MINOLTA® PAGEPRO 8 • PAGEWORKS 8
TONER CARTRIDGE REMANUFACTURING INSTRUCTIONS

MINOLTA PAGEWORKS 8 TONER CARTRIDGE

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REMANUFACTURING THE MINOLTA PAGEWORKS 8 TONER CARTRIDGE

By Mike Josiah and the Technical Staff at UniNet

First released in September 1998, the Minolta PageWorks 8 printer is an 8-17 ppm, 600/1200 dpi engine (depending on the actual machine). While this cartridge has been around for a while, there have been some recent developments in the OEM cartridges, and practices when remanufacturing these cartridges that call for another look.

First and foremost, if you are remanufacturing these cartridges, the doctor blade MUST be thoroughly cleaned. Failure to do this will cause streaking. There are many methods being done to clean them, but only one is fool-proof. We have seen many methods from just blowing the cartridge out, to taking a small plastic card and inserting it behind the developer roller, and sliding it across the doctor blade to scrape the blade clean. Neither of these methods really works, the cartridge may not streak at first, but it will, sooner rather than later. To remanufacture these cartridges correctly, the developer roller has to be removed, and the doctor blade cleaned with acetone. Acetone is the only chemical that we have found that removes all the buildup of toner from the blade. It is a fairly common cleaner available at most hardware stores. Although acetone is an excellent cleaner, it does leave some residue; we recommend cleaning the blades again with isopropyl alcohol to remove such residue.

Another issue just starting to surface is that there are cartridges that have been made in Japan, assembled in China, and made in China.

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In our initial testing we are seeing that the cartridges made in China seem to have a much higher problem with streaking. The cartridges assembled in China seem to be OK. This is even if the blade was cleaned properly. This was not always the case, as it has only just started showing up in the last few months. We are continuing to test the cartridges made in China first to fully confirm this, and second to see why this is happening.

A third issue is how many times a cartridge should be remanufactured. Over time, the buildup on the doctor blade will start to cut into the surface of the developer roller. To be safe, we recommend that cartridges only be remanufactured two times. After that, the chance that the cartridge will fail grows exponentially. This is especially true if the toner is not a polyester type.

Last but not least is the type of toner used. Plain old Minolta SP 302 (polystyrene) toner usually will not work properly, unless it has been optimized for the PageWorks 8 engine. The best type of toner to use is a polyester type, which is what the OEM is. This type of toner flows better, and does not buildup on the doctor blade.

A lot of issues for such a small cartridge, yet all are easily surmounted as long as you are careful in how, and with what, they are made.

There are quite a few different versions of these cartridges in the field. The differences are that the fins on the back side of the cartridge are in different places, and that the fax cartridges have windows, where the printer cartridges do not.

These images show some of the different versions we have been able to find...
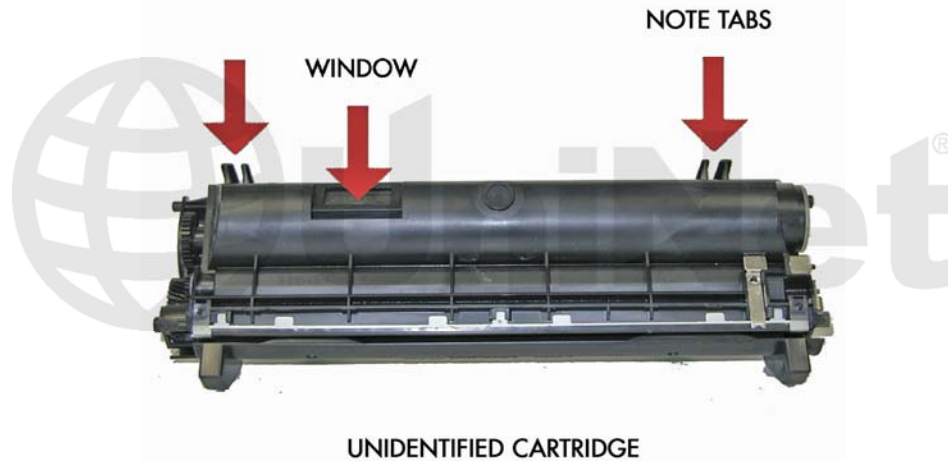

NEC SUPERSCRIPT 870 TONER
(20-120/20-122
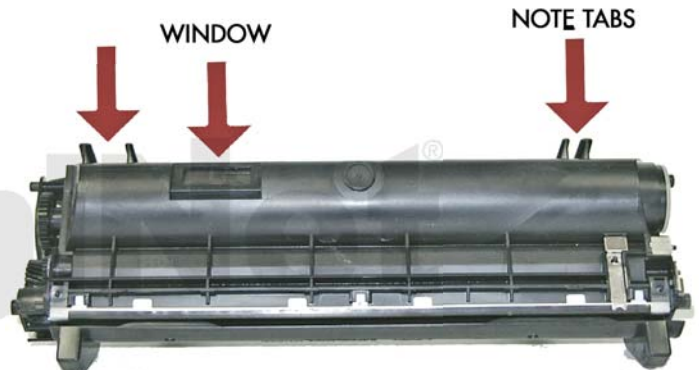
SHARP FO-47ND

MINOLTA FAX 2600/3600

TOSHIBA DK-18

Pictured is an unidentified cartridge. When sorting these cartridges, make sure you note that there are both small and large fins. Cartridges may have similar fin locations, but different sized fins. The cartridges can be made universal by cutting the fins off. If you do this, make sure that you have a FAX universal, and a PRINTER universal cartridge. Cartridges without a window will not work in fax machines regardless of the fins.

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MACHINES BASED ON MINOLTA PAGEWORKS 8

MACHINE	CARTRIDGE PART NUMBER	PAGE YIELD (5%)	PPM	DPI
Epson EPL-5700i	SO50010	6,000	8	1200
Epson EPL-5700L	SO50010	6,000	8	1200
Epson EPL-5800	SO50010	6,000	8	1200
Epson EPL-5800NP	SO50010	6,000	8	1200
Epson EPL-5800NPT	SO50010	6,000	8	1200
Epson EPL-5800P	SO50010	6,000	8	1200
Epson EPL-5800PTX	SO50010	6,000	8	1200
Epson EPL-5800TX	SO50010	6,000	8	1200
Minolta Fax 1600	4152-611	6,000	8	1200
Minolta Fax 1600e	4152-611	6,000	8	1200
Minolta Fax 2600	4152-611	6,000	8	1200
Minolta Fax 2800	4152-611	6,000	8	1200
Minolta Fax 3600	4152-611	6,000	8	1200
Minolta PagePro 1100	1710399-002/1710405-002	3,000/6,000	10	1200
Minolta PagePro 1100L	1710399-002/1710405-002	3,000/6,000	10	1200
Minolta PagePro 1250E	1710399-002/1710405-002	3,000/6,000	17	1200
Minolta PagePro 1250W	1710399-002/1710405-002	3,000/6,000	17	1200
Minolta PagePro 8E	1710399-002/1710405-002	3,000/6,000	8	1200
Minolta PagePro 8L	1710399-002/1710405-002	3,000/6,000	8	1200
Minolta PageWorks 8E	1710399-002/1710405-002	3,000/6,000	8	1200
Minolta PageWorks 8L	1710399-002/1710405-002	3,000/6,000	8	1200
NEC NeFax 635	S2522	6,000	8	600
NEC NeFax 637	S2522	6,000	8	600
NEC NeFax 647	S2522	6,000	8	600
NEC Superscript 870	20-120/20-122	3,000/6,000	8	600
Omni Fax L5350	WT5354	6,000	6	600
Omni Fax L54350	WT5354	6,000	6	600
Sharp FO-4400	FO-50ND	6,000	12	600
Sharp FO-4650	FO-47ND	6,000	8	600
Sharp FO-4700	FO-47ND	6,000	8	600
Sharp FO-4970	FO-47ND	6,000	8	600
Sharp FO-5550	FO-47ND	6,000	8	600
Sharp FO-5700	FO-47ND	6,000	8	600
Sharp FO-5800	FO-47ND	6,000	8	600
Sharp FO-6700	FO-47ND	6,000	8	600
Toshiba DP80F	TK-18	6,000	8	600
Toshiba DP85F	TK-18	6,000	8	600
Xerox WC Pro 555	106R402	6,000	8	1200
Xerox WC Pro 575	106R402	6,000	8	1200

The drum units used in these machines can also be rebuilt. They will be covered in another article at a later date.

Common cartridge problems as well as some machine troubleshooting (on more popular machines) will be covered at the end of this article.

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REQUIRED TOOLS
1. Toner approved vacuum
2. Small common screwdriver
3. Phillips head screwdriver
4. Spring hook

SUPPLIES REQUIRED
1. 150 grams black toner for use in PageWorks 8
2. Acetone
3. 99% pure isopropyl alcohol
4. Cotton swabs
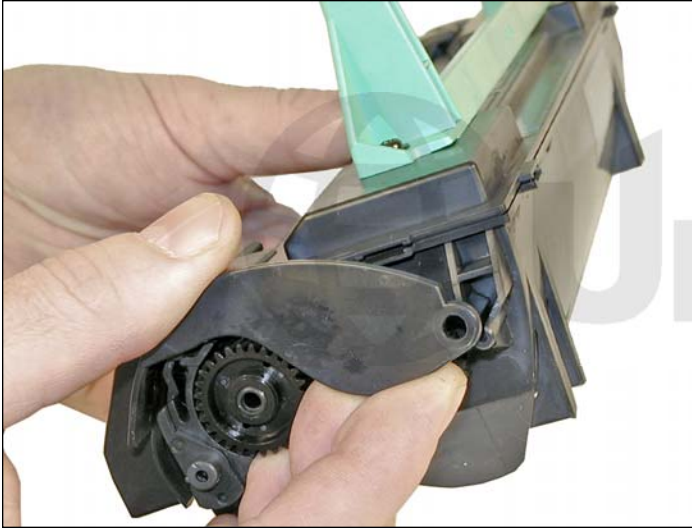
1. Locate the spring-loaded cover that protects the developer roller. Remove the cover by prying out on both ends where they contact the cartridge. A spring will come loose. We will show you how to re-install it later.
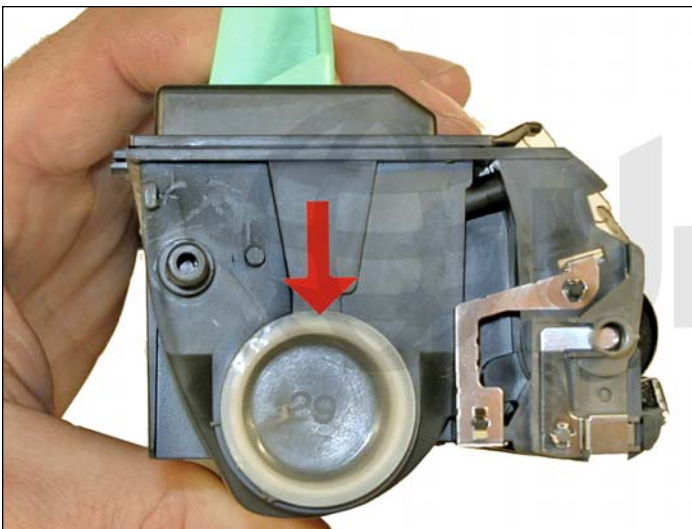
2. Remove the fill plug on the left side of the cartridge. Dump out the remaining toner. Lightly vacuum or blow off the outside of the housing and the developer roller. As stated above, in order to have a cartridge that functions properly, the developer roller must be removed, and the doctor blade cleaned.

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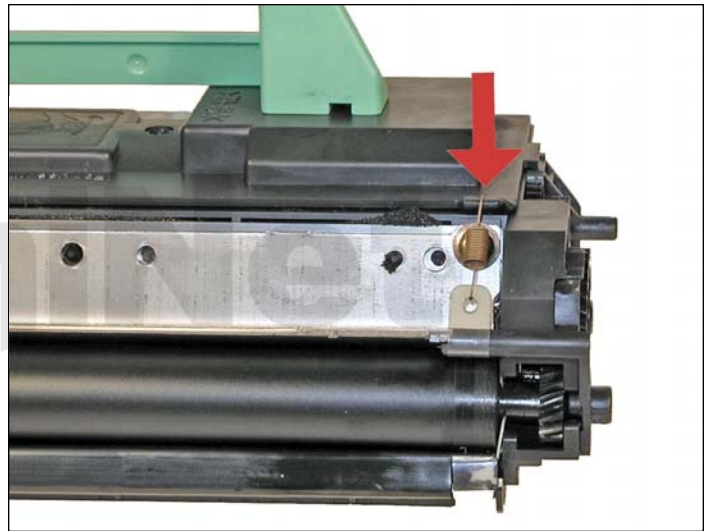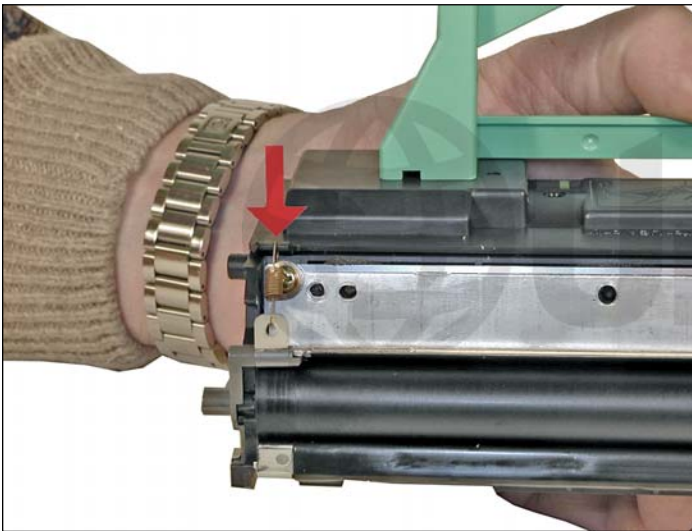
3. Remove the two springs located on either end of the doctor blade.
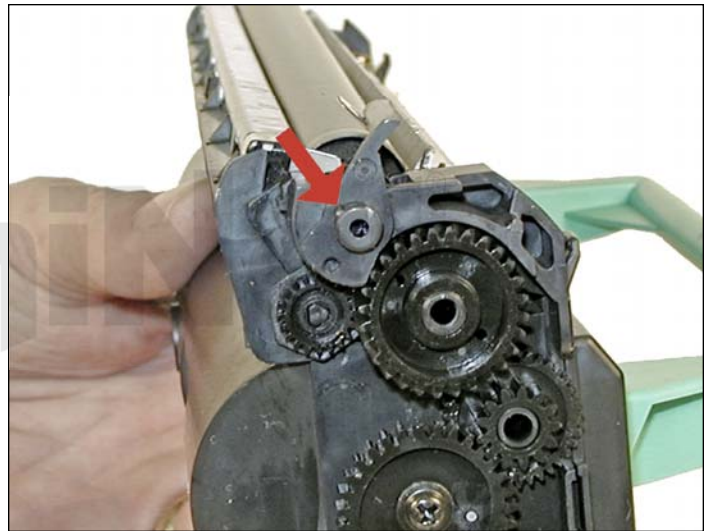
4. Remove the small hubs from both sides of the developer roller.

The contact hub is removed from the left side and the non-contact hub from the right.
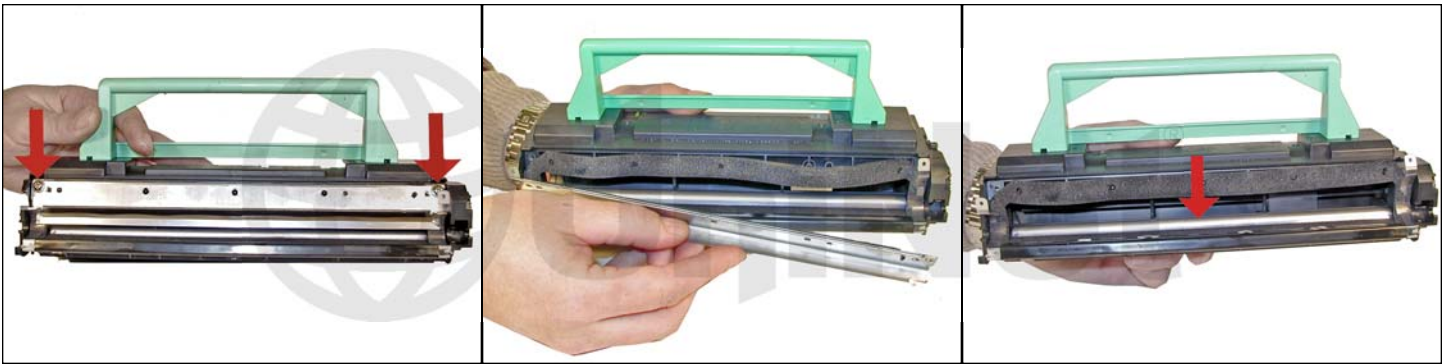
These hubs can be black or gray in color.

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5. Remove the developer roller assembly, and the plastic shims on both sides.

Clean the developer roller sleeve with a lint-free cotton cloth, and place aside.

Do not use any chemicals to clean this roller!

6. Remove the two screws and the doctor blade. When the doctor blade is removed, more than likely the seal foam will come with it. Carefully remove the foam from the back of the blade. Clean the rest of the toner from the hopper, and the metal feed roller. The doctor blade should be removed so that the acetone does not accidentally drip into the hopper. **NOTE**: When vacuuming or blowing out the hopper, be very careful not to damage the seal foam. Hold it in place as you clean.

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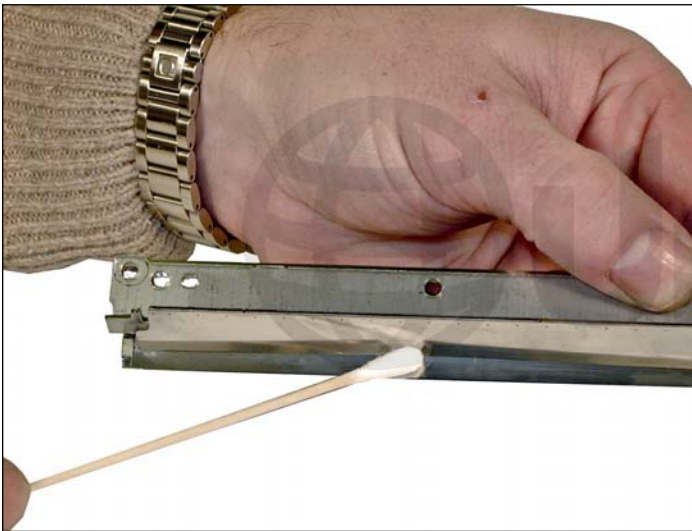
7. Clean the doctor blade with a cotton swab and acetone. Do not press hard or the blade will bend, Let the acetone do the work. Clean off any residue with a fresh swab and alcohol. This blade must be perfectly smooth. Any remaining buildup on this blade will cause streaking. Make sure it is completely dry when done.
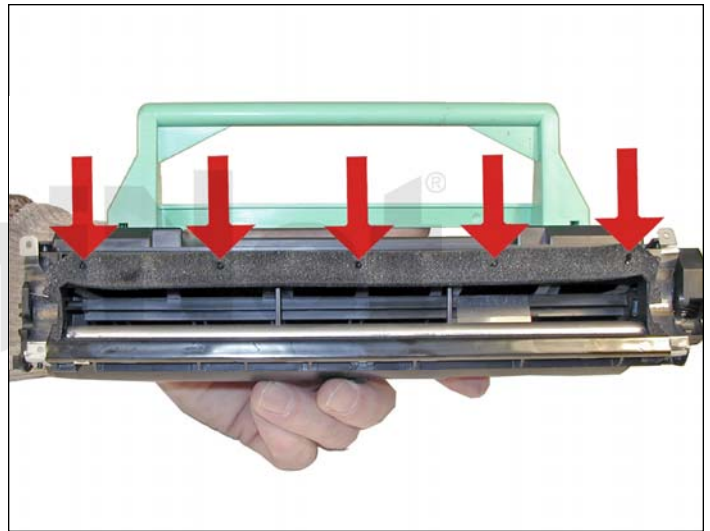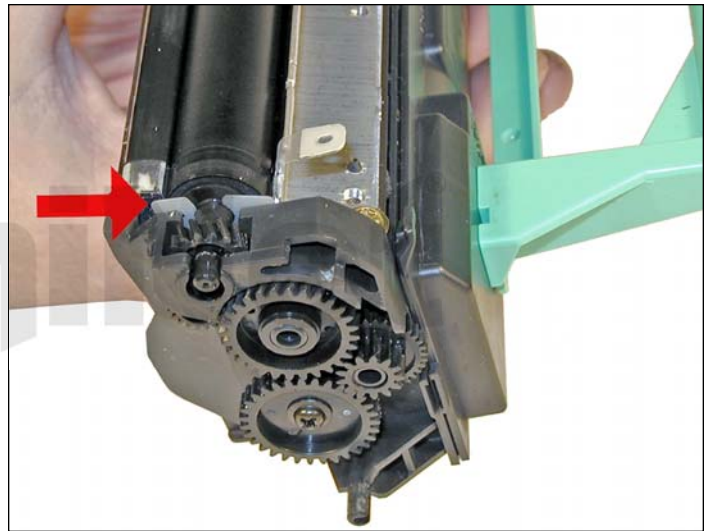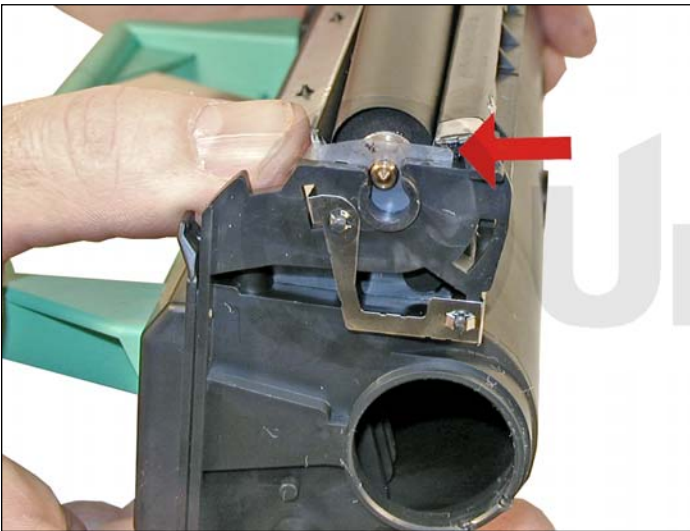
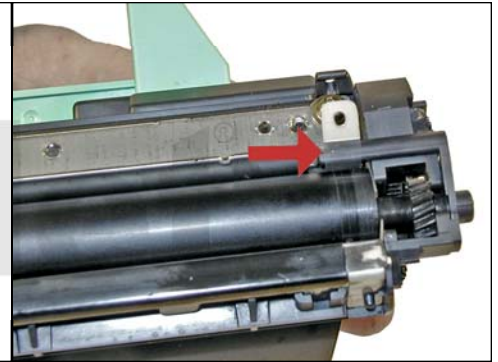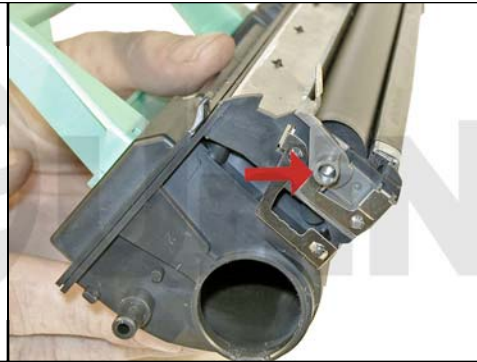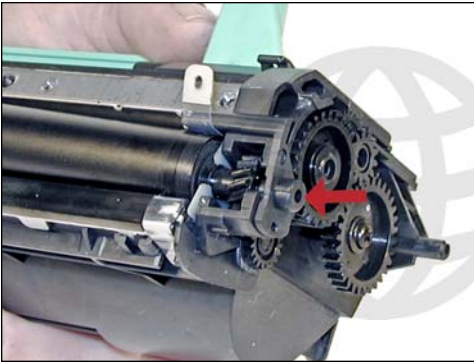8. Re-align the seal foam on the five small posts.
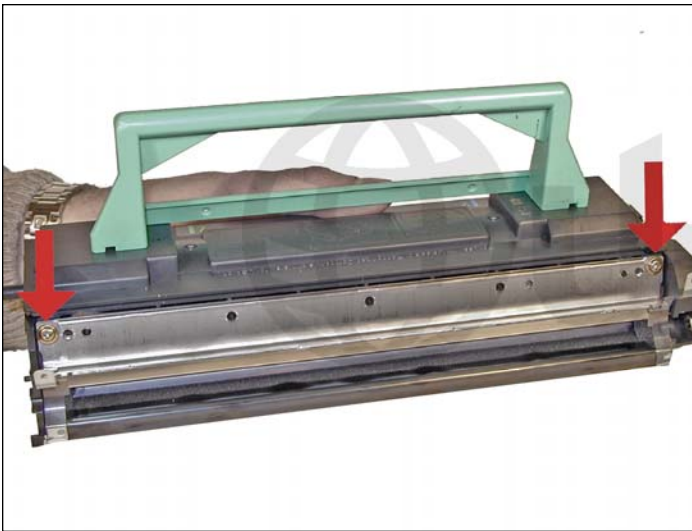
9. Install the doctor blade and two screws.

Make sure that the foam stays in place.
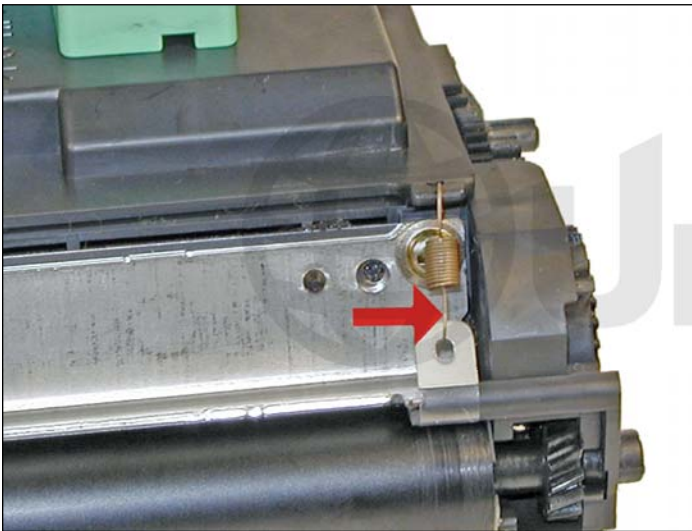
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10. Install the cleaned developer roller with the two shims into the hopper.
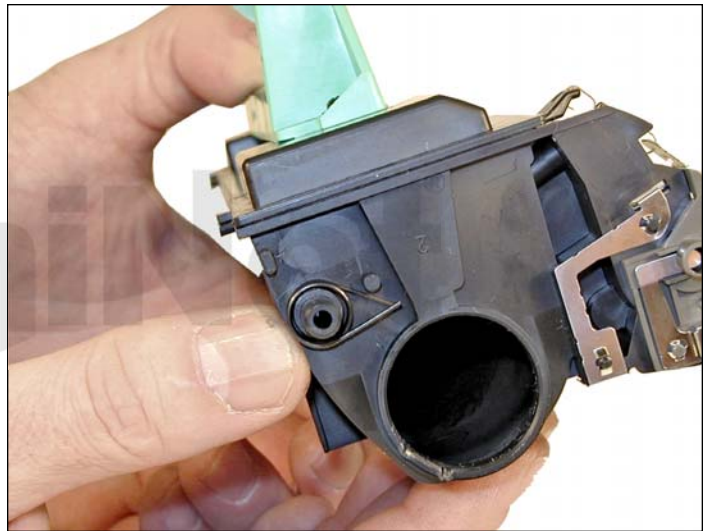
Make sure that the two shims are flat side up.

11. Install the two developer roller hubs: contact hub on the left, non-contact hub on the right.
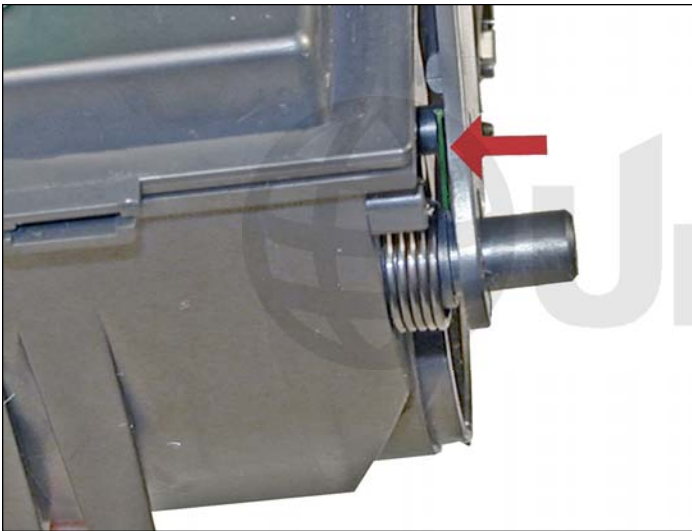
Make sure that the clear plastic strips fit over the hub tabs.

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12. Install the springs on both sides of the doctor blade. Make sure that the open side of the spring is facing towards the doctor blade.

13. Set the drum cover spring onto the shaft as shown.

14. Install the cover. Pull the upper tail of the spring to engage the tab on the drum cover. The tail of the spring has been colorized to see it better. The drum cover should move easily, and fully close on its own.

15. Fill the cartridge with toner for use in PageWorks 8.

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COMMON CARTRIDGE PROBLEMS

Vertical gray streaks down the page: This is normally caused by a buildup of toner on the doctor blade. In extreme cases, the buildup will also cut into the surface of the developer roller.

Toner leaking from either edge of the cartridge: The clear strip and spring are not set right. Make sure the spring is attached, and that the strip is over the plastic tab.

TAKING TEST PRINTS

NEC Superscript 870:
1. Make sure that the "ONLINE" light is lit.
2. Press the "OPERATOR PANEL" button until all the lights cycle and the "ONLINE" light just starts to flash.
3. Release the button.
4. A test page will print out.

Sharp FO-4700:
The easiest way is to just make a copy, or you can print a series of reports.
1. Press the "FUNCTION" and "2" buttons.
2. The display will show "LISTING MODE ENTER # (01-11, *, #)"
3. Enter "01-11" for a specific report.
4. Enter "*" or "#" to scroll through the following coded lists:

01	**An activity report**
02	**Timer List**
03	**Phone # list**
04	**Relay Group List**
05	**Pass code list**
06	**Optional settings**
07	**Program and group list**
08	**Batch transmission list**
09	**Department usage**
10	**Confidential reception list**
11	**Anti Junk # list**

CHANGING THE DENSITY SETTING

NEC Superscript 870:
The density in these machines can only be changed using the printer driver.

MACHINE TROUBLESHOOTING

NEC Superscript 870:

"ERROR" light on steady:	**Top Cover open**
"ERROR" light on steady / "PAPER" light flashing:	**Paper jam**
ALL lights flashing:	**Machine error (could be almost anything)**

Sharp FO-4700:
The error code displays on these machines are self-explanatory. For that reason we have not listed them here.

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