TECHNICAL DOCUMENT

Fuji-Xerox XP-12 Toner Cartridge

DOC-0186

OVERVIEW

These instructions cover the disassembly of the Fuji-Xerox XP-? toner cartridges. The Fuji-Xerox XP-? Laser engine is a 17 PPM, 600 DPI engine that uses a cartridge that looks similar to the Canon LBP-EX cartridge, but is different. This toner cartridge is rated for 10,000 pages at 5% coverage. The Xerox part number for this cartridge is the 113R00095, the Apple Part # is M4683G/A. The most popular printers that use these cartridges are the Xerox 4317, 4517, and the Apple LaserWriter 12/640 PS. We have been able to confirm that these printers use a Fuji-Xerox engine, but have not been able to confirm the actual engine number. We will post any updates to this on our Fax on Demand system, and our Web site.

The purpose of this disassembly is to vacuum out toner that will have spilled inside the cartridge during shipping and/or rough handling, to clean the debris cavity and to fill the toner supply housing with new toner. The disassembly can also be used to examine the internal parts of the cartridge for possible damage should the printing of the cartridge be poor and not correctable by other means.

This procedure should be read in it's entirety before proceeding with the actual recycling process.

REQUIRED TOOLS

The tools needed to successfully and safely recharge toner cartridges are as follows:

1. Toner approved vacuum. The ATRIX HCTV shop vac style toner vac, or the ATRIX AAA/Omega-S portable toner vacuums.
2. Some type of approved toner vacuuming system is important because toner consists of very fine particles that will pass right through a normal vacuum filter, and blow out the exhaust, creating a real mess.
3. A small screw driver (Common Style)
4. A Phillips head screwdriver with removable tips
5. Needle Nose Pliers
6. Small metal rod (small Allen wrench, straightened heavy paper clip) -to push pins in with

SUPPLIES REQUIRED

1. 4517 black toner 450g
2. Toner Magnet cloths
3. lint-free synthetic cotton 4"x 4" pads
4. 99% pure Isopropyl Alcohol (FR-8)

5. Can of clean compressed air
6. Kynar drum padding powder (DPP-K)
7. New replacement pins with mushroom type heads (Pin-LX) [optional]

Prepare Work Area

1. Before proceeding with the following procedure you should have a work area available with approximately 4' x 3' clear space. It should be covered with some disposable paper since toner will spill on this area. It is recommended that brown craft paper be used and taped to the work area. This will hold the paper in place when trying to vacuum toner from the paper.
2. A garbage can with a strong plastic liner should be adjacent to the work area to empty used toner. It should be at least 2' deep to prevent toner from clouding up and over the top of the bag during disposal.
3. Have a few rags available and some disposable paper towels. TM-1 Toner magnet cloths are ideal for this.
4. The work area should be capable of being ventilated, if by accident toner becomes dispersed into the air. An exhaust fan in one window is recommended for ventilation.
5. If the circulation of air in the workplace is combined with other rooms in the building, toner dust may be carried into the other rooms. A separate and isolated HVAC system is recommended for the work area.

Disassembly

1. Vacuum the exterior of the cartridge.
2. Place the cartridge upside down with the drum cover towards you, and remove the small spring on the right, next to the fill plug.
3. On each side of the of the cartridge there is a small metal pin that has a 1/16" Diameter and protrudes from the side of the cartridge approximately. 1/16". These pins serve as hinges for the Toner supply chamber.
4. Carefully push these pins in using a small metal rod (Paper clip). Make sure you push these pins in with the OPC drum facing up. This way the pins will not damage the OPC drum when they fall in.
5. Remove the supply Chamber and put aside.

Separate Debris Cavity, And Drum

1. With the drum facing away from you, remove the two Phillips Head screws, and the white plastic drum axle pin from the right, and the two screws, and metal drum axle pin from the left.

   NOTE: The four screws that hold the drum axle pins in are different from the other screws in the cartridge. These screws are much shorter than the others. If the longer screws are used, they will hit the drum gears, and lock the cartridge up. Be very careful not to mix these screws up!
2. Remove the OPC Drum being extremely careful not to scratch it. Vacuum any toner and debris from drum being careful not to let the vacuum hose come in contact with the drum surface. Do not polish or wipe the drum with a dry cloth since this may scratch the drum.
   Blow off any remaining dust from the Drum using compressed clean air. If their is any matter on the drum that must be cleaned off, use 99% pure Isopropyl alcohol (FR-8 Film Remover) and a soft lint free cotton pad (PW-96) to lightly wipe the drum surface, then blow off the Drum using compressed clean air.

   CAUTION: Be very careful not to tilt or shake the can while spraying, as the propellant may spray out and possibly ruin the drum.
3. Always handle the OPC Drum with the utmost caution, since if damaged it is costly to replace.
4. Place the OPC Drum in a soft lint free cloth and then into a dark colored bag or cover from bright light by some other suitable means. Again, do not rub or wipe the OPC Drum with a dry cloth as this may scratch its surface.

Cleaning The Debris Cavity

1. Carefully remove the Primary Charge Roller (PCR) located next to the Wiper Blade. This is a small rubber roller with metal contacts on both ends.

   WARNING: Do not clean this roller with alcohol, as this will remove the conductive coating on the roller. This roller

takes the place of the corona wire assembly and it is recommended that it be cleaned with Nu-Finish car polish.

2. To clean the roller with the Nu-Finish car polish, apply a small amount, and buff with a clean lint free cloth until the roller is clean and shines. After the roller has been cleaned, clean the metal ends with alcohol. be careful not to get any of the alcohol on the rubber surface. For best results, we recommend that the roller be allowed to dry overnight before using. Place the PCR in a holder to dry. (A piece of wood with a hole drilled in it works fine).

3. Remove the 2 Philips Head screws and wiper blade, vacuum clean.

   WARNING: Be very careful not to bend or otherwise damage the small thin Recovery Blade located next to the Wiper Blade. If this blade is bent down lower than the height of the wiper blade, toner will accumulate on top of the blade and spill into the printer. If the blade does get bent, it may be possible to carefully bend the blade up equal to or slightly higher than the Wiper Blade. Make sure that the edge of this blade is even across it's entire length.
   Clean the rubber wiper blade using a lint free cloth (PW-96) or a (TM-1) Toner Magnet This blade removes excess toner from the drum and must be free of any foreign matter. Be careful not to damage this blade. Lightly coat this blade with Kynar Drum Padding Powder model (DPP-K). Do not use plain DPP (Zinc Sterate) as this will stick to the charge roller and cause print defects, (Small white voids in printed areas).

4. Replace the wiper blade and screws.

CLEANING THE TONER SUPPLY HOUSING

1. The toner supply housing consists of the toner supply, magnetic roller and doctor blade which mounts directly next to the magnetic roller. The doctor blade consists of a metal bar that sits next to the Magnetic roller sleeve, with a rubber blade attached to it that rides under the roller. It is the pressure of this rubber & metal blade against the magnetic roller that controls the amount of toner on the magnetic roller.

2. Before cleaning the toner supply, first rotate the magnetic roller by hand and observe the layer of toner applied to the magnetic roller. The toner should form an even consistent layer of toner with no clumps or lumps showing. Should the layer of toner be thicker in some areas the magnetic roller should be cleaned using a soft dry lint free cloth. If there are small areas without toner on the Magnetic roller sleeve that show up as circular lines, the Doctor Blade is either dirty and should be cleaned, or worn out and should be replaced.

3. Remove the fill plug on the end of the Toner Supply Housing. This housing contains the magnetic metal roller and the toner supply area. Dump the toner out of this housing and discard. Vacuum the outside of the housing and the magnetic roller. Turn the metal roller a few times to vacuum all sides of the roller. Inserting the vacuum end up to the fill hole while turning the magnetic roller aids in complete toner removal.

4. At this point, if you are going to ship the cartridge, a sealing strip must be inserted. No seal is currently available, but it will probably be similar in appearance and installation to the LX, or PX seals. Check catalog updates for new seal information. To get to the seal area, you must first remove the Magnetic Roller.

5. Place the hopper so that the right side has the end cap with the gears. Remove the two screws, and end cap. All loose gears must be removed at this time. Be sure to leave the bottom gear in place. This gear has a felt washer that is easily damaged, and the end of the gear fits into the agitator bar inside the hopper. If this gear is removed, the washer may leak, and lining the gear up to the bar is not easy.

   NOTE: It is recommended that you draw a picture of the gear layout before removing them.

6. Remove the two screws on the opposite end cap, and remove the end cap.

7. Remove the Magnetic Roller Assembly, and place aside.

8. Remove the two screws, and Dr. Blade assembly. Clean and place aside. Be very careful not to damage the thin metal part of the Dr. Blade

9. Vacuum the supply chamber clean. If the Magnetic Roller felt is compressed, fluff it up with a small screwdriver. This will prevent leakage later on.
   This is the point where (when available), the seal will be installed.

10. If you must seal the cartridge,a PX seal will work (the opening is the same as the OEM) however, the seal must be trimmed approximately 1/8" along the entire length of the wide side of the seal. Due to its soft gasket material, obtaining a straight cut can be difficult. In either case install the seal as you would in an LX cartridge. The pull tab should come out over the fill plug side. To get the pull tab through the slot you will need a very thin piece of metal. I have found that folding the end of the seal over a brass gapping gauge (.006") and pushing the seal through the channel worked great.

11. Clean the magnetic roller, and re-install. Install the two end caps, and screws.

12. Fill the supply with new toner and replace the fill plug.

RE-ASSEMBLE TONER SUPPLY HOUSING, PHOTO CONDUCTIVE DRUM AND DEBRIS CAVITY

1. Coat the OPC Drum with the Kynar (DPP-K), and replace the OPC Drum, Replace the drum into the debris cavity being extremely careful not to scratch or damage the drum. Insert the drum axle pin and Phillips head screws. Be certain the

gears between the drum and cavity are meshed properly.

2. Manually turn the OPC Drum by the large gear towards the drum cover, until the Powder has been cleaned off the OPC Drum.

3. Carefully remove the OPC drum.

4. Clean and replace the Primary charge roller.

   NOTE: Proper care of this roller entails cleaning with Nu-Finish car polish. Clean the silver contact ends along with the U-shaped contacts with the Isopropyl Alcohol. These are electrical contacts and must be clean in order for the cartridge to print correctly.

5. Re-install the OPC drum in the cartridge. The cartridge should be assembled in this manner so that the PCR roller does not become contaminated with the (DPP-K) from the OPC drum.

6. Re-assemble the Cartridge by replacing the toner supply housing, inserting the small metal pins, and replacing the spring. Felt wands are not used in this laser engine.

RECOMMENDED SUPPLIES

Microsoft OLE DB Provider for ODBC Drivers error '80004005'

[Microsoft][ODBC Microsoft Access Driver]General error Unable to open registry key 'Temporary (volatile) Jet DSN for process 0x3464 Thread 0x20ec DBC 0x846644c Jet'.

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