THE CANON 106 TONER CARTRIDGE

DOC# 0381

By Mike Josiah and the Technical Staff at Summit Technologies

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Remanufacturing the Canon ImageClass MF6500 series 106 Toner Cartridge

The Canon 106
Toner Cartridge

First introduced in September 2006, The imageClass MF6500 machines are based on a 23 ppm, 1200dpi Canon engine. The cartridge for these machines is the “106” (0264B001AA) cartridge. The cartridge is rated for 5,000 pages at 5% coverage.

The machines based on the MF6500 series engine are the:

imageClass MF-6530
imageClass MF-6550
imageClass MF-6560
imageClass MF-6580

As this is one of the newest Canon cartridges, it is interesting to note that the cartridge does not use a chip, no plastic rivets are used, and the plastic parts of the cartridge are not glued or welded in any way (as with all the newer HP cartridges).

The cartridge itself is of a new design, but is very simple to remanufacture. As with the HP-1200/1300 and others, two small holes have to be drilled in the top to allow for the axle pin removal.

Figures 1 & 2 show a replacement cartridge as received. Note the tape that holds the side handle down, and the center handle in place. Be careful not to lose/ break the side blue handle. This cartridge sits deep into the machine, and with out this handle, removing it will be very difficult.

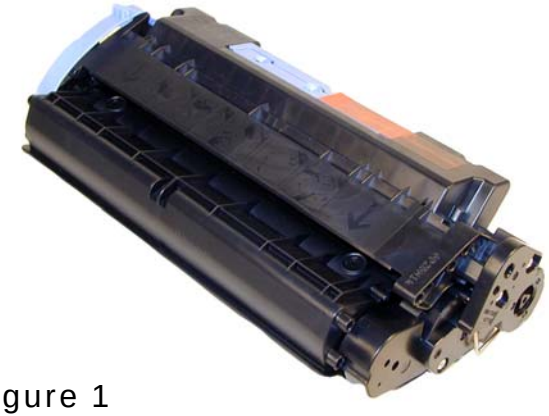

Figure 1

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Figure 2

Cartridge troubleshooting as well as running test pages, cleaning pages and some simple printer troubleshooting will be covered at the end of this article.

Supplies required

*** Preliminary toner amounts***
230g dedicated Canon 106 toner (Testing is still on going. For the proper amounts, check with your vendor.
New Drum (Optional)
Wiper Blade (Optional)
Dr. Blade (Optional)
Magnetic roller (Optional)
Sealing Strip (When available)
Cotton Swabs
Isopropyl Alcohol
Drum Padding Powder
Conductive Grease

Tools Required

Allen Wrench or modified spring hook to push pins out. (See Text)
Phillips head screw driver.
Small Common screw driver
Dremel type tool with side grinding bit

The pins in these cartridges are very similar to the HP-1200/1300 cartridges. The best way to remove them without damaging the cartridge is to cut two small holes. Other than the location, basically the same procedure as the 1200/1300.

1) Remove the screw and blue side handle. See **Figure 3** (It gets in the way)

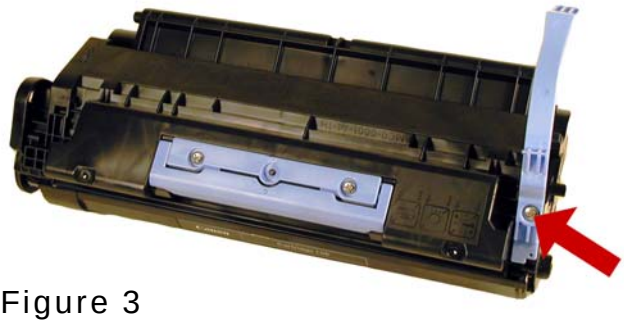

Figure 3

2) With the center blue handle facing you, remove the two screws and drum hub on the left side of the cartridge. See **Figures 4 & 5**

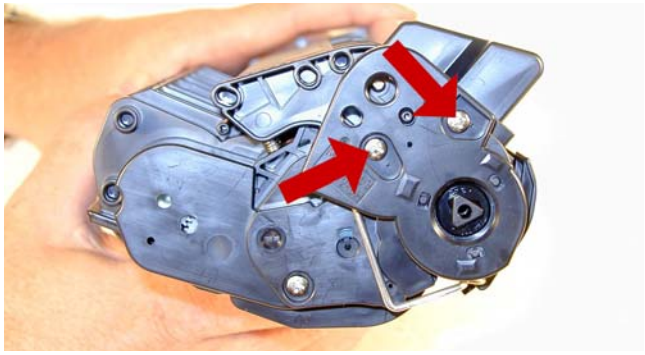

Figure 4

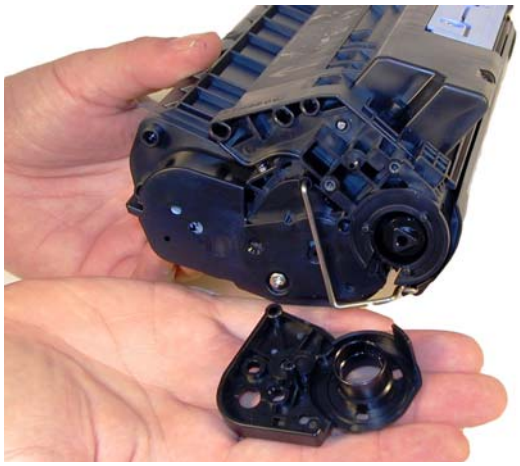

Figure 5

3) Drill a shallow hole on each side of the cartridge as indicated by **Figures 6 & 7** (un-cut), **8 & 9** (cut).

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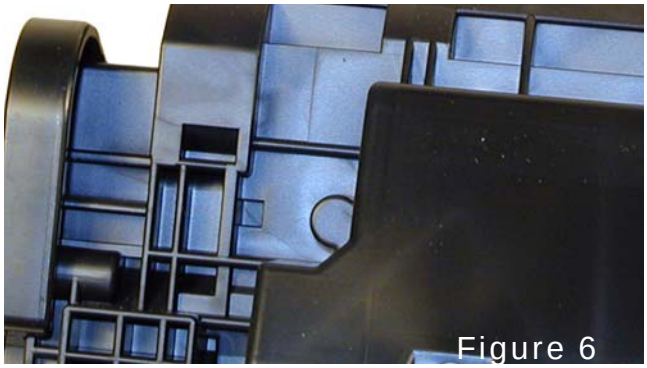
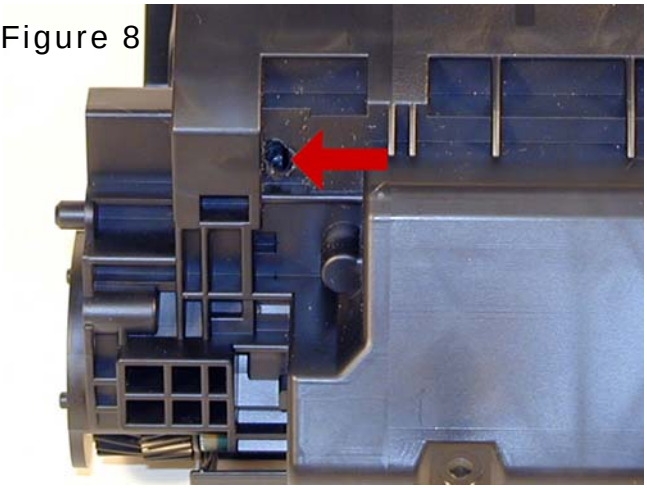


Figure 6

Figure 7

Figure 8



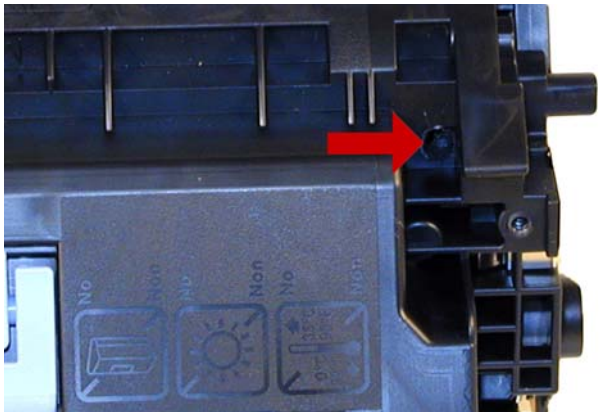
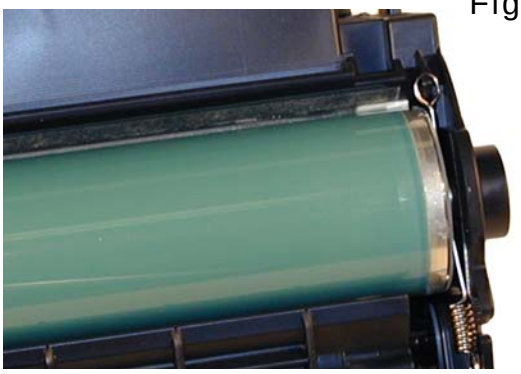


Figure 9

4) Turn the cartridge over so the center blue handle is facing you but also facing down. Note the small spring across the left (non gear) side of the drum. Remove the spring. See **Figure 10**

Figure 10



5) Push the pins out with a Modified spring hook or a jewelers screwdriver. Remove the pins with a pair of wire cutters. **Figure 11** shows a modified spring hook, **Figures 12 & 13** show the pins.

Figure 11

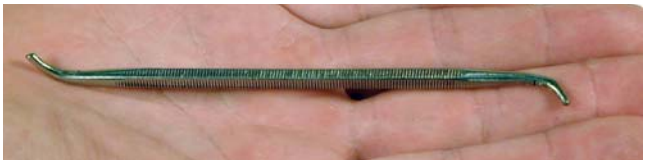


Figure 12

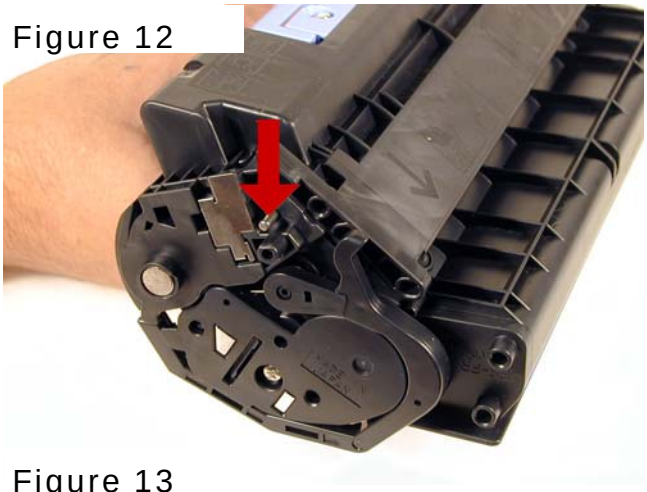
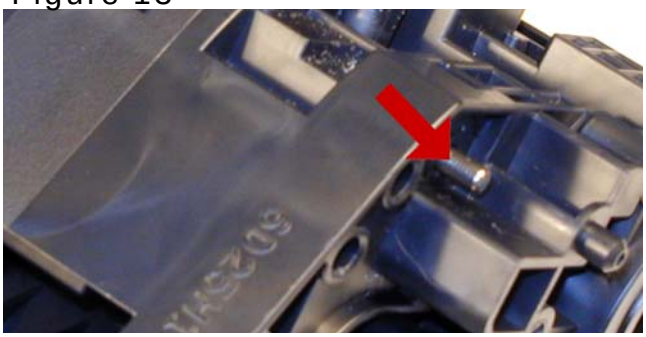


Figure 13



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6) Separate the two halves. See **Figure 14**

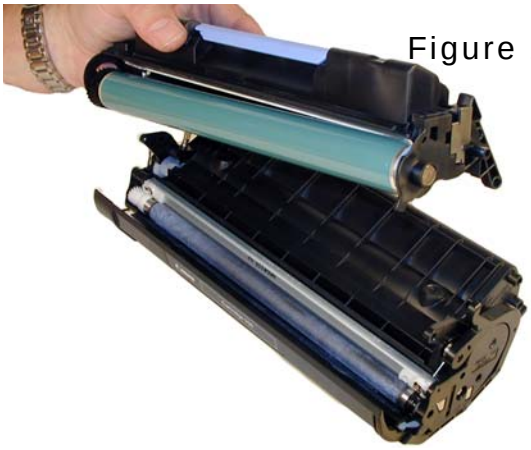


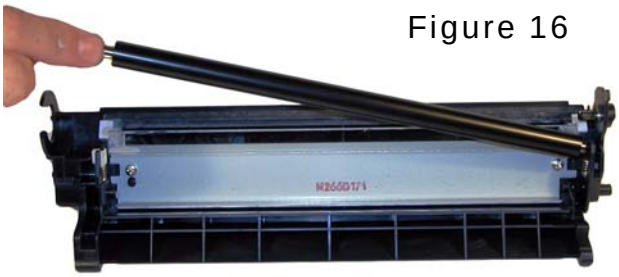
Figure 14

7) On the drum/waste section, remove the drum. See **Figure 15**.

Figure 15

8) Remove the PCR and clean with your standard PCR cleaner. See **Figure 16**

Figure 16



9) Remove the two screws and Wiper Blade. See **Figure 17**

Figure 17

10) Clean out the waste toner. Make sure that the side and rear foam seals are clean. See **Figure 18**

Figure 18

11) Coat the wiper blade with your preferred lubricant; install the blade and two screws. See **Figure 19**

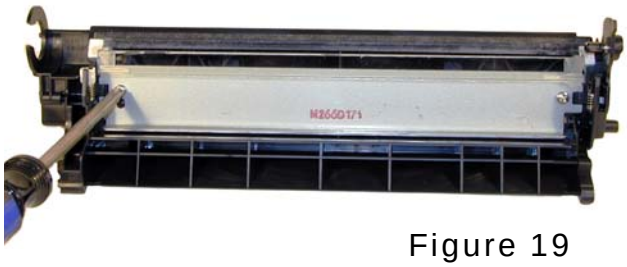


Figure 19

12) Re-install the cleaned PCR. Note that a new OEM PCR has a small amount of conductive grease on the black (contact) side. Clean off the old grease and replace with new. See **Figures 20 & 21**

Figure 20

Figure 21

13) Re-Install the OPC Drum. The metal axle pin should have a good amount of conductive grease on the tip. Remove the old grease and replace before inserting the drum. Place the drum/waste assembly aside.

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See **Figures 22 & 23**

Figure 22

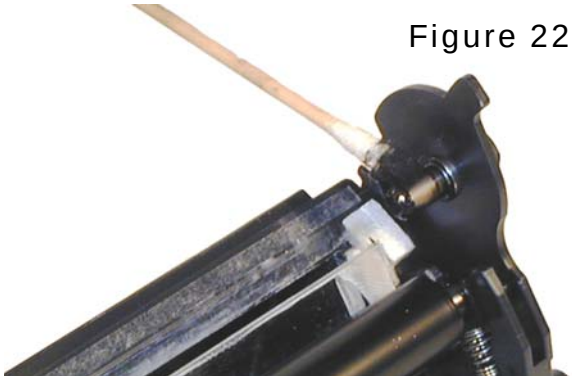

Figure 23

14) On the toner hopper, remove the drum cover. Remove the spring arm by pressing in on the tab located inside the arm pivot point. Pull the metal bar out from the opposite side to remove.

See **Figures 24, 25 & 26**

Figure 24

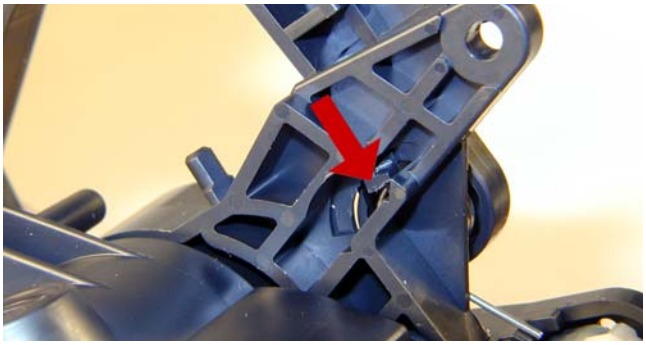

Figure 25

Figure 26

15) On the gear side of the magnetic roller, remove the screw and end cap. See **Figures 27 & 28**.

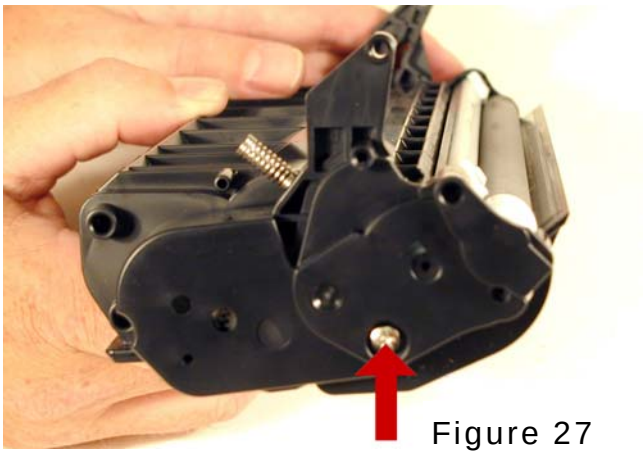

Figure 27

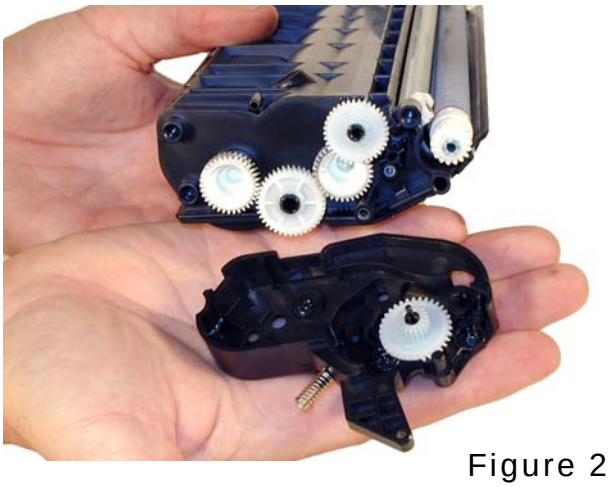

Figure 28

16) Remove the two gears as indicated. The remaining two gears should not be removed. They will not fall off, and are mounted to the toner augers inside the hopper. See **Figure 29**.

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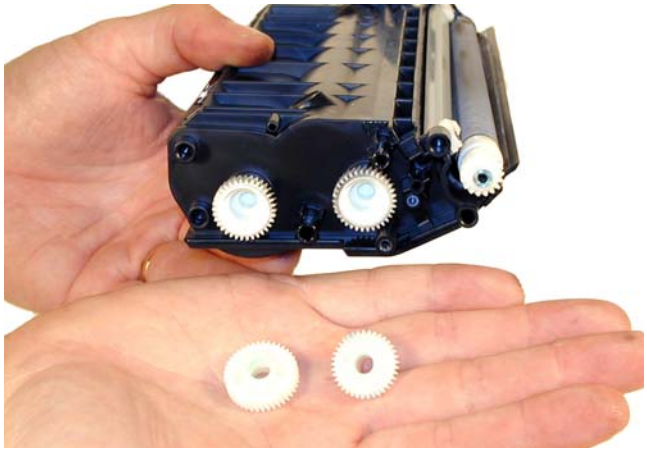


Figure 29

17) Remove the magnetic roller assembly. See **Figure 30.**

Figure 30

18) On the opposite side of the hopper, remove the screw and end cap. See **Figure 31**

19) Remove the two screws and doctor blade. Pry the blade up from the right side, there is adhesive under the blade, if you pull the blade off, the alignment pin may break off. See **Figure 32**

Figure 31

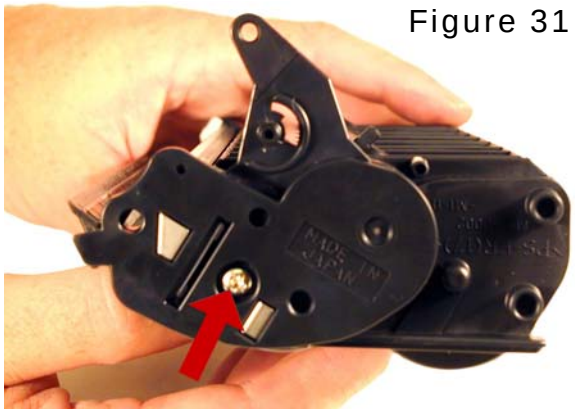
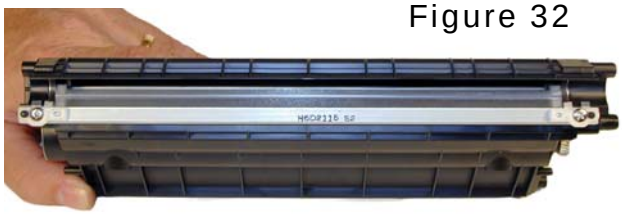


Figure 32



20) Remove the fill plug and dump out any remaining toner. Vacuum/blow the hopper clean. See **Figure 33**

Figure 33

21) When a seal becomes available, install it now and fill the hopper through the fill hole. Skip to step 23. See **Figure 34**

Figure 34

22) Install the fill plug, fill with 230g Canon 106 toner. (Preliminary weight)

23) Re-install the doctor Blade, plastic scrapers, and two screws. See **Figure 35**

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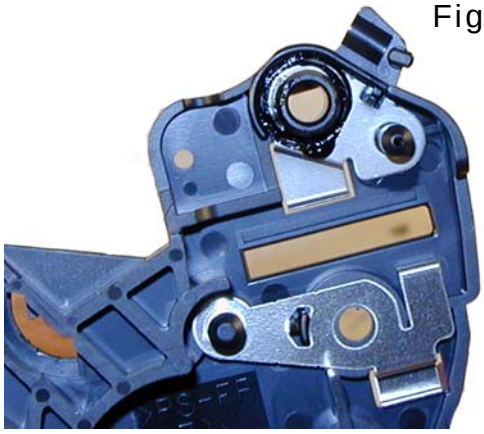
24) On the electrical end cap, clean the old grease off the contact plate, and replace with new conductive grease. See **Figure 36**

Figure 36



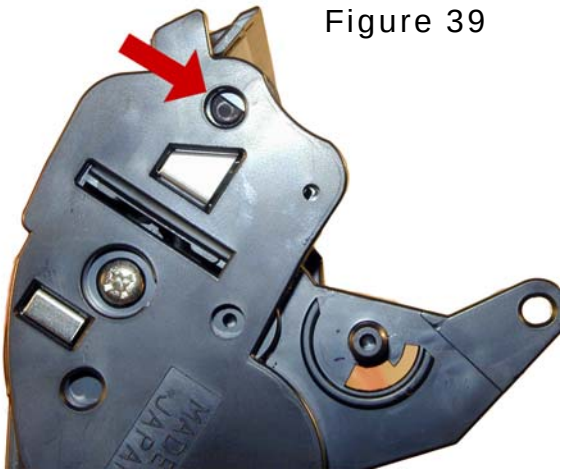
25) Install the electrical end cap and screw. See **Fig. 37**

Figure 37

26) Install the mag. Roller assembly. Make sure the keyed end fits properly into the keyed slot in the end cap. See **Figure 38 & 39**

Figure 38

Figure 39



27) On the opposite side of the hopper, install the two gears as shown. See **Figure 40**

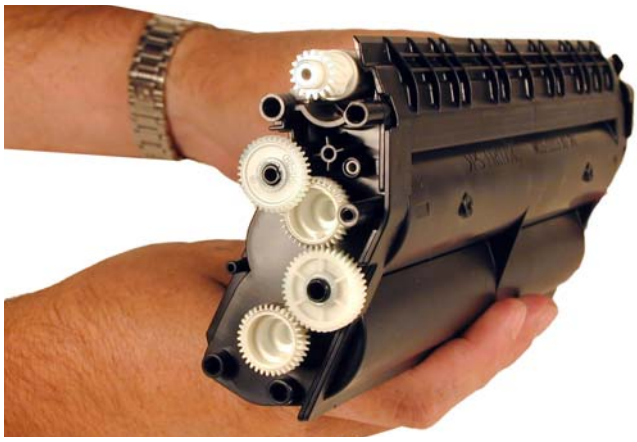


Figure 40

28) Install the gears side end cap and screw. Make sure the gears mesh properly. See **Figures 41 & 42**

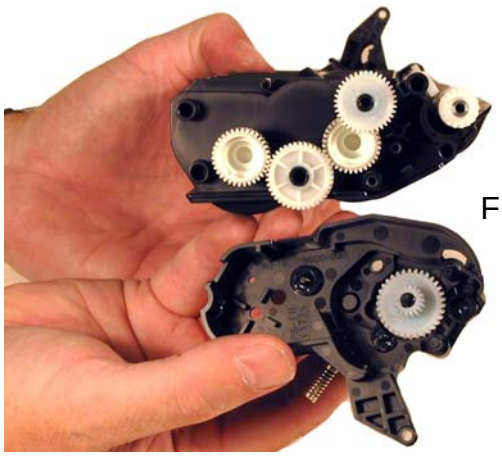


Figure 41

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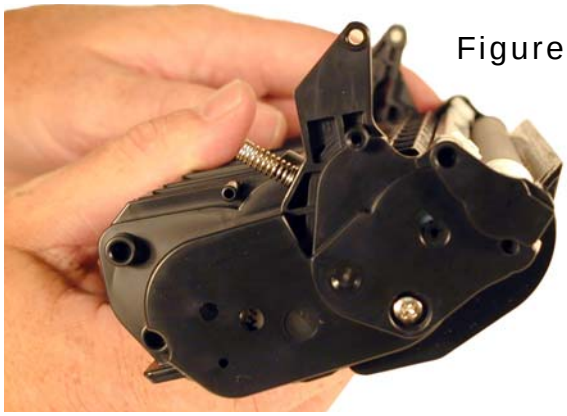
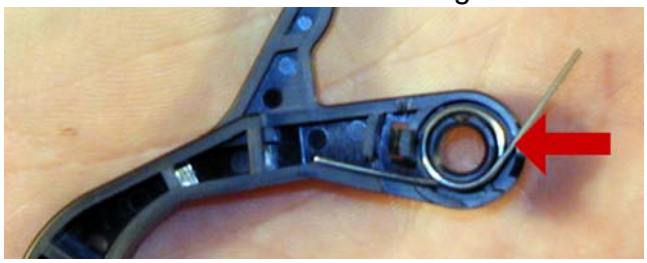


Figure 42

29) Install the drum cover. Place the spring in the arm as shown. Install the arm, place the bar in the hole, and release the arm spring. Rotate the spring a few times to make sure everything is working properly.

Figure 43



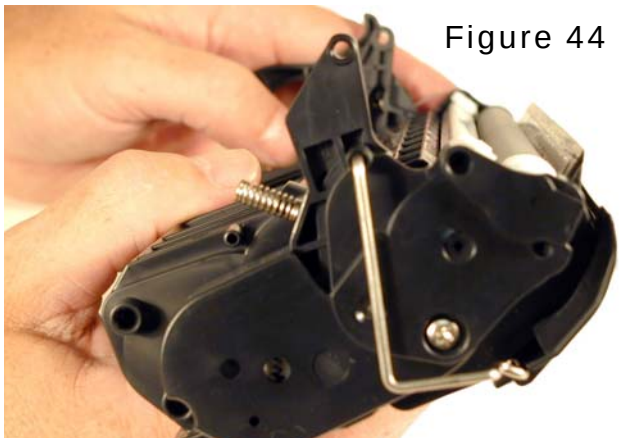


Figure 44

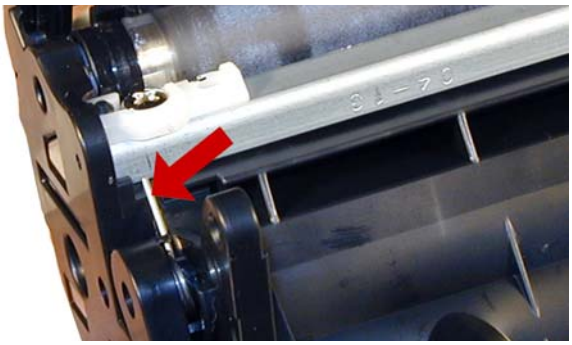
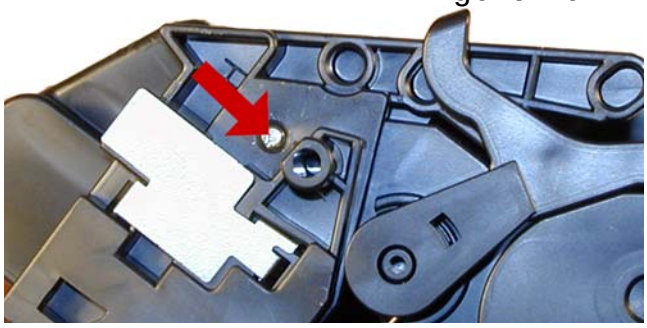


Figure 45

See **Figures 43, 44 & 45**

30 Place the two halves together, make sure the arms on the toner hopper are aligned and insert the two pins. Make sure that the pins are inserted fully so that they do not come loose. See **Figures 46 and 47**.

Figure 46



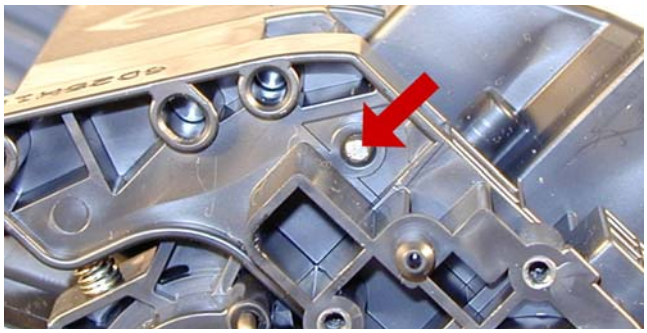
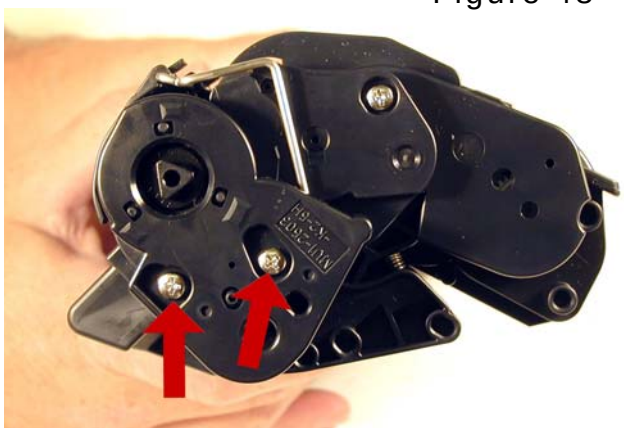


Figure 47

31) Install the drum hub and two screws. See **Figure 48**

Figure 48



32) Install the small spring across the two small plastic tabs on the non gear side of the drum. Installing this spring can be a bit tricky. Install the large loop side of

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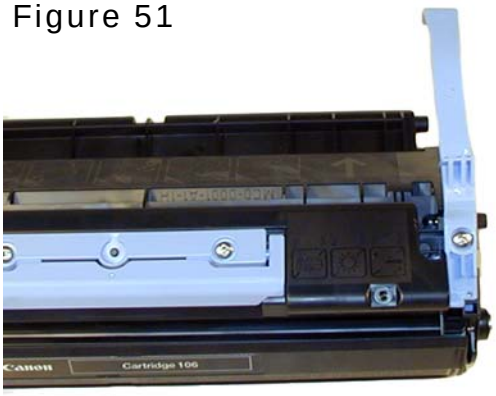
the spring on the waste hopper first, and pull it across to the toner hopper with a spring hook.
See **Figures 49 & 50**

Figure 49

Figure 50

33) Install the blue handle and screw. See **Figure 51**

Figure 51



Troubleshooting

Repetitive Defect Chart:

OPC Drum: 76mm
Magnetic Roller: 38mm
PCR: 36mm

Back grounding: (Gray Streaks) This is usually caused by a dirty/worn out PCR, or a worn out wiper blade**.**

Light Print: Can be caused by a dirty/worn Magnetic Roller or worn doctor blade**.**

Solid Black Pages: Bad drum ground contact, probably from the drum axle shaft to the contact gear inside the drum.

Perfectly straight **thin black lines** down the page: Scratched drum.

Black dots that repeat every 76mm: Bad drum, or something is stuck to the drum surface.

Dark black Horizontal lines: Are usually caused by either a bad PCR connection, a pin hole in the PCR, or a pin hole in the drum. These lines normally run about 1/8" thick and can show as few as 4 times/page and as many as 12 times/page**.**

"Tire Tracks" on the right edge of the page are caused by a worn out drum. (Tire Tracks are what we call a vertical shaded area with lines in it that look like tire tread marks in the sand. This normally happens to OEM drums**.**

Half the page prints, the other half is blank: The cartridge spring most likely fell off. Locate the spring and re-install.

Light and dark print: Shows up mostly on full grey or solid black pages. Mag. roller alignment pins not aligned correctly or magnetic roller bushings worn.

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Running Test Pages

There are two different ways to run test pages. The easiest way is to just use the scanner to make copies. The other way is to run them from the printer driver menu.

Changing Printer Settings:

Press the ADDITIONAL FUCTION button.
Press the left or right arrows until PRINTER SETTINGS appears on the display.
Press OK
Press the right or left arrows until the setting you want to change appears on the display. The choices are : IMAGE REFINEMANT (Smoothes jagged edges-On or Off), Density (Set from 1-9), Toner Saver (On or OFF
Press OK
Change the desired setting
Press OK

Running the Cleaning Page

There are a few different cleaning pages that can be run. Each type cleans different parts.

Fuser Roller Cleaning Page:

Press the ADDITIONAL FUCTION button.
Press the left or right arrows until ADJUST/CLEANING appears on the display.
Press OK
Open the multipurpose tray
Place a sheet of blank LTR paper in the tray
Press the right or left arrows until FIX.UNIT CLEANING appears on the display
Press OK
The cleaning page will run

ADF Automatic Cleaning Page:

Press the ADDITIONAL FUCTION button.
Press the left or right arrows until ADJUST/CLEANING appears on the display.
Press OK
Press the right or left arrows until FEEDER CLEANING appears on the display
Press OK
Place 5 sheets of blank LTR paper in the ADF
Press OK
The cleaning page will run

Transfer Roller Cleaning Page: (Run this when the backs of the page have smudges on them)

Press the ADDITIONAL FUCTION button.
Press the left or right arrows until ADJUST/CLEANING appears on the display.
Press OK
Press the right or left arrows until TRANS. ROLR CLEAN appears on the display
Press OK
The cleaning process will run.

Printer Troubleshooting

These machines use both text and numerical error messages. For the most part the text messages are self explanatory, but one may be confusing.

Toner Is Not Set Insert Toner: this means that the cartridge is either missing, is not put together correctly, or just isn't installed correctly in the machine. There is not a chip that will cause this, just a physical problem.

Numeric Error Codes: (MF 6550, MF6560, MF6580 ONLY)

0001	Paper Jam
0003	ADF Paper problem (Size)
0005	Receiving fax machine did not respond within 35 seconds
0009	Paper Out
0012	Receiving fax machine out of paper
0037	Memory Full

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