

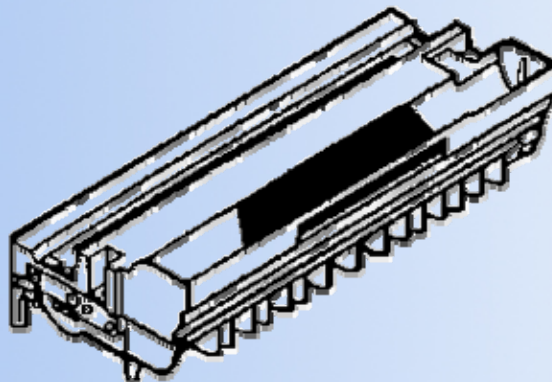
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### Okidata OL-400e OPC Cartridges

DOC-0246

#### OVERVIEW



These instructions cover the recycling of the Okidata OL-400e OPC cartridge used in LED printers, and plain paper fax machines using the Okidata OL-400e LED Page Printer Engine. This cartridge is somewhat unique in that the waste toner is recycled back into the supply chamber to be re-used, and does not use a wiper Blade.

This printer is also unique in the sense that it runs a "cleaning cycle" every 10 pages. It is this cleaning cycle that causes the OPC cartridge to be rated from 16,000-20,000 pages. (The cleaning cycle causes extra wear on the OPC drum). The actual OPC Cartridge rating as given by Okidata in the printer's user manual is as follows:  
12,000 pages at 1 page/job 16,000 pages at 3 pages/job 18,000 pages at 7 pages/job 20,000 pages at 15 pages/job.

All of the above is also dependent on the intensity being set at "0" (the mid setting), "Proper paper" being used, and print coverage at 5%. As you can see there are a lot of variables, and each customer is going to get a different yield. One nice thing about this is that the printer will keep printing once the "CHG Drum" code is on the display. Okidata recommends that the OPC cartridge be replaced once the print quality has degraded.

The problem with this is that if you keep running the cartridge once the CHG Drum comes on the cleaning roller will

eventually "gum up" and leave black smudges down the page - once this happens the roller is shot. Since currently there are no new cleaning rollers available - the cartridge can't be recycled.

Another thing to keep in mind is that once you rebuild the OPC cartridge, and place in a new toner tube, the OPC cartridge will draw in most of the toner into it's feed section. This may cause the "Toner Low" message to appear as soon as 350-500 pages! Again this is all stated in the users printer manual, and is considered normal for new OEM as well as rebuilt cartridges.

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 debris cavity, and to replace the OPC Drum with a new Long Life Replacement Drum,(Drum-400e). 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



- Drum-400e Long Life OPC Drum
- RB-400 Recovery Blade (Optional)
- Cotton Swabs
- Isopropyl Alcohol
- DPP Drum Padding Powder
- Super Glue
- Emery cloth or fine grit sand paper
- Conductive Grease

## TOOLS REQUIRED



- One 12" long, 3/16" thick metal rod
- Phillips head screw driver.
- Small Common screw driver
- 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 vac. or the Atrix AAA style Portable vac. 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

## 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.

## DISASSEMBLY



1. Vacuum the outside of the cartridge thoroughly, especially the exposed Toner Hopper. If the toner tube is still installed, remove it now.
2. Remove the two Phillips head screws on the top of the cartridge. Each screw is located next to the word "Push".
3. Take off the top cover by lifting up from the toner supply side, and sliding forward.
4. Vacuum the remaining toner out of the supply area. Be careful not to damage the Feed Roller Assembly
5. Remove the PCR and it's two spring loaded contacts, and place aside. (The PCR is located in the front of the cartridge).
6. Lift out the metal Doctor Blade Assembly from above the Static Roller. Be-careful to free it from the plastic locking tabs before removing. A small metal contact will also will also come free from the Doctor Blade. Place this contact aside.
7. Remove the two Phillips head screws from each end of the OPC Drum Axle Pins.
8. Remove the Axle Pin/End Cap assembly from the large gear end of the cartridge first. Pull it out slowly, take note of where the small double gear is positioned.
9. Remove the Axle Pin/End Cap Assembly from the opposite side.
10. Remove the Static Roller.  
**NOTE:** In some older cartridges, the entire Static Roller Assembly must be removed. There is a Plastic/Foam side plate that connects the Feed Roller to the Static Roller. Once the Static Roller has been removed, wipe it down with a clean dry, lint free cloth. At this point we do not recommend that any chemicals be used to clean the roller.
11. Lift out the OPC Drum, and place aside. since there is a very high page count rating on this cartridge (20,000 pages), we do not recommend that the OEM OPC drum be re-used.
12. Vacuum out any remaining toner from the cartridge.

**NOTE:** You will notice that there is a small foam roller located in the front end of the cartridge. This roller actually takes the place of the wiper Blade, and cleans the OPC drum. When vacuuming this roller, be very careful not to damage it in any way.

## REPLACE THE OPC DRUM



1. Remove the gears from the old drum with the metal rod. Slide the rod through the large gear side and knock out the opposite gear. Take care to keep the rod touching both the inside wall of the drum, and the edge of the gear. This way you won't break the center of the gear out.
2. Lightly sand the inside of one end of the replacement OPC Drum. Place a few drops of super glue on the inside lip of the drum and install the contact gear. Make sure that the copper fingers "Bite" the drum as they go in.

**NOTE:** It is a good idea to dry fit the contact gear in the sanded side first, and check for a good contact with an Ohm meter. The reading should be a direct short, or no more than 1 or 2 Ohms.

**NOTE:** Make sure that the copper contacts do not come in contact with the glue, or the glue will insulate the gear from the drum and cause serious print defects.

3. Glue in the opposite side gear.
4. Let the glue dry for approximately 5 minutes. (Remember to protect it from light.)
5. Coat the new OPC Drum with DPP (Zinc Sterate) and place the Drum (With the gears already installed), in the cartridge large gear side to the left. (This is with the toner supply section facing away from you).

## RE-ASSEMBLE THE CARTRIDGE



1. Replace the Feed Roller Assembly, or Static Roller, which ever you removed.
2. Replace the left side Axle pin Assembly first. (This is the side with the large drum gear). Make sure that the double gear is installed small side in.



3. Replace the right side Axle Pin Assembly.
4. Replace the Doctor Blade Assembly, and small metal contact, make sure that the plastic tabs from the Axle Pin Assembly lock the Doctor Blade in place. The small metal contact should fit on the left side of the blade, inbetween the Dr. Blade and the plastic tab. We have found it to be a good idea to place a small amount of conductive grease between the contact and the Dr. Blade. It is also a good idea to place a small amount of conductive grease on the small metal contact where it meets the Magnetic Roller.

**NOTE:** When using conductive grease, use only a very small amount. In this case more is NOT better, it will attract toner dust and actually cause problems.

5. Insert the two Phillips head screws in each of the Axle Pins.
6. Take the PCR and clean it with a soft dry lint free cloth. At this time we do not recommend that you clean the PCR with any type of chemicals. If the roller will not wipe clean, wash it with a small amount of clean water.
7. Replace the PCR and it's two small, sprint loaded contacts in place.
8. Replace the top cover. Note that the front edge of the cover locks the PCR contacts in place. Once the cartridge has been re-assembled, the last steps are to reset the counter in the printer. Unlike some of the other OPC cartridges (like the Panasonic line), this cartridge has no fuse to reset the counter. Resetting the counter is done on the printer's keypad.

**NOTE:** The procedure for this is in the users manual chapter 9. Even though the printer may say to change the OPC cartridge, there is no preset page count where the printer will stop working. The message is there only as a reminder, the printer will continue to print. At this point the OPC Drum is also very close to the end of its useful life, the print quality will start to deteriorate.

## RESET PROCEDURE



1. Turn off the printer
2. While holding the MENU1/MENU2 button down, turn the printer back on. Keep holding the button down until you see "USER MNT" on the display panel. Release the button.
3. Press the MENU1/MENU2 button three times. The display will read "DRUM CTR RESET".
4. Press the ENTER button. The display will read "WARMING UP", and finally "ON LINE". The counter is reset!

**NOTE:** Remember, once a new toner tube is installed, it is possible that the Toner Low signal will appear as soon as 350-500 pages! So keep an extra toner tube on hand. Wait until the time, date and answering mode appear on the display. Then press the Select Function key.

Press the 7/Counter Display One Touch Key. The display shows Drum Count.

Press the Yes (left arrow) key to clear the counter

Press the select Function key to finish.

## TROUBLE SHOOTING



1. A very common problem with this cartridge, is a gray shaded band across the top of the page, usually 1" thick. This problem has been known to occur in new OEM cartridges as well as rebuilt cartridges. Depending on the severity, sometimes all that will print is the shaded band, or in less serious cases, the band will show across the printed page. The cause of this problem is a bad contact in the drum ground circuit. This is usually located at (but not limited to) the contact gear in the OPC Drum. It is very important to lightly sand the inside of the OPC drum on the contact gear side. It is also very important not to get any glue on the contacts as this will insulate the gear from the drum. If any of these contact points are not good, you will get a shaded bar across the page every time. For more information on Drum Gear removal and replacement, see Section 5, Items 5.1-5.5 in this instruction or document # 4019 on our Fax on Demand System.
2. Another common problem is a build up of toner on the cleaning roller or the Static Roller. In either case there will be dark black toner smears on the page. These smears can show up as being either vertical or horizontal. The only way to fix this problem is to take the cartridge apart and clean these items.
3. If you have a bad contact between the small metal contact and the Dr. Blade, the result will be horizontal, dark black, triangular shaped streaks across the page. Clean the contact areas, and apply a small amount of conductive grease.

## 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 0x2de8 Thread 0x1ee4 DBC 0x3f3b014 Jet'.

/script/catSearch.asp, line 58