

TECHNICAL DOCUMENT

- [Overview](#)
- [Supplies Required](#)
- [Tools Required](#)
- [Prepare Work Area](#)
- [Disassembly](#)
- [Cleaning the Waste Chamber](#)
- [Cleaning the Supply Chamber](#)
- [Re-assemble the Cartridge](#)
- [Recommended Supplies](#)

Minolta SP-4X Toner Cartridges

DOC-0258

OVERVIEW



These instructions cover the recharging of the Minolta SP-4X toner cartridge used in the Sharp UX-3200, UX-3500, and other printer/fax machines using the Minolta SP-4X Laser Engine. Although these cartridges appear very similar to the Minolta SP-6, there are some differences. The SP-4X cartridges are held together with plastic tabs, and the toner is different from the SP-6. SP-6 toner will produce light print and shading.

The SP-4X engine is a 4ppm printer engine that runs at 300 dpi. The toner cartridge is rated for 4500 pages at 5% coverage. More than 200g will fit into the Toner Supply housing, but the waste chamber will fill up and leak if this is done. The Drum-101 will work in this cartridge, the gears must be transferred from the old drum to the new. This cartridge also uses a charge felt to charge the OPC Drum. Instead of using a Corona Wire or rubber Charge Roller, it uses what is considered to be a conductive felt strip. So far it seems to be good for at least a few cycles.

The purpose of this disassembly procedure 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 clean and fill the supply chamber with new toner. This disassembly procedure should also be used to examine the internal parts of the cartridge for possible damage, or wear should the printing of the cartridge be poor and not correctable by any other means.

The following procedure should be read entirely before proceeding.

SUPPLIES REQUIRED



- 99% Isopropyl Alcohol
- Cotton Swabs
- Lint Free Cotton Pads
- Black Toner 200 Grams
- LX Sealing Strip (Optional, see text)
- Long Life Drum -Optional
- Padding powder
- Wiper Blade
- Drum Cover -Optional

TOOLS REQUIRED



- Phillips head screw driver
- Small Common screw driver
- Needle Nose Pliers
- Safety goggles and breathing mask.
- Vacuum approved for toner

WARNING: Always wear safety goggles and breathing mask when working with or around toner. Do not disperse the toner into the air. Use approved toner vacuums and filters at all times.

Approved Vacuum systems:

Toner approved vacuum. The Atrix HCTV canister style toner Vac, or our Atrix AAA Portable toner vacuum. 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. If you do not have a toner approved vacuum, do not use any vacuum at all, just carefully dump the old toner into an empty, lined garbage pail.

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 Magnets are perfect 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. If the circulation of air in the work area room 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 room.

DISASSEMBLY



1. Place the cartridge flat side down, so that the toner hopper is facing from you. Remove the drum axle pin from the fill cap side by prying it out. The two pry points are located at each of the electrical contacts.
2. With a small jewelers Phillips head screwdriver, pry the clip out by the fill cap and remove the toner supply hopper.
3. Carefully remove the OPC drum, being very careful not to scratch it. Vacuum any remaining toner and debris from the drum, being very careful not to come into 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 using a can of compressed clean air. Never use un-filtered compressed air for this as un-filtered air will have small dirt particles which blown at high speeds, will damage the drum.

CAUTION: Be very careful not to tilt or shake the can while spraying, as the propellant may spray out of the can and possibly ruin the drum.

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. If there is any matter left on the drum that must be cleaned off, use 99% pure Isopropyl Alcohol, and a soft lint free cotton pad to lightly wipe the drum surface. Vacuum and then blow off the Drum using the Compressed Air. Always handle the OPC drum with the utmost caution, since if damaged it is very expensive to replace. It is best to wait until you are ready to re-assemble the cartridge before cleaning the drum with alcohol.

CLEANING THE WASTE CHAMBER



NOTE 1: Be careful not to damage the felt strip on the edge of the Waste Chamber. Be sure to blow off the conductive felt strip with clean compressed air. Be very careful with this Felt Strip as it serves the same function as the Corona Wire or Charge Roller found in other style cartridges. If you vacuum this strip clean you may leave a static field which can cause toner to stick to the felt and then leave tiny dots on the printed page.

NOTE 2: 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, or damaged it should be replaced.

1. Carefully pry up the large metal Charge Felt contact. If necessary, take a small jewelers screwdriver and spread out the small metal lock tabs to allow removal of the contact.
2. Spread the wall of the cartridge out so that the contact side of the Charge Felt assembly. Comes free.
3. Being careful not to break the alignment pin on the opposite side, lift the assembly out of the cartridge.
4. Remove the two screws and wiper blade from the cartridge.
5. Vacuum the waste chamber clean, being careful not to lose the small gear on the right side of the cartridge. If the wiper blade is worn or you are replacing the drum, replace the wiper blade.

NOTE: The wiper blade for the SP-4x although similar to the SP-6 is different. It has a strip of foam across it that protects the Charge Felt Assembly from toner dust. This strip is very important!

When reinstalling the Charge Felt, insert the alignment pin side first,(make sure the end fits into the slot). Spread out the wall and drop the contact side into it's slot. Carefully install the electrical contact. If you bent out the locking tabs to remove it, tighten them up before replacing

CLEANING THE SUPPLY CHAMBER



1. Remove the Fill Plug, and vacuum the Assembly clean.

NOTE: If you are going to hand deliver this cartridge you can add the toner now, and replace the Fill Plug. If you are going to ship this cartridge, a seal is recommended. Although there is not a seal made for this cartridge yet, an SS-LXO can be made to work. However, the SS-LXO is NOT a perfect fit, and the opening left by the seal frame after the seal has been pulled, is half as much as the original opening. So far in our testing this has not been a problem, but we are continuing to research this.

If you decide to put a seal in, the following steps must be taken.

2. Remove the two springs (one on each side of the supply chamber).
3. Locate the two black plastic pieces that hold in the Magnetic Roller. On each piece, lift up the center tab, and slide it up and off the cartridge.
4. Remove the two end caps, and remove the Magnetic Roller. Place aside in a safe place.
5. Remove the Two Phillips head screws on either end of the Doctor Blade.
6. Remove the Doctor blade, along with the two metal end pieces, and the black plastic roller located under the Doctor Blade.
7. Lift up the foam strip, and remove the black plastic bar just underneath.
8. Remove the small black plastic strip located on the now opened side of the hopper.
9. Vacuum the entire inside area clean.
10. Place the SS-LXO seal over the opening. Make sure that you center the seal so that it covers the entire area. This is a very close fit, and extreme care must be taken here to prevent leaks. It is best to center the seal first, and then remove the adhesive backing pressing the seal down as you go.
11. With a small screwdriver, push the end of the seal pull strip through the opening on the left side, so that it comes out to the outside of the cartridge.

If you wish to post test the cartridge. Fill the cap from the toner bottle with toner and coat the magnetic roller. This will give you just enough toner to print a few pages.

RE-ASSEMBLE THE CARTRIDGE



The cartridge should be re-assembled by reversing sections 3-5. Remember to coat both the wiper blade, and the OPC Drum with DPP-K (Kynar). OR if using Sure-Lube, follow the appropriate instructions.

If the OPC Drum is found to be bad, the drum can be replaced with the Drum-101. The gears from the original drum must be transferred to the new drum.

No felt wand is used in this printer.

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 0x3c30 Thread 0x3e7c DBC 0x840f024 Jet'.

/script/catSearch.asp, line 58