

TECHNICAL DOCUMENT

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Sharp AL-1000 & Xerox XD-100 OPC Cartridges

DOC-0255

OVERVIEW



These instructions cover the recycling of the Sharp AL-100TD OPC cartridge used in AL-1000, and AL-1200 series copiers. This same cartridge with small modifications is used in the Xerox XD-100 (13R551) series of copiers. The modifications are external only, and are there so that these cartridges cannot be used in each other's machines. We have not seen the Sharp version yet so we cannot say how or if the cartridges can be modified.

These copiers are a 10 ppm, 600dpi machine that uses a two cartridge system. The OPC cartridge is rated at 12,000 pages. At 11,000 pages, the drum light will begin to flash, at 12,000 pages it will light up steadily and the copier will not print. This copy cartridge system is different from others in that these machines are digital copiers. They use a negative based toner and use a scanner and laser instead of exposure lamps, and mirrors to make copies. These machines also have a parallel printer port for printing from a PC.

There are two kinds of OPC cartridges for these machines, a starter cartridge, and a "new" store bought cartridge. The starter cartridge does not come equipped with a counter reset mechanism. These cartridges must be reset through the menu. The exact procedure for both these cartridges is at the end of this instruction manual.

The purpose of this procedure is to vacuum out toner that will have spilled inside the cartridge during shipping and/or rough handling, to clean the Waste chamber, and to replace the OPC Drum with a new Long Life Replacement Drum. This 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.

SUPPLIES REQUIRED



- Long Life OPC Drum
- Wiper Blade [OPTIONAL] (Not currently available)

- Emery Cloth or Fine grit sand paper
- Cotton Swabs
- Drum Padding Powder
- Isopropyl Alcohol
- Super Glue

TOOLS REQUIRED



- Phillips head screw driver.
- Small Common screw driver
- Hammer
- Ohm Meter
- 12" Long 1/8" thick metal rod
- Vacuum approved for toner
- Safety goggles and breathing mask.

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 HCTV canister style vacuum or the Atrix Omegas/AAA portable style 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.

This procedure should be read in its entirety before proceeding with the actual recycling process.

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. <N>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. Turn the cartridge so that the green end cap is on the right side.
2. Remove the green end cap by pressing in on the four plastic tabs. Remove the end cap. Note the position of the gears as they fall out of place easily. On the double gear, the helical side faces in, the single gear has a flat edge that faces out.
3. Turn the front drum axle pin 1/4 turn clockwise, and remove the axle pin.

4. Carefully remove the drum from the cartridge.

If the OPC drum is going to be re-used, 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.

5. Place the OPC Drum in a soft lint free cloth and then into a foil bag, or cover from bright light by some other suitable means. OEM drums will usually last 1 cycle. If the OPC material has been worn off from the sides, the drum should be replaced.
6. Remove the Primary Corona Wire Assembly (PCW) by removing the two screws that are located in black spacers. The PCW is located on the side opposite the drum. Remove the PCW by sliding it to the left, and lifting it up and out.
7. Remove the two screws from the Wiper Blade, and remove the Blade. This blade can normally be reused again 1x.
8. Remove the two screws from the toner auger assembly. Remove the assembly.
9. Vacuum the cartridge clean. Vacuum the toner auger also.

NOTE: Be very careful not to bend or otherwise damage the small thin recovery 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 copier. If the blade does get bent, it should be replaced.

RE-ASSEMBLE THE CARTRIDGE



1. Coat the Wiper blade with zinc Sterate (not Kynar), and replace in the cartridge. Screw in place.
2. Clean the Primary Corona Wire Assembly with the Isopropyl Alcohol, and a cotton swab. Run the swab carefully along the wire and the wire guides. Be very careful not to break this fragile wire. If there is any toner remaining in the assembly blow it off with a can of clean air. Be certain to blow away from yourself and only after all heavy signs of toner have been removed.

NOTE: If you are re-using the OPC Drum, skip to section 4.9.

3. Remove the gears from the old drum by sliding the metal rod into the hole of one hub and carefully knocking out the opposite side. Work the rod around the edge of the gear while lightly tapping the rod with the hammer.
4. Take the new OPC drum and lightly sand the area INSIDE the OPC Drum where the metal part of the contact hub will touch. This will insure a good electrical contact.

NOTE: It is a good idea to "dry fit" the contact hub in the sanded side first and check the contact with an OHM meter. The reading should be a direct short, or no more than 1 or 2 ohms.

5. Place a few drops of super glue on the inside of the OPC Drum, and insert the gears.

NOTE: Be very careful not to get any glue on the contact part of the gear, as this will insulate the hub from the drum and cause serious print defects.

6. Once the glue has dried, (approximately 5 minutes). Coat the NEW OPC Drum with DPP (Zinc Sterate).
7. Place the coated drum in the cartridge and lock the drum axle pin in place.
8. Replace the PCW assembly.
9. DO NOT Snap the Green end cap in place yet!

RESET THE COUNTER



1. If the cartridge is not a "Starter cartridge", there are two white gears inside the green end cap. On the large white gear, lift up the tab and turn the gear back to the start position. (This is so the actuator is next to the small gear).
2. Make sure that when you snap the green end cap back on, the notch on the small gear lines up with the tab on the large single gear that is on the cartridge. Once all lines up, snap the end cap in place. This is tricky, take your time!

Wrap the cartridge in the black paper, and bubble wrap that the new OPC was packaged in. Store in a foil bag.

3. To reset the starter cartridge, or any cartridge through the menu, do the following:

Enter the diagnostics menu by turning the machine on, and within 4 seconds, press "CLEAR", "EXPOSURE MODE", "CLEAR", "EXPOSURE MODE". (EXPOSURE MODE is the button on the far left). All of the display will go blank.

Using the 10 and 1 buttons (copy quantity), enter "24" press "PRINT", enter "7" press "PRINT" again. The counter is now set to Zero!

COMMON ERROR CODES FOR XEROX MACHINES



CH	Toner Cartridge not present, or not seated properly.
J1	Toner Low
J2	Replace drum cartridge
C1	Right side door open.
E2	Paper Jam (check all locations)

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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 0x698 Thread 0xe4c DBC 0x9787f9c Jet'.

/script/catSearch.asp, line 58