THE RECYCLER
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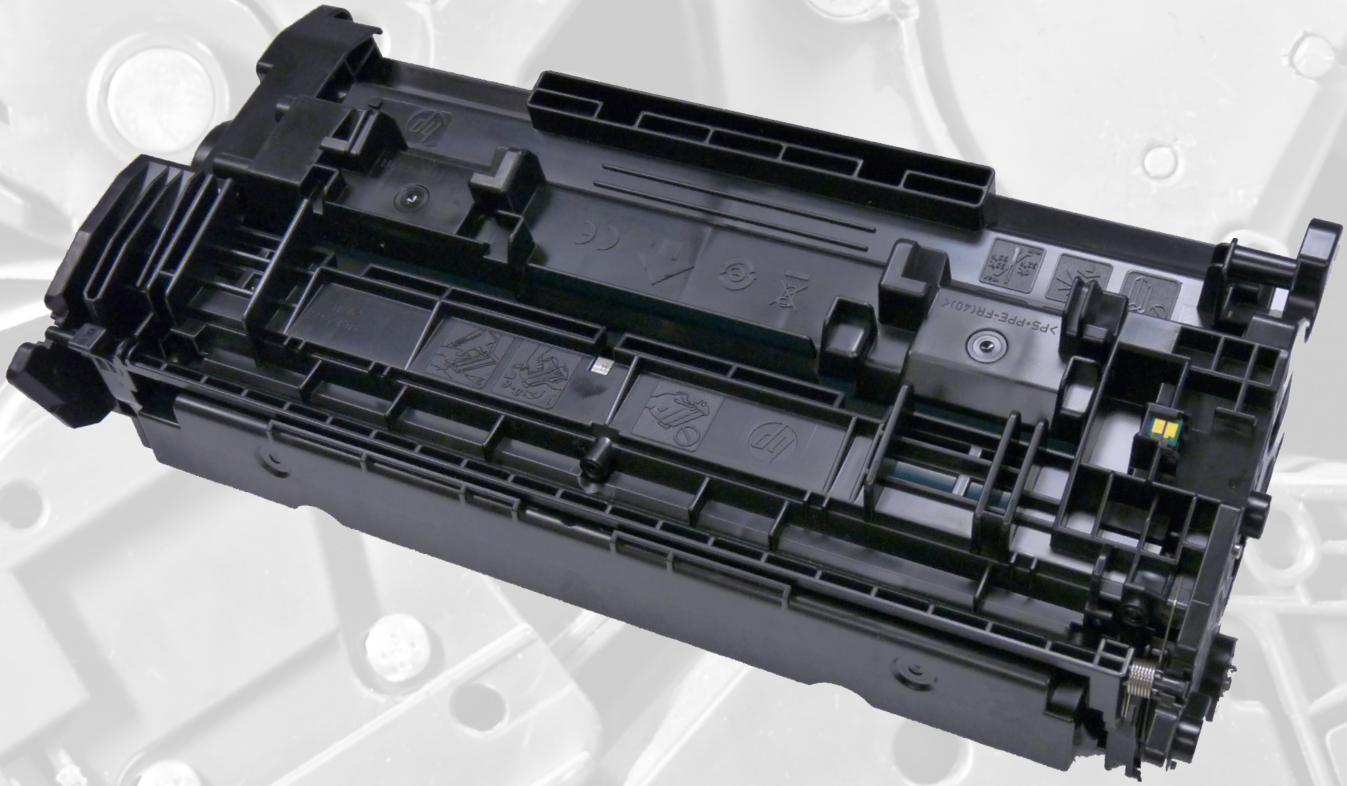
Technical Guide

Remanufacturing the HP LaserJet Pro M402/MFP M426 CF-226A/X toner cartridge



By Mike Josiah and the Technical Staff at Uninet

Remanufacturing the HP LaserJet Pro M402/MFP M426 CF-226A/X toner cartridge

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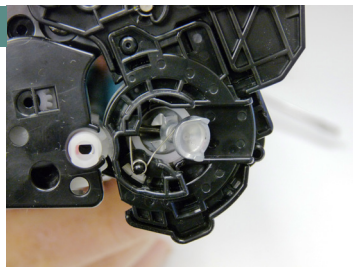
First introduced in September 2015, the LaserJet Pro M402 series of laser printers is based on a 40ppm, 600dpi engine that comes standard with 128MB memory (256MB on the M426). The first page out is stated to be as fast as 5.4 seconds.

Two different cartridges are available for this series: the CF226A rated at 3,100 pages, and the CF226X rated for 9,000 pages. The cartridges are similar in design to the P400 series, but are not interchangeable. There are some significant changes: the drum drive gear is a new very small type (see Figure 1), and they are both easier and a bit harder to take apart than previous versions.

The printers released in this series so far are as follows:

LaserJet Pro M402dn
LaserJet Pro MFP M426

FIGURE 1



REQUIRED SUPPLIES

- Low-yield toner for use in HP M402 printers' CF226A cartridge (3,100 pages) (toner amount to be determined)
- High-yield toner for use in HP M402 printers' CF226X cartridge (9,000 pages) (toner amount to be determined)
- Replacement chip
- New drum (optional)
- Wiper blade (optional)
- Doctor blade (optional)
- Magnetic roller (optional)
- Sealing strip (optional)
- Cotton swabs
- Isopropyl alcohol
- Drum padding powder

REQUIRED TOOLS

- Jeweller's screwdriver
- Phillips-head screwdriver
- Small common screwdriver
- X-Acto-type razor knife
- Flush-cutting wire cutters

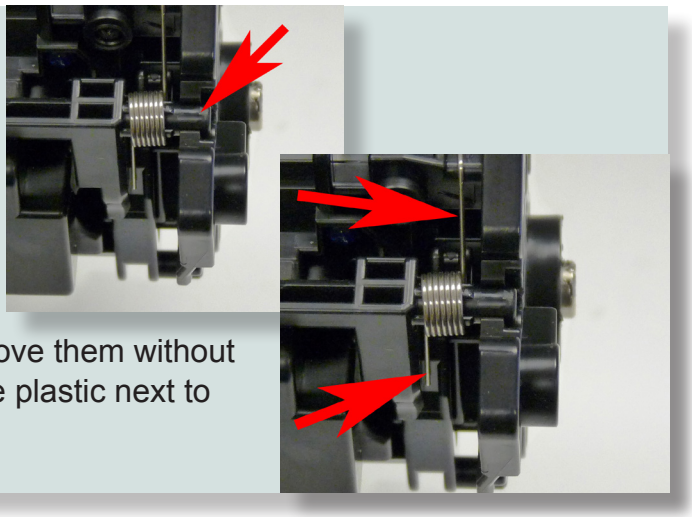
REQUIRED TOOLS TO REMOVE AND INSTALL USED OEM GEARS

- Metal 1/16" rod about 18" long (from local hardware store)
- Needle-nose pliers
- Super glue or equivalent
- Rubber mallet
- Ohm (continuity) meter

STEP ONE

Remove the drum cover by prying up on each end.

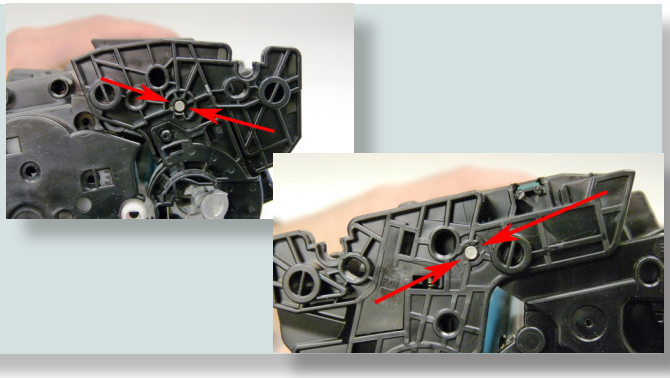
Note the spring position so that it can be replaced later.



There are two pins that need to be removed to open the cartridge. The best and easiest way to remove them without damaging the cartridge is to cut two small slots in the plastic next to each of them.

STEP TWO

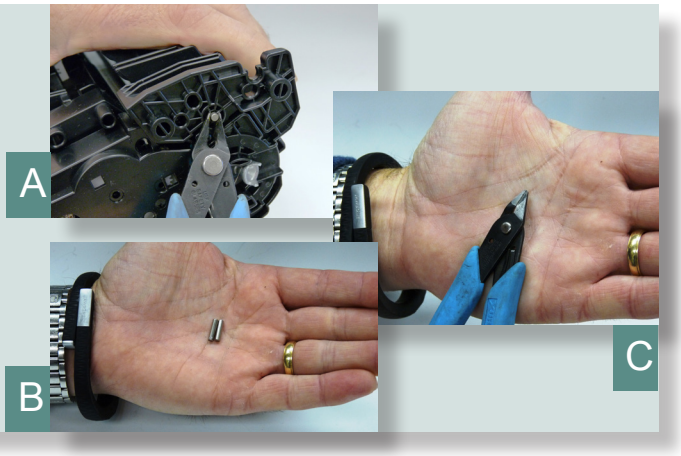
There are two small slots on opposite sides of each pin.



STEP THREE

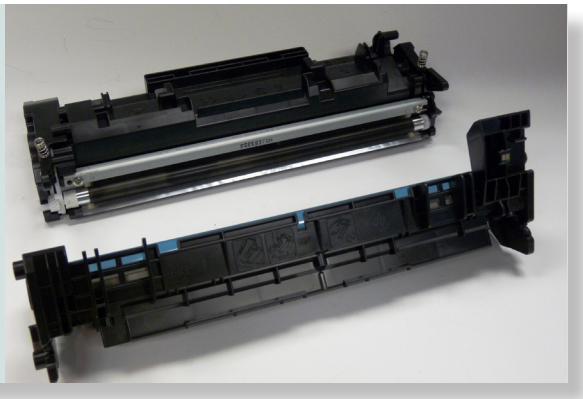
Grab the pins with a pair of pointed flush-cutting wire cutters, and remove. Flush-cutting wire cutters have blades that are flat on the bottom side. Normal wire cutters have curved blades. The flush-cutting kind are better for grabbing recessed pins.

Note that the pins for both sides are the same.



STEP FOUR

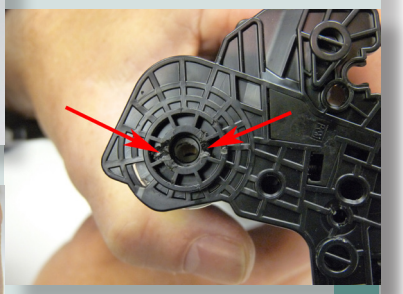
Separate the two halves.



STEP FIVE

With a flat-head screwdriver, press the drum axle pin out from the inside of the cartridge wall as shown. There is NOT a small shoulder as in older versions. Press the axle out just enough so that you can grab it with the flush-cutting wire cutters. You may have to make two small cuts on each side of the pin from the outside, in order for the cutters to be able to grab it.


A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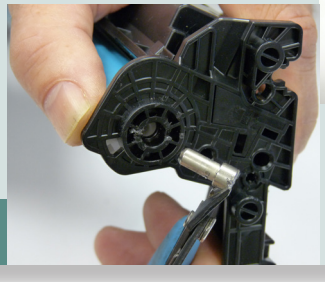
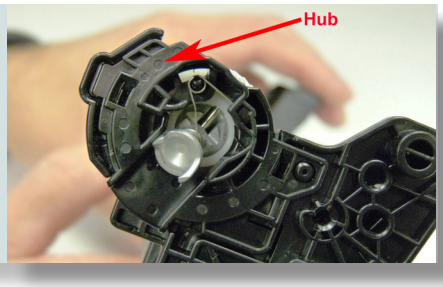

B

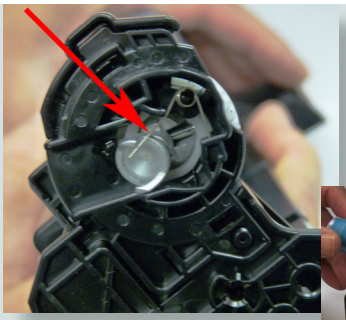
STEP SIX

The drum hub on the opposite side is welded. The weld can be broken or drilled out, but there is a good chance that the hub will either warp if pried off, or will be hard to align if drilled out.



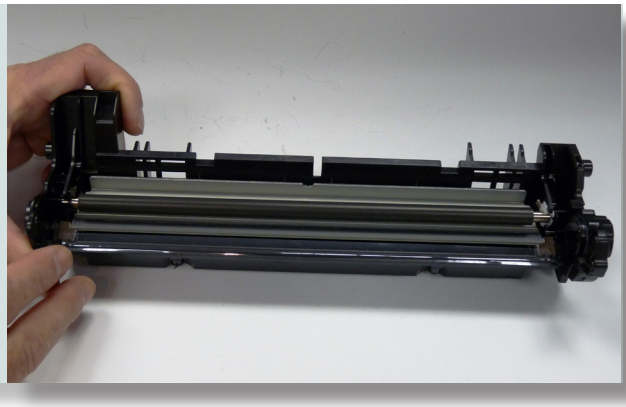
STEP SEVEN

The drum dongle gear has a spring that holds it off to one side (necessary for it to engage the printer). Release the tail of the spring off the gear and remove the drum.



STEP EIGHT

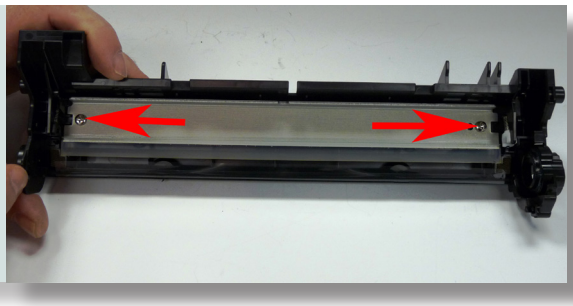
Remove the PCR and clean with your standard PCR cleaner.



STEP NINE

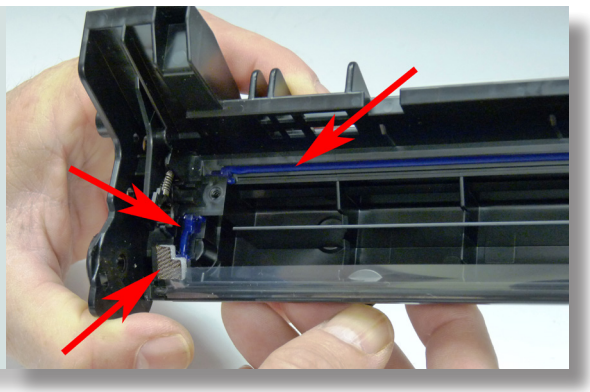
Remove the two screws and the wiper blade; there is an adhesive seal that hold the blade in place.

Carefully lift it up.



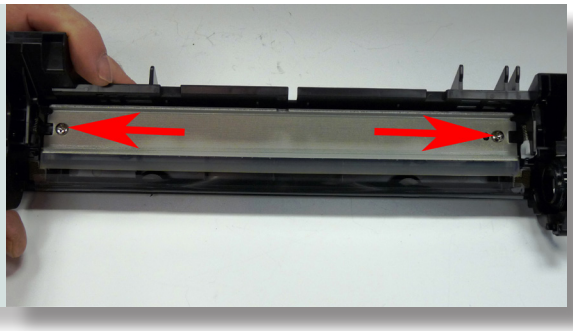
STEP TEN

Clean out the waste toner, and make sure the seals are clean. If toner gets on the blade seal it can be cleaned with alcohol to activate the adhesive again.



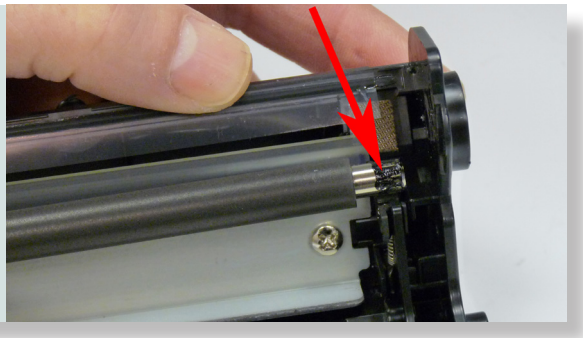
STEP ELEVEN

Coat the wiper blade with your preferred lubricant. Install the blade and two screws.



STEP TWELVE

Re-install the cleaned PCR. Note that a new OEM PCR has a small amount of conductive grease on the black (contact) side.



STEP THIRTEEN

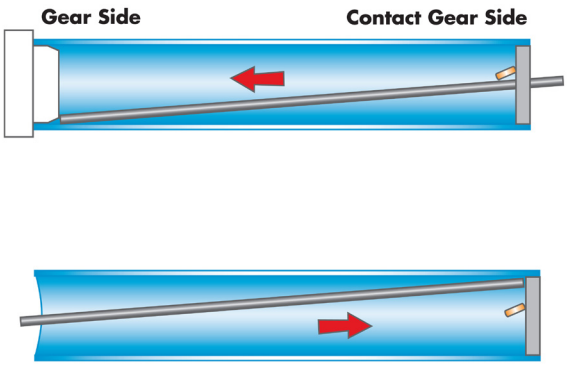
Re-install the OEM OPC drum and metal axle pin. The metal axle pin should have a small amount of conductive grease on the tip. Remove the old grease and replace before inserting the pin. Make sure the axle pin is fully inserted.

If you are replacing the OEM drum, follow this procedure to remove the gears and install them on the new drum:

STEP FOURTEEN

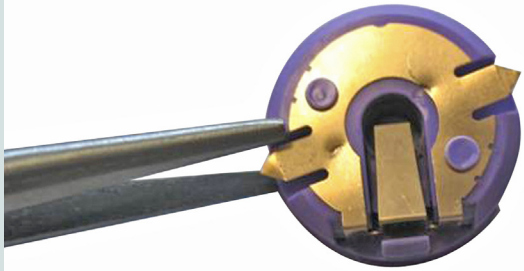
Slide a 1/16” metal rod about 18” long along the drum wall until it meets the side wall of the dongle gear. Lightly tap the rod a few times with a hammer, rotate the drum, and do the same until it comes loose. Normally it will take three to four taps for the gear to come loose.

Do the same for the contact side, taking care not to place the rod anywhere near the copper contacts that bite into the drum.



STEP FIFTEEN

Straighten out the contacts on the contact gear.

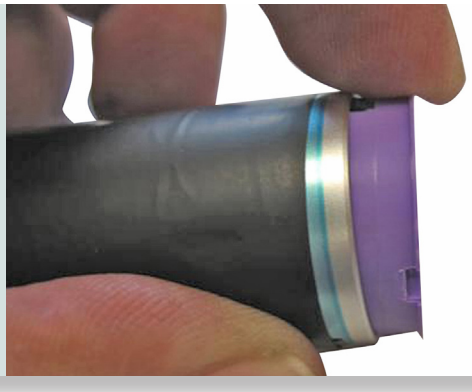


STEP SIXTEEN

Lightly sand the inside of the new drum where you will be installing the contact gear. This will help ensure good electrical contact.

STEP SEVENTEEN

Apply a few drops of super glue around the inside of the new drum about 1/8” in from the edge. Make sure you leave space with no glue present for the contacts to touch the metal drum wall. These contacts must be metal-to-metal with no glue in-between them. If any glue is in-between the contacts and drum wall, there will be drum ground issues (solid black pages). Install the contact gear.



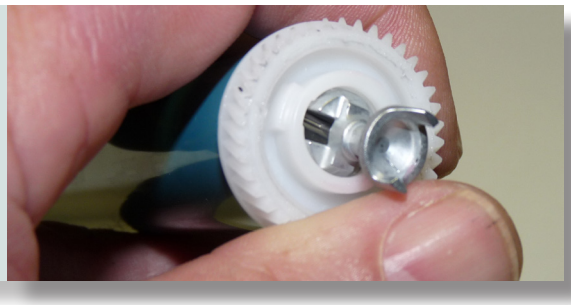
STEP EIGHTEEN

On the opposite side, place a few drops of medium or thick super glue on the inside wall of the drum about 1/8” in from the edge. This will prevent the glue from overflowing into the drum coating when the drive gear is installed.

STEP NINETEEN

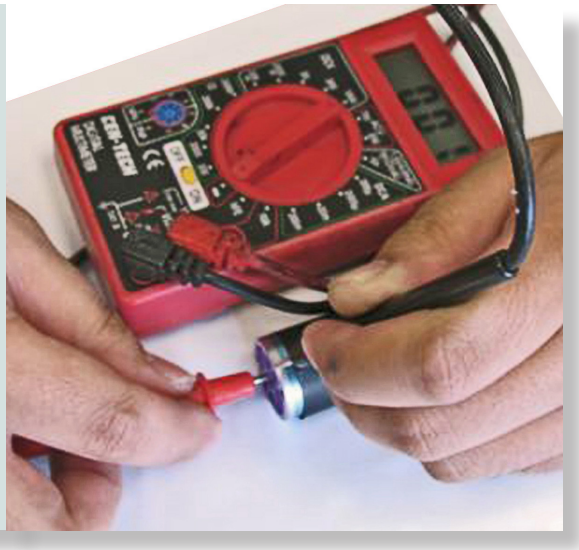
Install the drive gear. Place the drum onto a flat surface and gently tap the gear with a rubber mallet until the gear sits flush.

Do not hit the dongle gear!



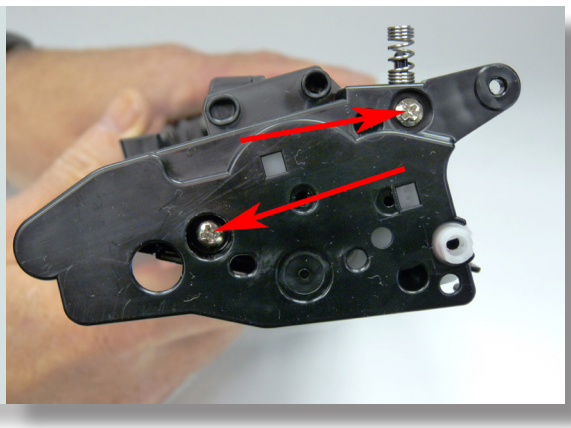
STEP TWENTY

Check the drum ground with an ohm meter. Place the probes into the drum contact and drum (on the very edge of the drum where there is no coating), and check for continuity. Be very careful to keep the one lead on the edge of the drum. The top metal part has a clear protective coating on it and is easily scratched. Do not press in hard or the lead will slide across the drum, ruining it. Allow the glue to dry for about a couple of minutes, and the drum should be ready to use.



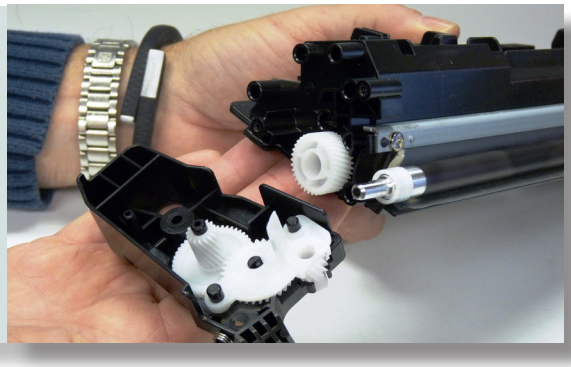
STEP TWENTY-ONE

On the supply chamber, remove the two screws from the end cap on the gear side of the cartridge



STEP TWENTY-TWO

Remove the end cap.



STEP TWENTY-THREE

Remove the magnetic roller assembly.

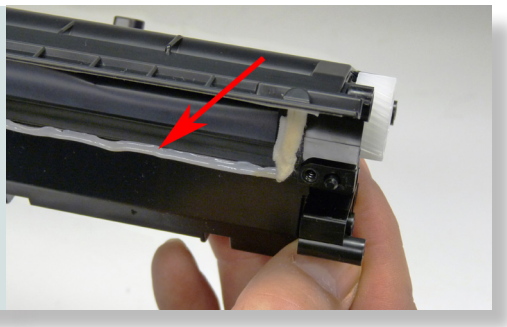
STEP TWENTY-FOUR

Remove the doctor blade and two screws.

STEP TWENTY-FIVE

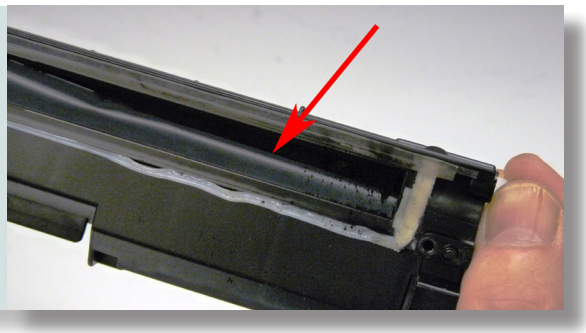
Clean out any remaining toner from the hopper. Note the doctor blade seal. It is a sticky substance that can be cleaned with alcohol if toner gets on it.

If this seal becomes damaged, replace it with 100 percent silicon caulk.



STEP TWENTY-SIX

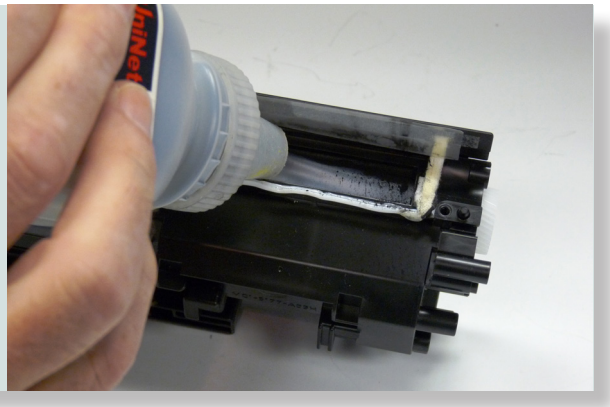
Remove the remnants of the old seal. These cartridges use a self-removing seal system. This picture shows a new cartridge with the seal starting to remove from right to left. At this time no new seals are available.



STEP TWENTY-SEVEN

Fill through the mag roller opening with *g of toner for use in the HP CF226A or X series toner cartridges. There is not a fill plug in these cartridges.

* Amount to be determined



STEP TWENTY-EIGHT

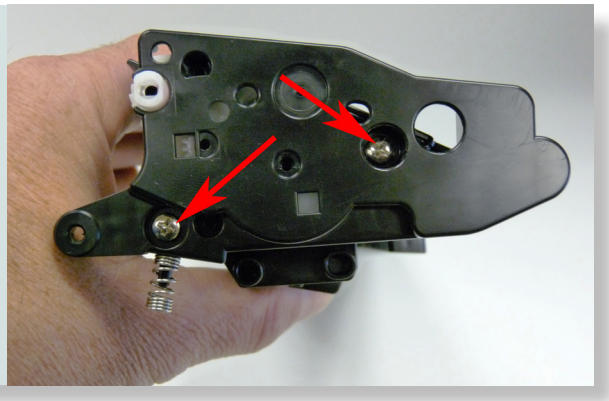
Re-install the doctor blade and two screws. Make sure the contact sprint is touching the blade! This is a new type of contact for HP to use on this blade.

STEP TWENTY-NINE

Install the magnetic roller. Turn the roller until the keyed end fits into the keyed slot in the end cap. This can be tricky to do until you get the hang of it. The keyed magnet is shown extended from the sleeve. The proper orientation for the keyed side is facing down.

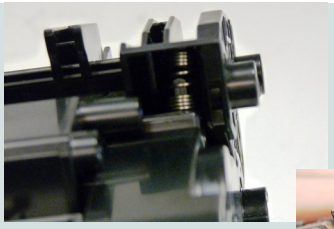
STEP THIRTY

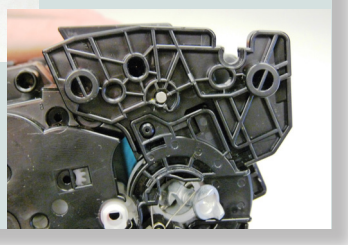
Install the end cap and two screws.



STEP THIRTY-ONE

Place the two halves together, make sure that the two springs are aligned, and insert the two pins. Make sure that the pins are slightly pushed in, so that they do not interfere with installing the cartridge in the printer.

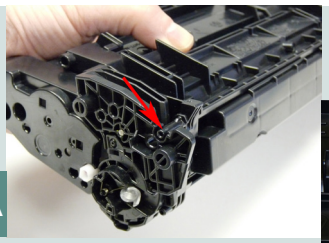




STEP THIRTY-TWO

Install the drum cover; make sure the spring is situated correctly, and the slot on the cover fits into the tab on the cartridge.

A



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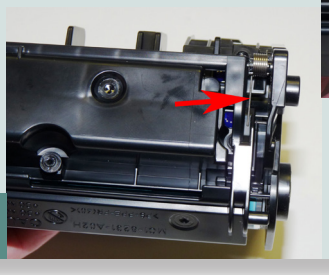
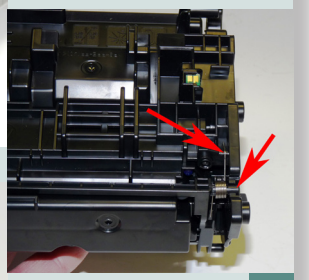


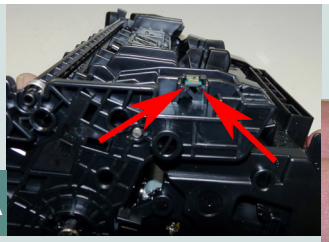


C

STEP THIRTY-FOUR

Replace the chip by slicing off the top two corners of melted plastic and sliding the chip out. After replacing the chip, if it seems a little loose in the slot, place a dab of hot glue on each of the corners that you sliced off. The hot glue is easily removed when recycling the cartridge again, but will firmly hold the chip in place.

A



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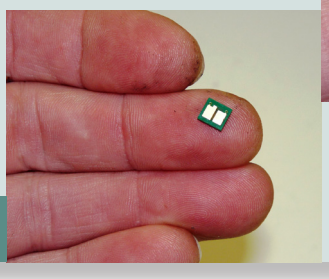

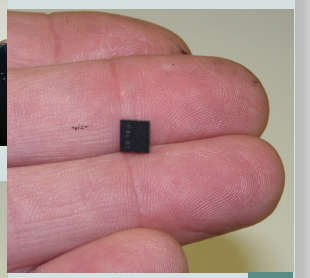

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NOTES

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