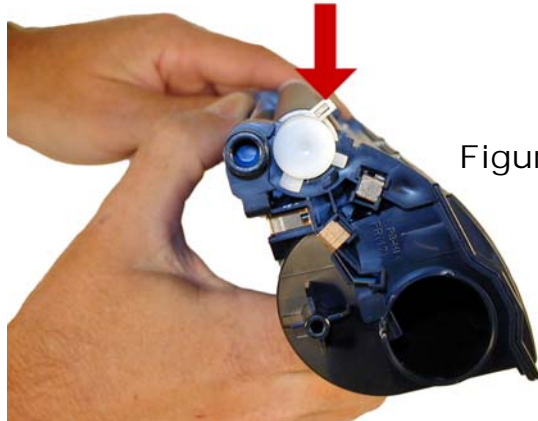
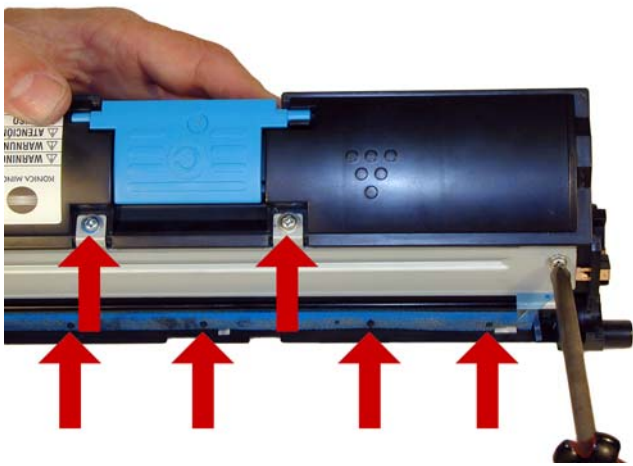


Figure 24



18) Install the doctor blade and two screws. See **Figure 22**

Figure 21

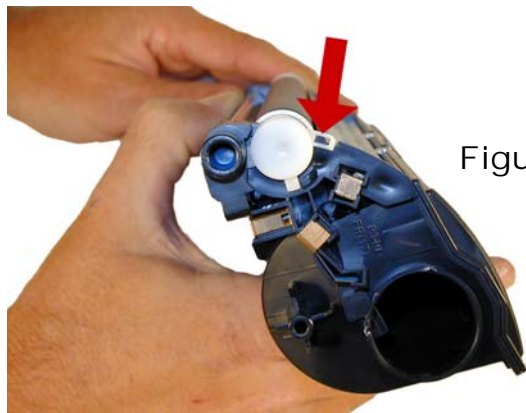


Figure 25



Figure 22

21) Install the three gears smallest to largest in that order. See **Figure 26**

19) Install the developer roller assembly. See **Figure 23**

20) On the non gear side, install the large white bushing tab up, and rotate clockwise to lock in place. See **Figures 24 & 25**

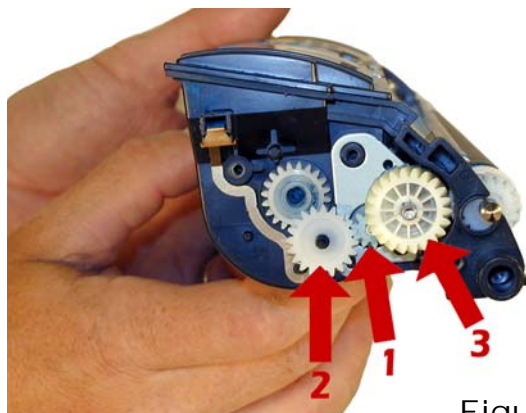


Figure 26

22) Install the contact/bushing assy. and screw See **Figure 27**

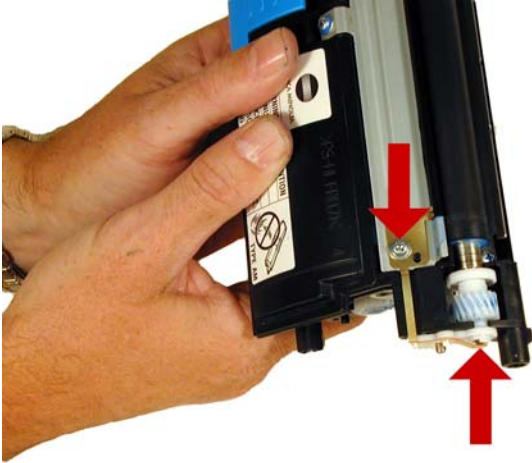


Figure 27

23) Install the black end cap on the gear side. Install the three silver screws. See **Figure 28**

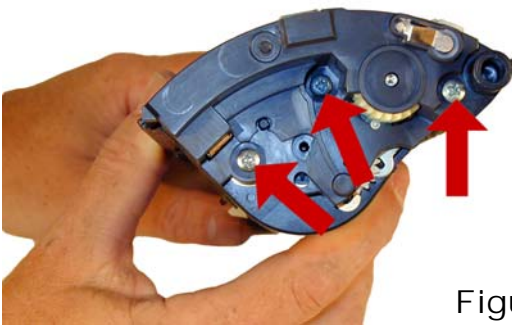


Figure 28

24) Install the DB cover. Rotate so that the tabs are aligned and snap in place. This may take a bit of force to fit properly. See **Figure 29**



Figure 29

25) Fill with the appropriate 2400 color toner, replace the fill plug. See **Figure 30**



Figure 30

26) Replace the chip by removing the small Phillips screw. See **Figure 31**

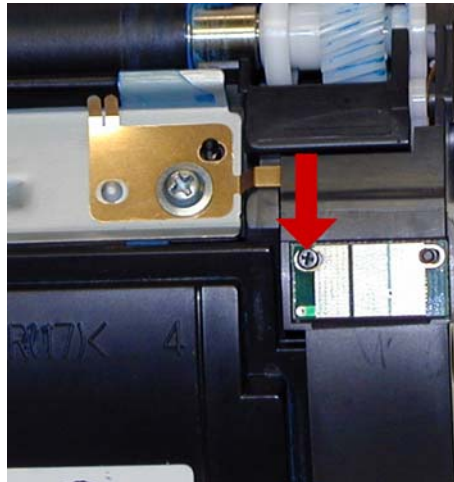


Figure 31

27) Install the developer roller cover. See **Figure 32**



Figure 32



## Taking Test Prints

With the printer ready, press the "MENU SELECT" button once.

Press the left or right arrows until "QUALITY MENU" appears on the display.

Press the "MENU SELECT" button.

Press the left or right arrows until "TEST PAGE 1 or TEST PAGE 2" appears on the display.

Test page 1 prints out 5 pages one of each color. Test page 2 is a black/gray scale page.

Press the "MENU SELECT" button.

## Cartridge Troubleshooting:

A dirty Corona wire (electrode) and or grid will cause random streaks of toner vertically down the page.

A Scratched Drum will show up as a very thin, perfectly straight line that runs from the top to the bottom of the test page.

A Chipped Drum will result in a dot or series of dots that repeat 3x/page

A Damaged Developer Roller will either leave a mark or a blank spot (depending on the type of damage.)

A Light Damaged Drum will show up as a shaded area on the test print that should be white. Again this will repeat 3x/page.

A Bad Wiper Blade will result in vertical shaded lines down the page, or as shading across the entire page. In either case there will be a film of toner on the drum surface.

## Some of the more common Printer Error Messages:

Most error codes are self explanatory, but a few are numeric. We have included some of the more common ones here.

Fatal Error 08H Main motor not rotating  
Fatal Error 0BH fan motor not rotating  
Fatal Error 0EH Fuser fan not rotating  
Fatal Error 10H Scanner motor error  
Fatal Error 16H Transfer belt not rotating  
Fatal Error 17H Toner cartridge rack not rotating

Fatal Error 18H Fuser Assembly heat error  
Fatal Error 19H Fuser Assembly heat error  
Fatal Error 1AH Fuser Assembly heat error  
Fatal Error 1BH Fuser Assembly heat error

