XEROX® WORKCENTRE 4150
TONER CARTRIDGE REMANUFACTURING INSTRUCTIONS

013R00623 DRUM UNIT

REMANUFACTURING THE XEROX WORKCENTRE 4150 DRUM UNIT

By Enrique E. Estura, Daniel Reyes, and the Technical Staff at UniNet

Introduced to the market in September 2008, the Xerox WorkCentre 4150 is a machine that operates with a fax motor capable of printing 45 ppm at 1200 DPI. This machine has a separate toner and drum unit for printing cycles of 20,000 and 55,000 pages respectively. The remanufacturing instructions for the toner cartridge are dealt with in a separate article written by Mike Josiah.

The following remanufacturing steps relate to the OEM part number 013R00623 which, contrary to what happens with the toner cartridge, is a multi-region device chipped to that effect.

Both the toner and drum unit use RF chips that require replacement each cycle. The xerographic system used in this model is known as “dual components” which necessarily implies conjunction of toner and carrier to perform the image development.

The drum unit, which is of immediate concern, is where the machine´s xerographic system centers image creation and its development all carried out in a rather complex module which require sub systems approach for disassembly, cleaning, and component replacement.

To work with this drum unit all that is needed are the basic tools found in any remanufacturing shop for laser toner cartridges including a toner vacuum cleaner.

There is a striking similarity in equipment between the Xerox WorkCentre 4150 and the Samsung SCX-6555. However, there are also extreme differences in the programming and functionality, which impedes interchangeability of toner and drum units including chips.

To say that this drum unit is easy to remanufacture would be an understatement of the task involved mainly due to the numerous details to take into account for the work to be successful.

We have created this instruction not only for disassembling sub-components in a precise order, but to also attend to each without leaving room for doubts when putting everything back as it was. Due to the fact that insertion and retrieval of this unit from the machine is performed perpendicularly we will refer to the part that goes in first as “front” and “back” for the part put into the machine last.

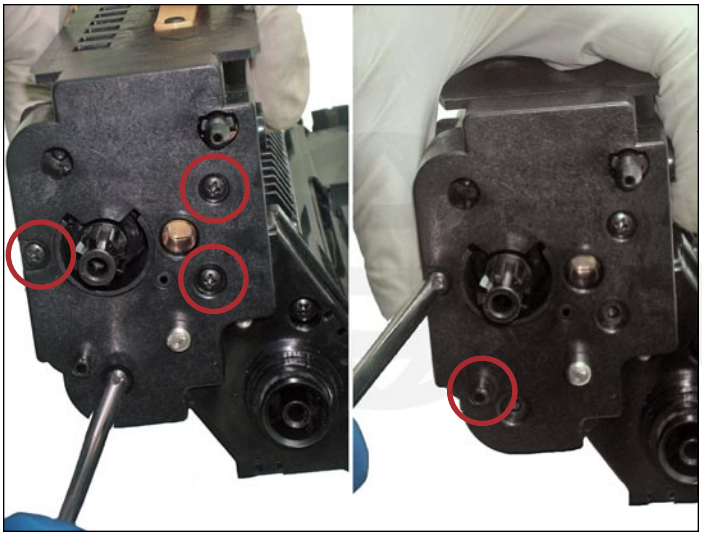
The drum unit is divided into an image section and a development section, and as such we will proceed to disassemble and remanufacture. Once the work is completed on each will be put them together again leaving it ready for use.

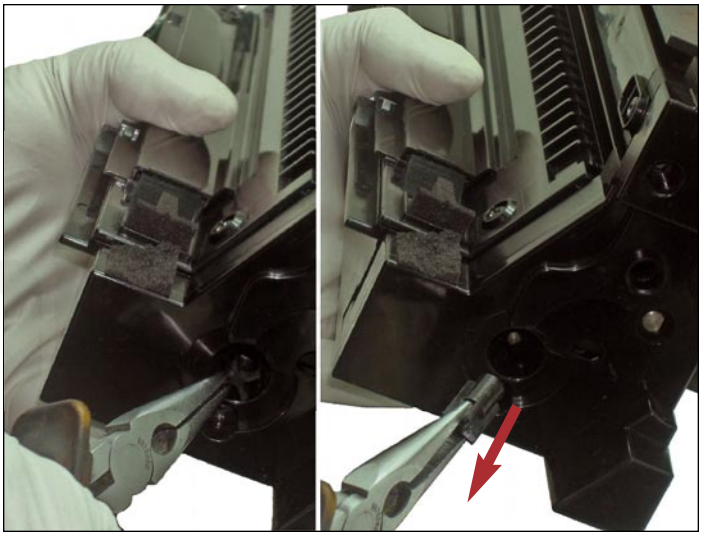
REQUIRED TOOLS

1. Philips head screwdriver
2. Small common screwdriver
3. Needle nose pliers
4. Toner approved vacuum
5. Cleaning brush 1/2”

REQUIRED SUPPLIES

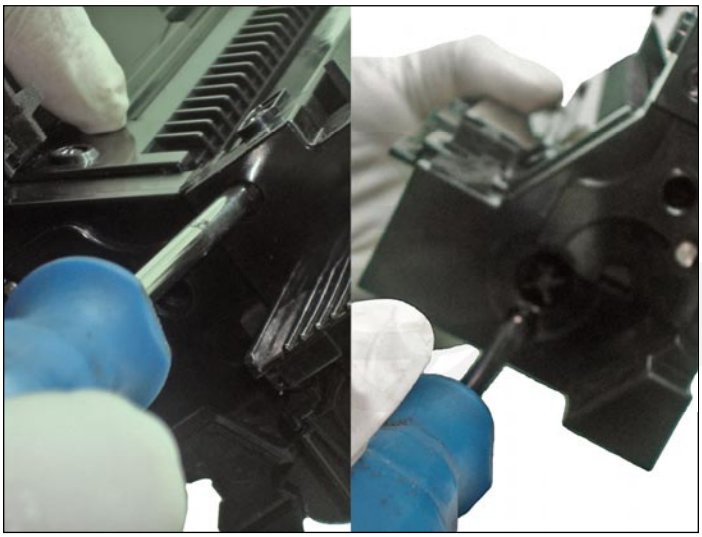
1. Dedicated developer carrier (338 grams)
2. New OPC drum
3. New wiper blade
4. New PCR roller
5. Replacement RF chip for drum unit 013R00623
6. Conductive grease
7. Q-tips
8. Lubricant powder

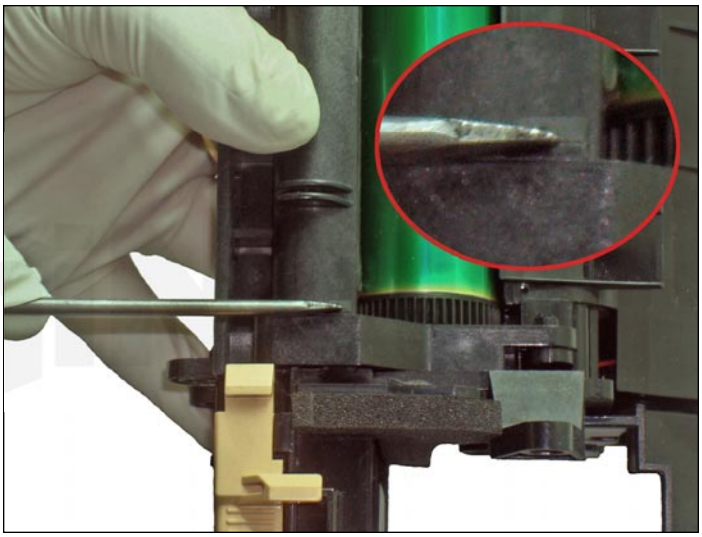




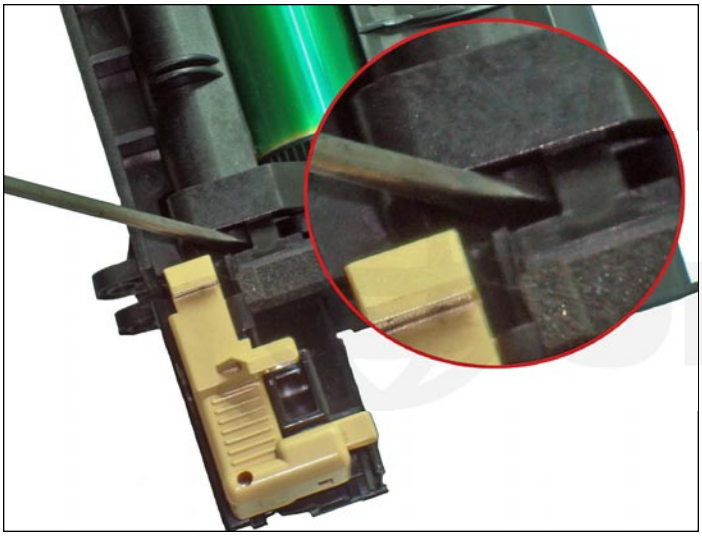
INITIAL DISASSEMBLY

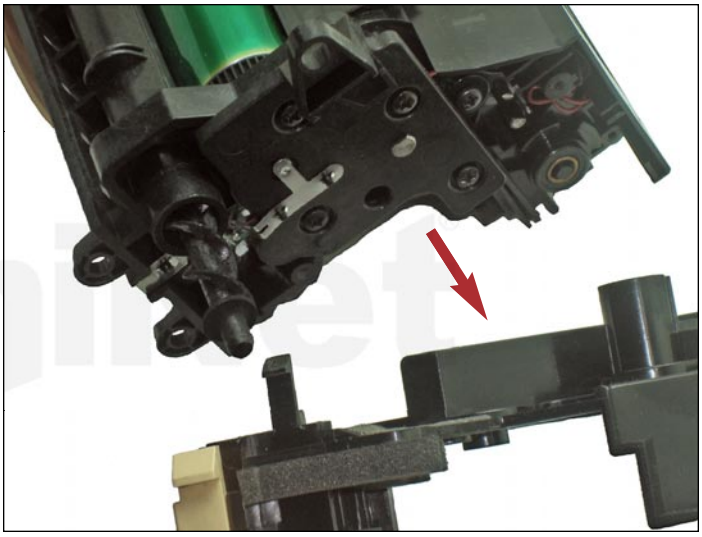
1. Remove the four Phillips screws from the back cover, and with the needle-nose pliers, remove the plastic coupling from the developer mixer shaft.





2. Remove the two screws holding the front of the cover and undo the plastic tab.

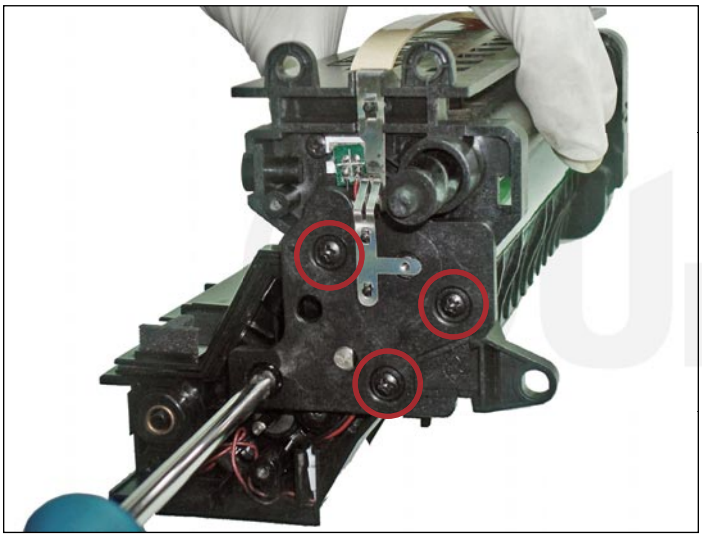


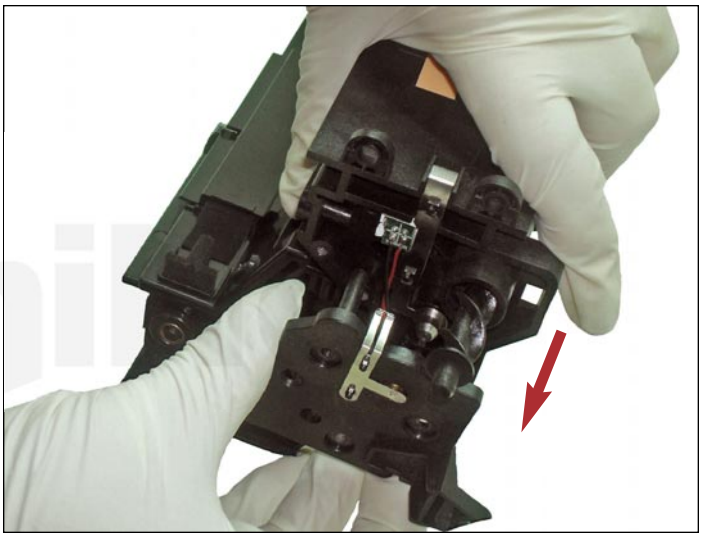


3. With the small screwdriver, pry the cover open and remove it from the unit.

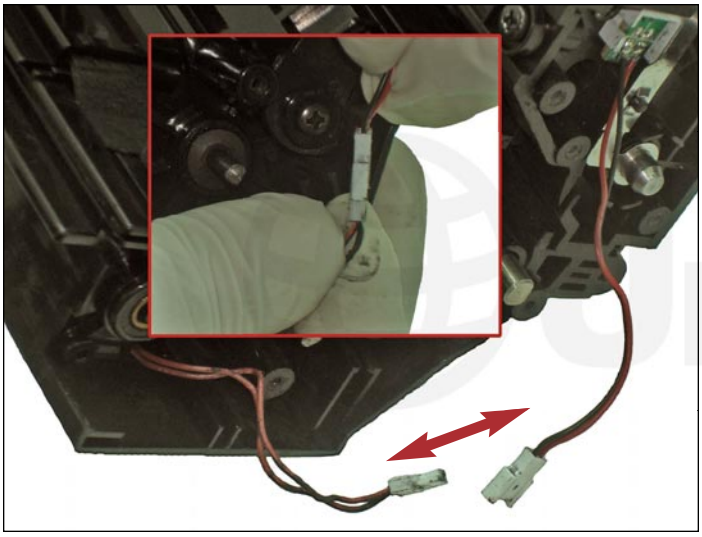
Be aware that a certain amount of toner might fall out of the orifice where the helicoid shaft turns.

Be prepared to vacuum this area immediately.

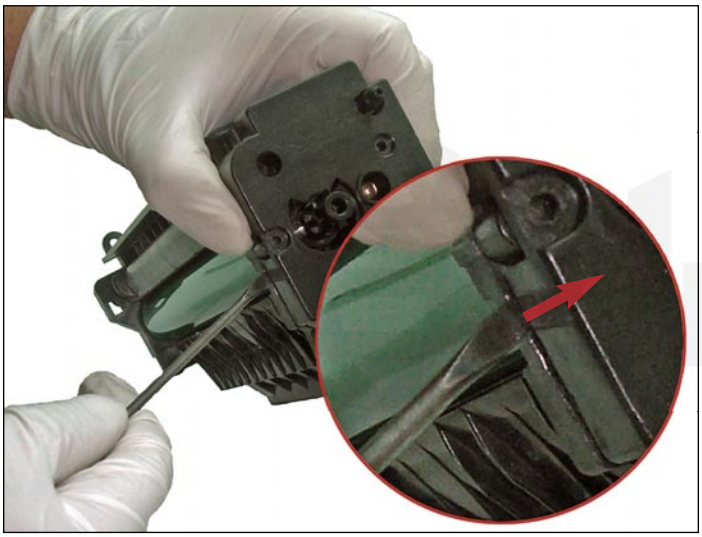


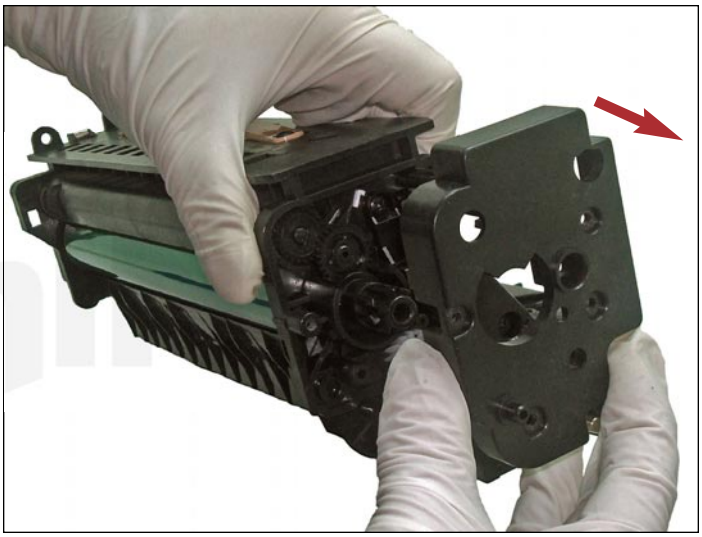


4. Now proceed to remove the four Phillips screws from the inside plate with contacts.

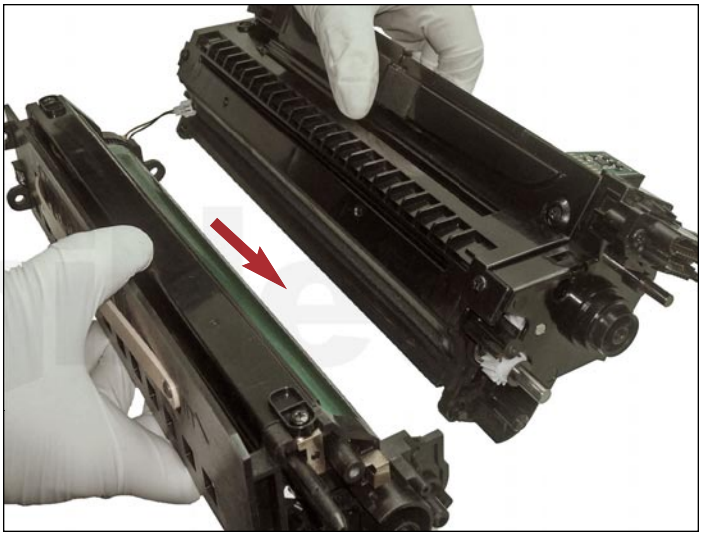


5. Removing the mentioned plate gives access to the Erasing Lamp electrical connections (red and black wires respectively) ending at the white connector. Open the connector.

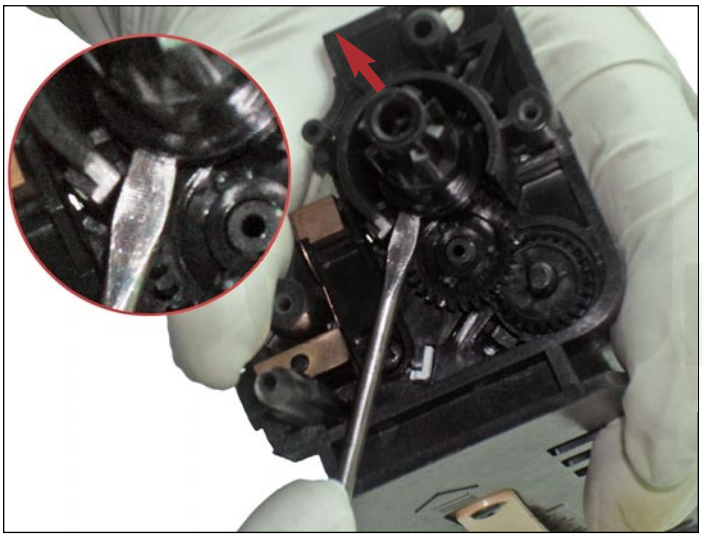


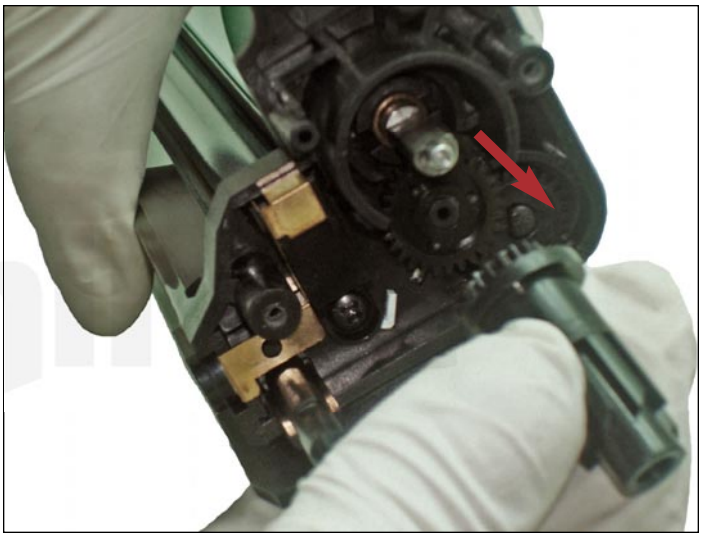


6. Return to the opposite cover, and with the small screwdriver, pry the back cover to remove it from the unit.

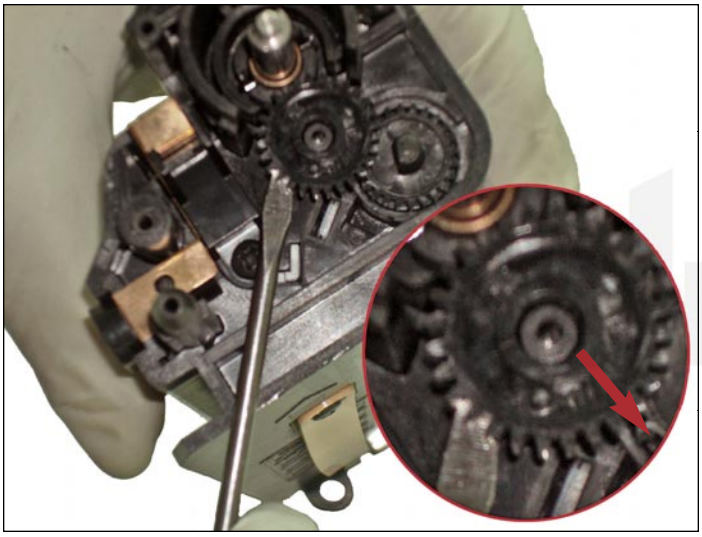


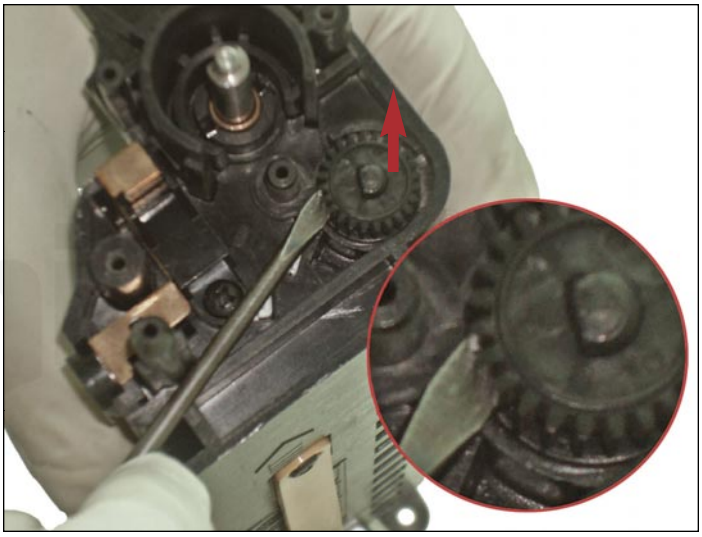
7. With the above steps, the cartridge halves can now be separated into OPC and developing sections.





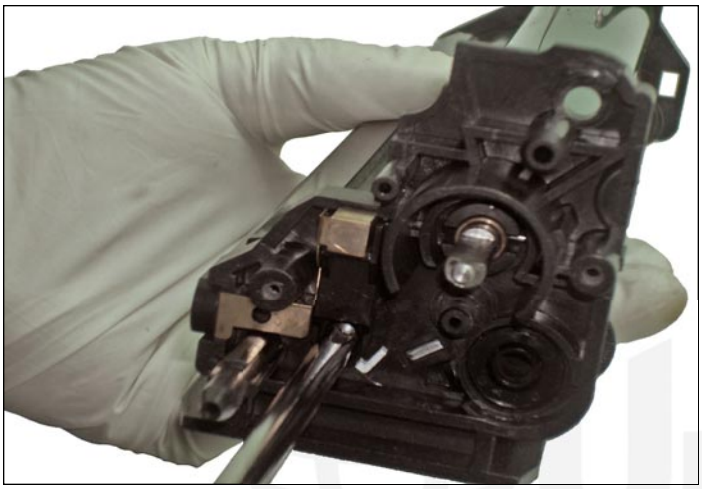
8. Begin working with the OPC section removing the OPC drive coupling, prying with the screwdriver at three separate points until it comes out completely. Note that the shaft end has a flat section to match with the coupling.

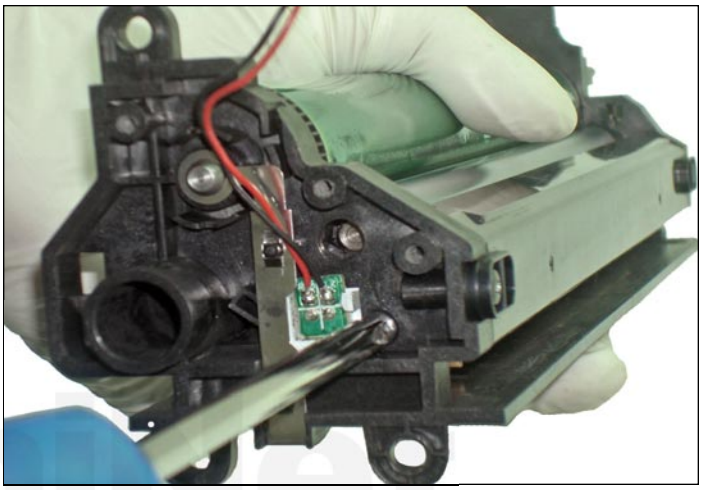


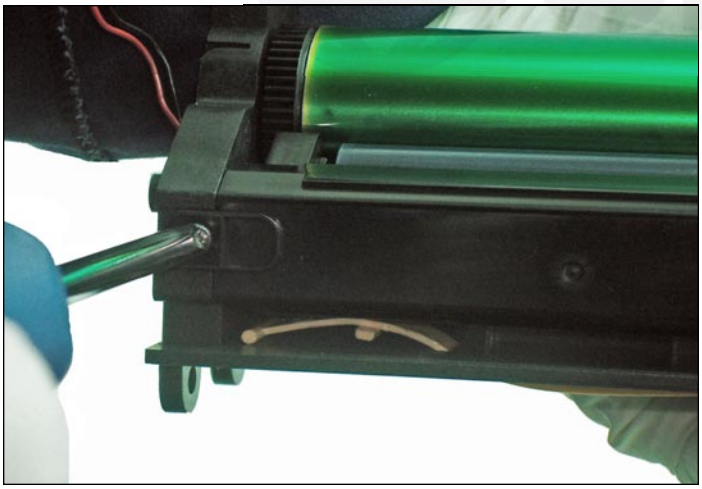


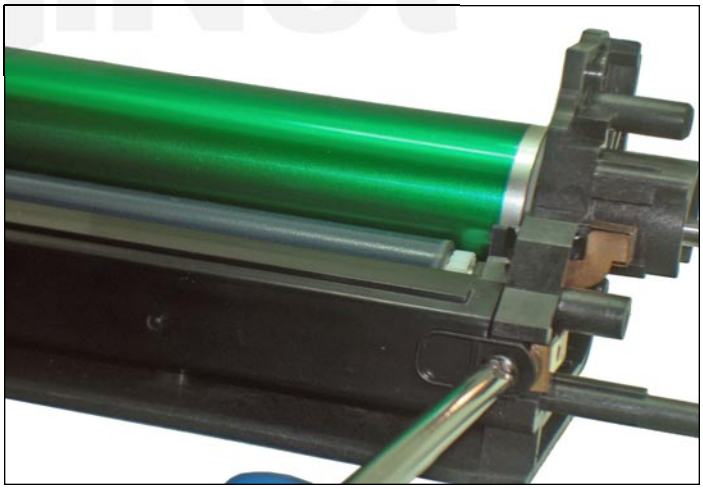
9. Remove the intermediary gear, and finally the helical shaft gear.

10. Remove the helical shaft slowly and clean any residual toner with the vacuum cleaner if need be while extracting it.





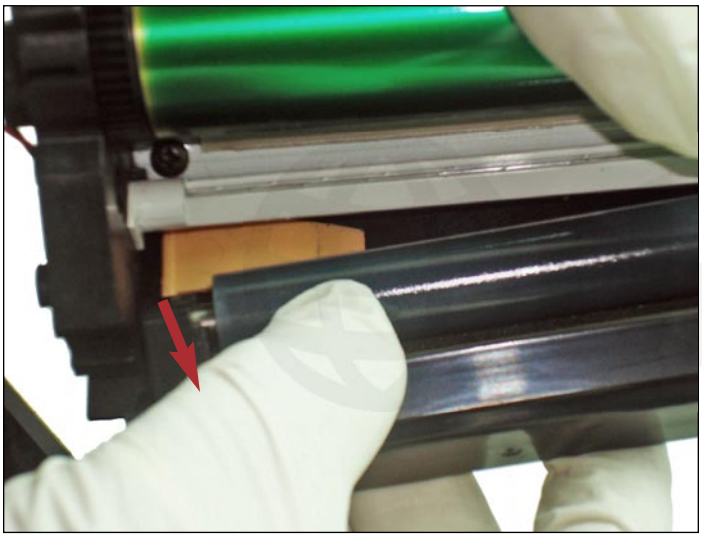


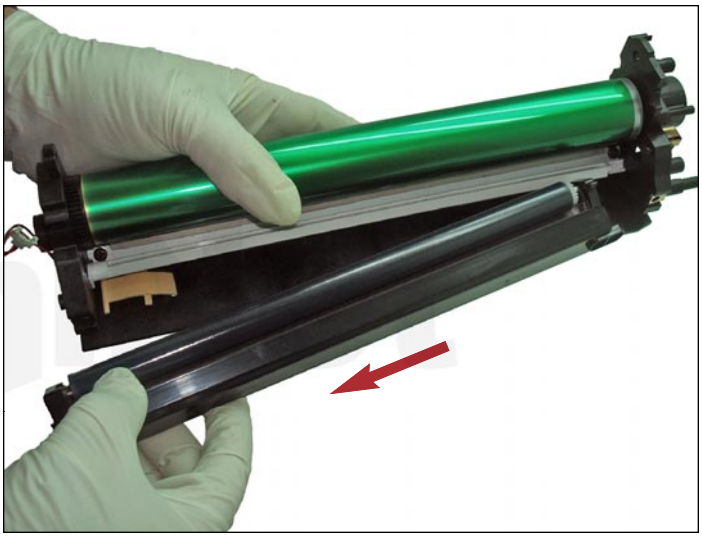


REMOVAL OF THE PCR ASSEMBLY

11. Proceed next to remove the PCR assembly held by four Phillips screws.

Take out the first one located in the back as shown, then the one up front and finally one on each side.

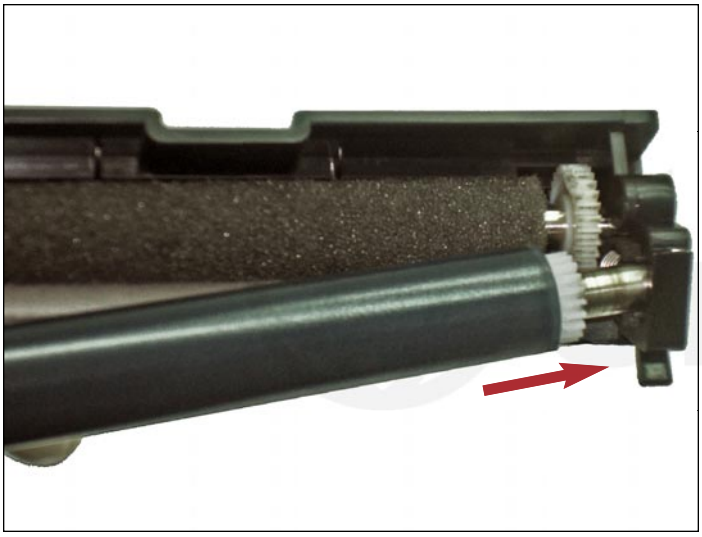


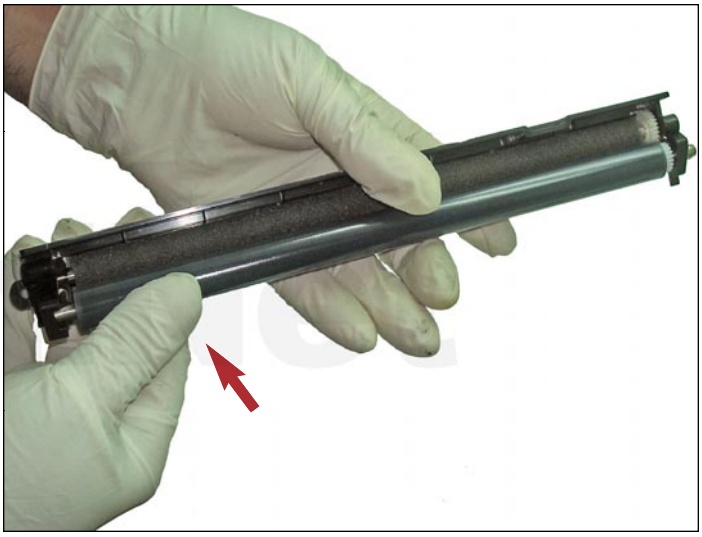


12. Pull out one end of the assembly and slide it out of position.

13. To remove the PCR, press it toward the gear to loosen the other end, and take it out from the assembly.

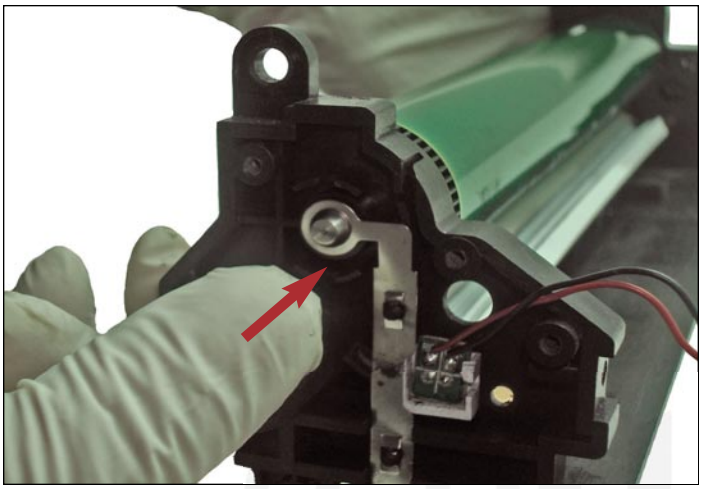
14. Thoroughly vacuum the foam roller and any debris accumulated beneath the roller, using for this purpose a narrow cleaning brush. The brush will help to loosen any debris that is difficult to vacuum from the small waste bin.

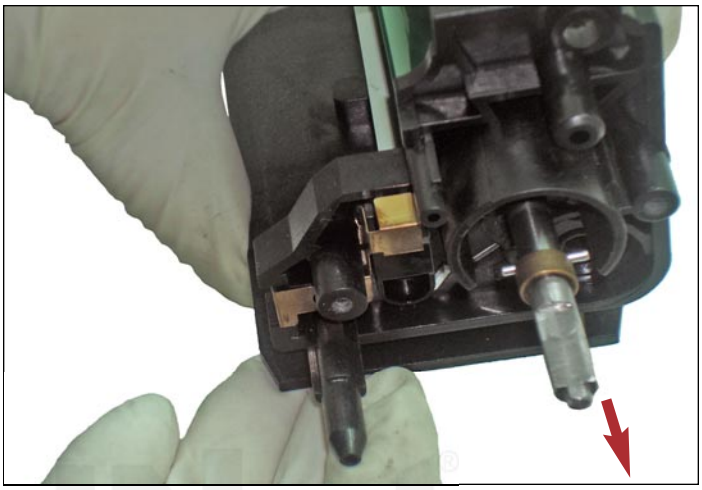


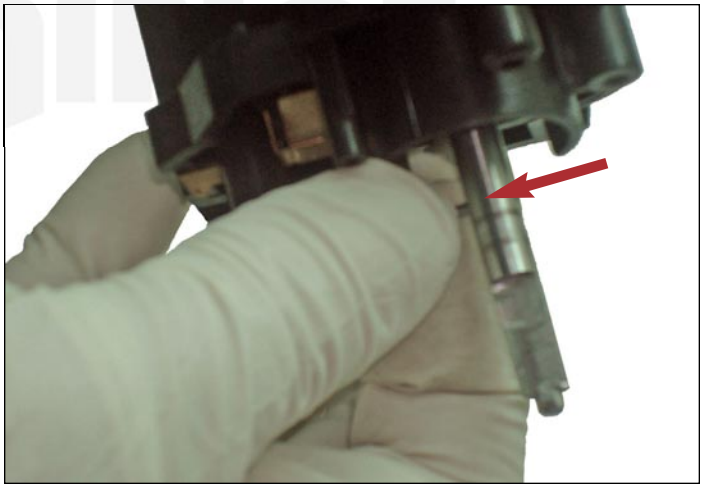


15. Clean the PCR roller with a soft cloth and install gear side first, and then the other end.

Apply a very small amount of conductive grease on the shaft.

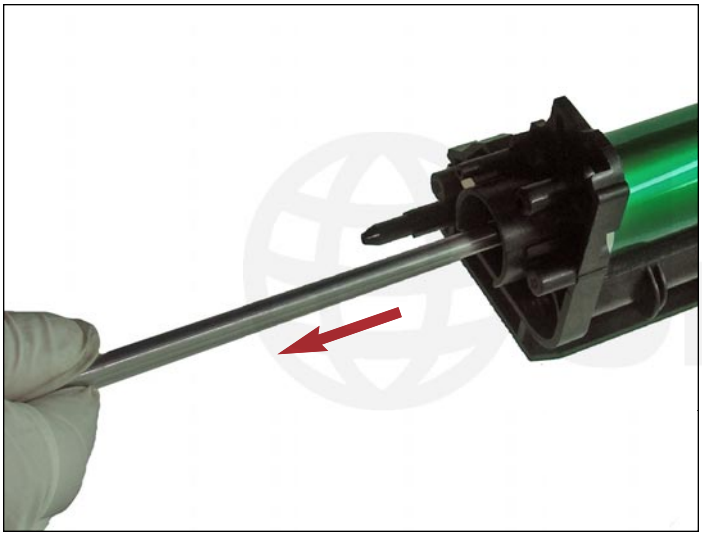




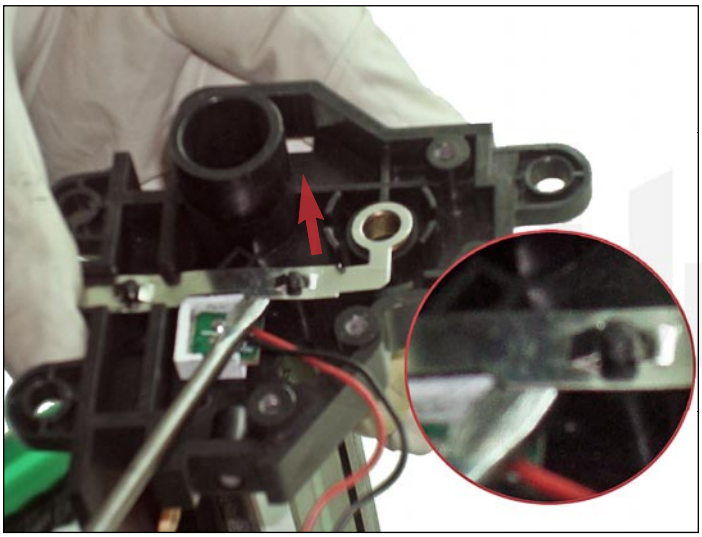


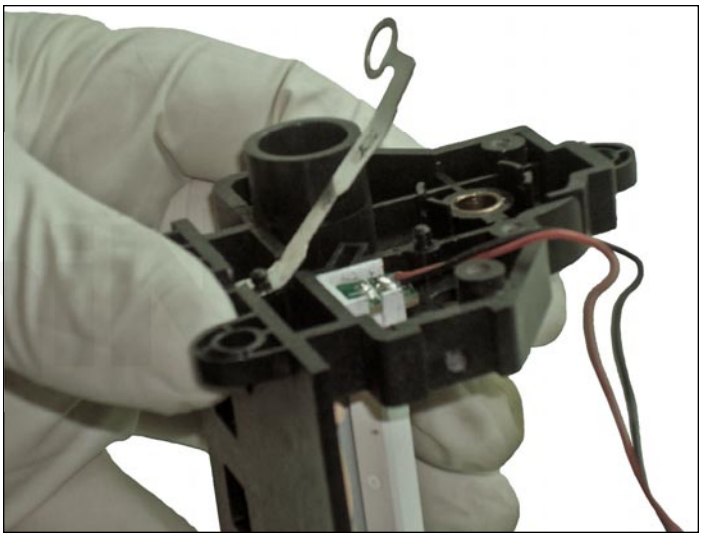
OPC DRUM UNIT DISASSEMBLY

16. Slightly push the shaft from the end where it connects to the metal grounding ring. This will create enough protrusion in the other end to grasp it, to take the metal bushing and the cross pin from the shaft. Be very careful not to lose these components.

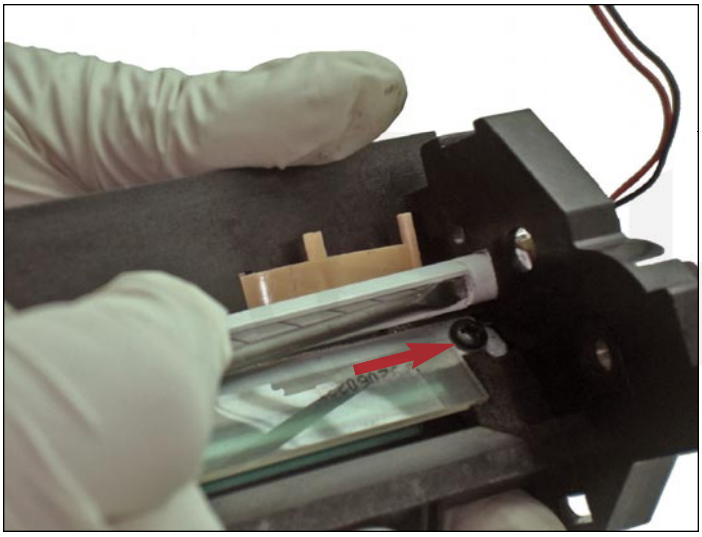


17. Slide the shaft out and lift the OPC from where it rests.

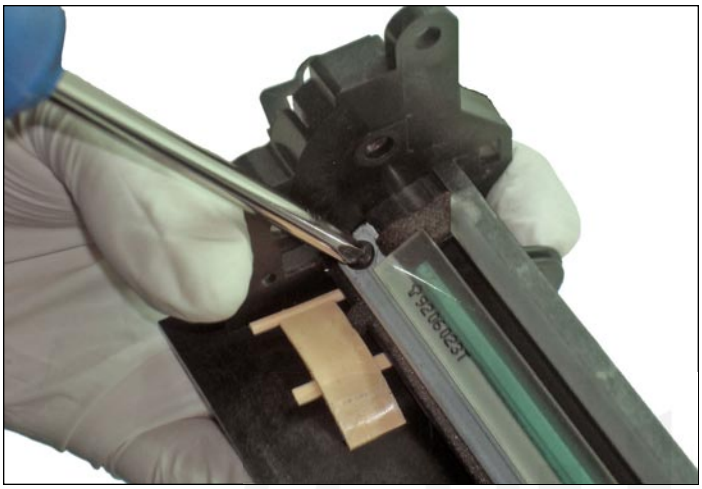
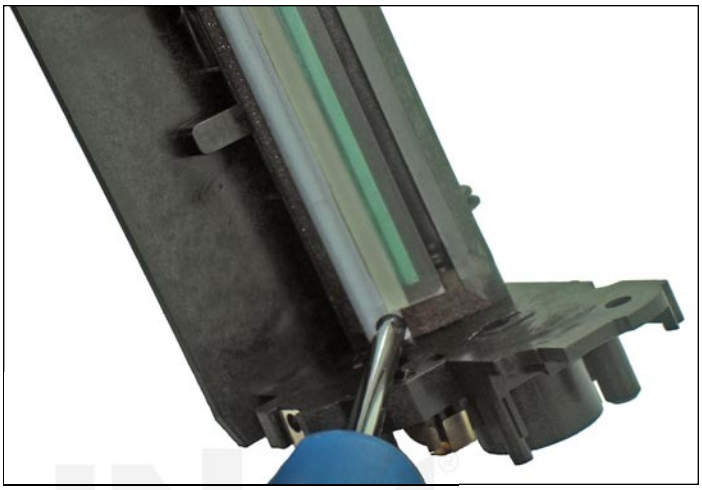




18. On the contact side undo part of the strip out of the upper plastic post and leave it at an angle as shown.



19. Push the erasing lamp from the socket and take it out completely as shown.

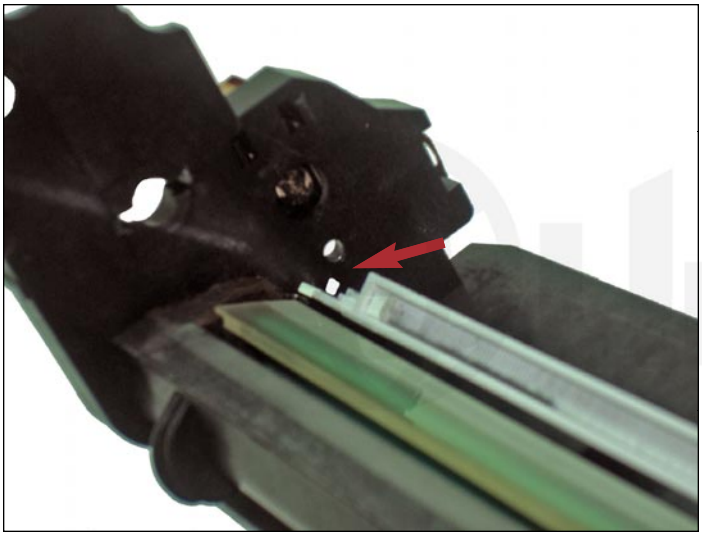
20. Remove both screws securing the wiper blade, lift the front end, and slide the blade out of position.

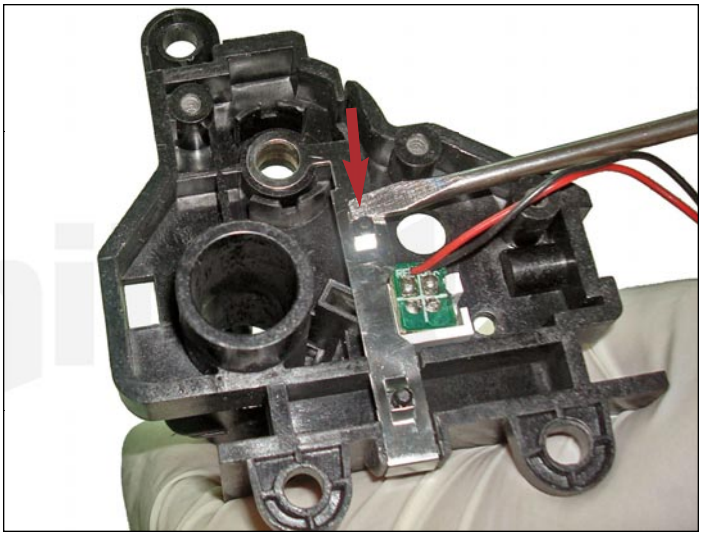
21. Vacuum the waste bin completely including the inside of the tube where the helical shaft turns.

ASSEMBLY

22. Insert the proper end of the wiper blade in the support and then the other end.

Tighten up with the two screws.



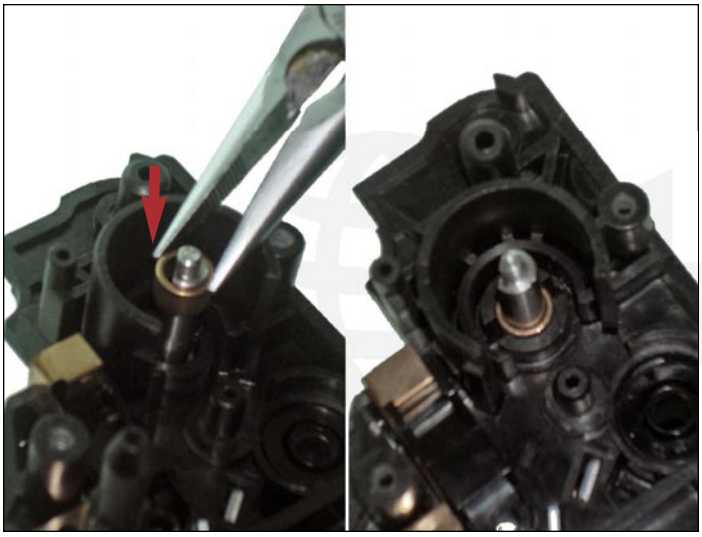


23. Insert the erasing lamp and firmly push the metal ground contact against the plastic post.

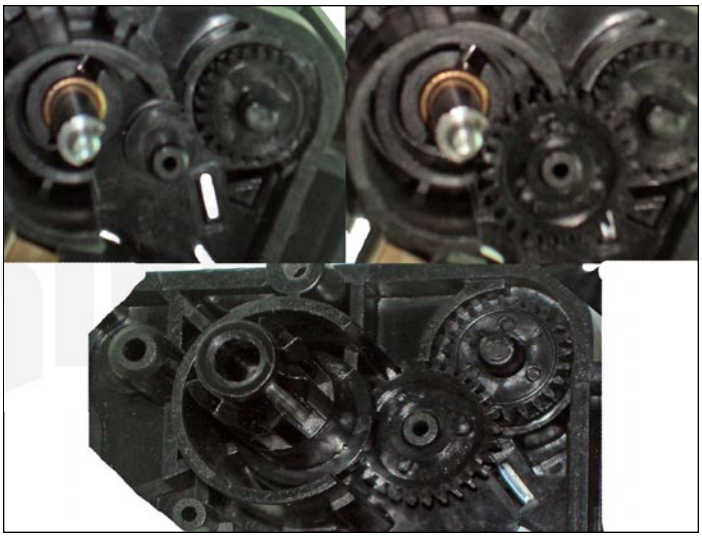
24. Take the OPC and visually align the slot in the hub with the slot in the molding where the cross pin rests.

Insert the OPC shaft until reaching the hole in the shaft.

Mount the cross pin before pushing the shaft all the way in.

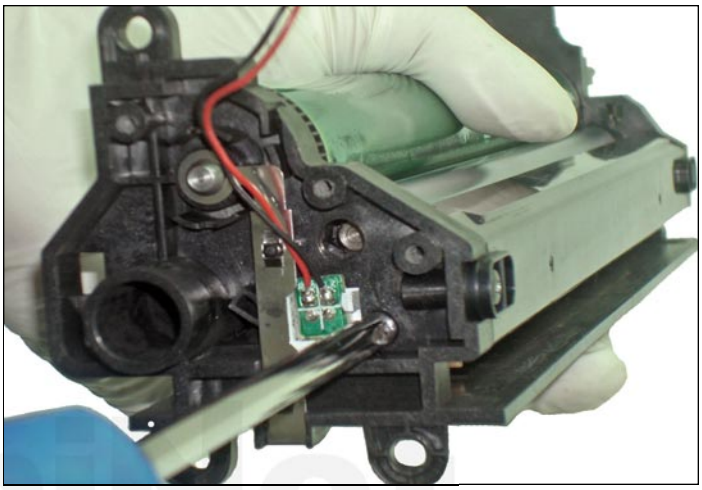


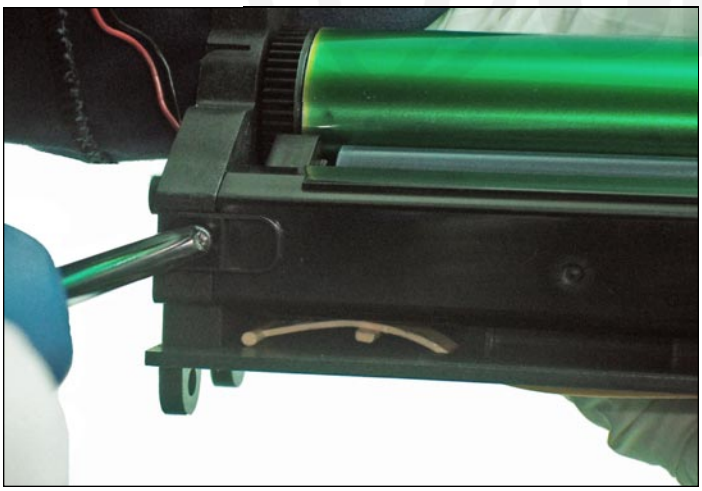
25. Now slide the bronze bushing in and push the shaft further in until the other end touches the OPC metal grounding ring.

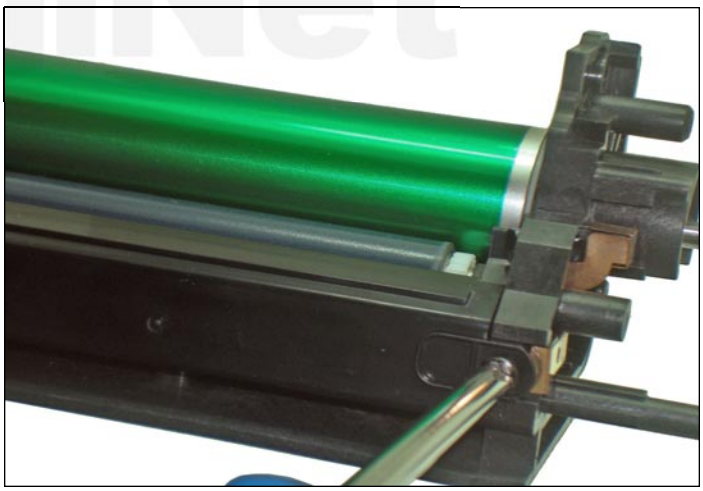


26. Insert and slide the helical shaft in its place until the shaft appears on the other end.

Fit the drive gear, the intermediary, and finally the OPC gear.

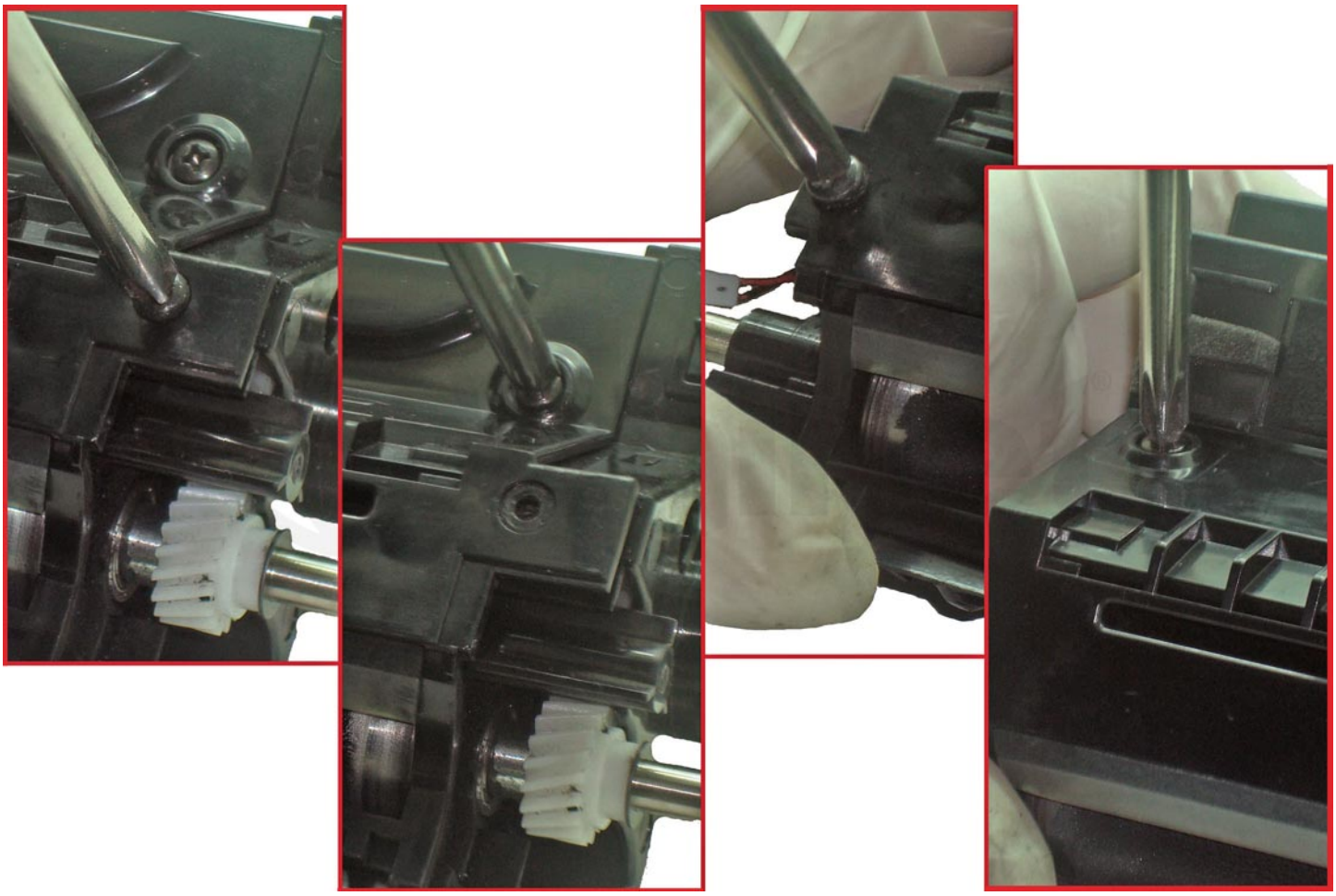






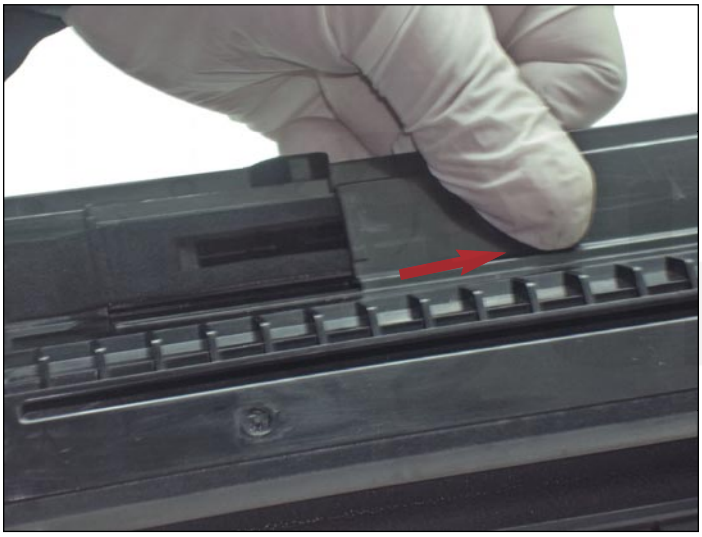
27. Mount the PCR assembly pointing the rounded shaft end first and then the rest of the assembly in place.

Secure the ends with proper screws first, and then the laterals.

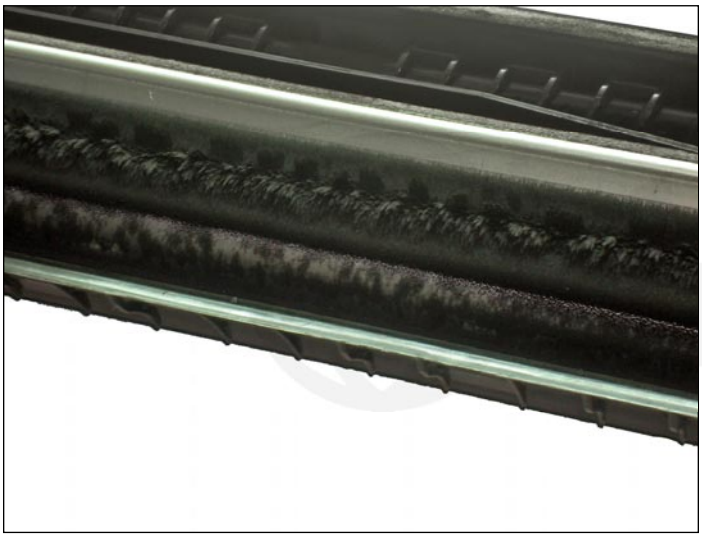


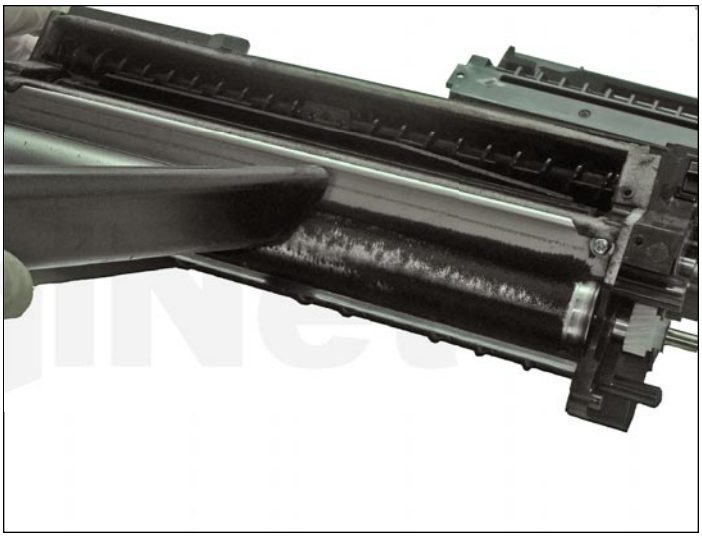
28. Leave the OPC section for a moment and start working on the developer section.

Remove the four screws belonging to the magnetic roller protection.

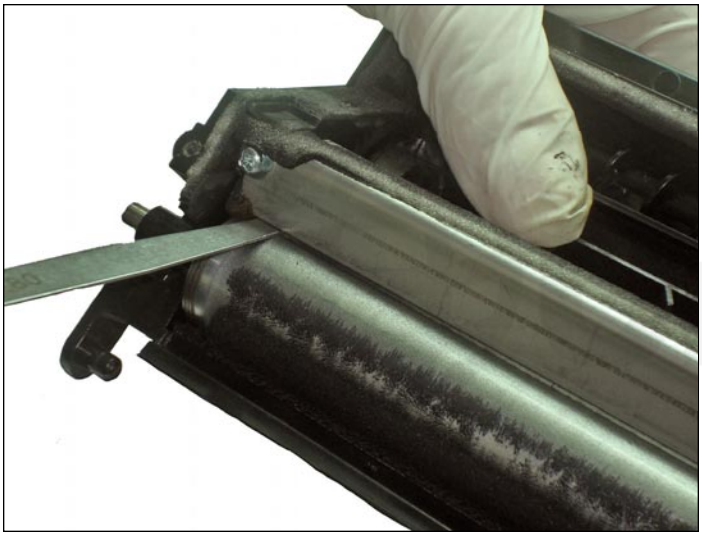


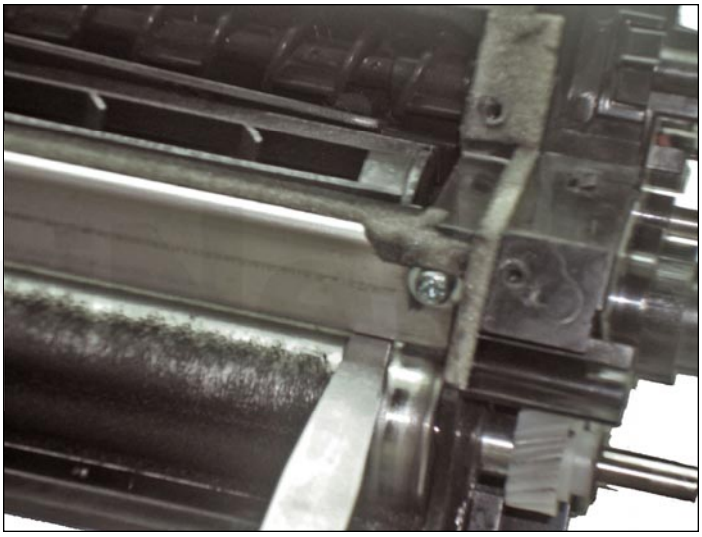
29. Displace the sliding cover enough to allow removal of the entire protection.





30. Rotate the magnetic roller in the opposite direction to its normal position to allow concentration of the carrier in a collecting point and to vacuum it. Slide the tip of the hose to take the entire carrier from the surface and rotating the magnetic roller until all of it is lifted. Be careful not to damage the surface of the magnetic roller. Continue cleaning of the mixer until all material is cleaned off.



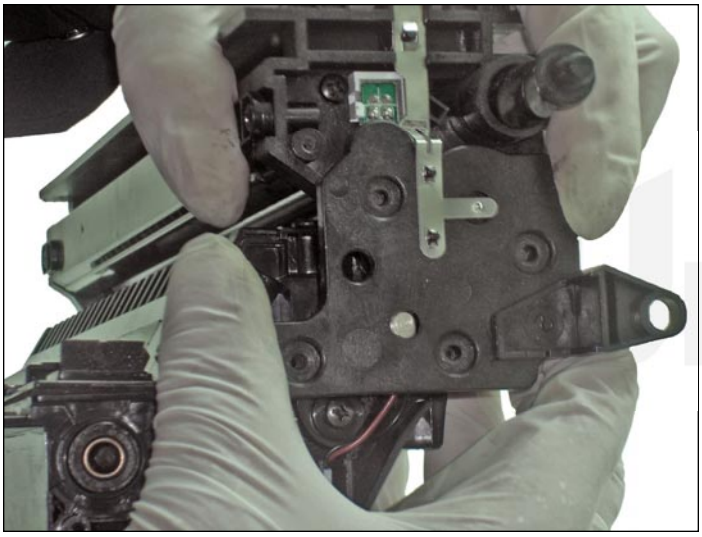


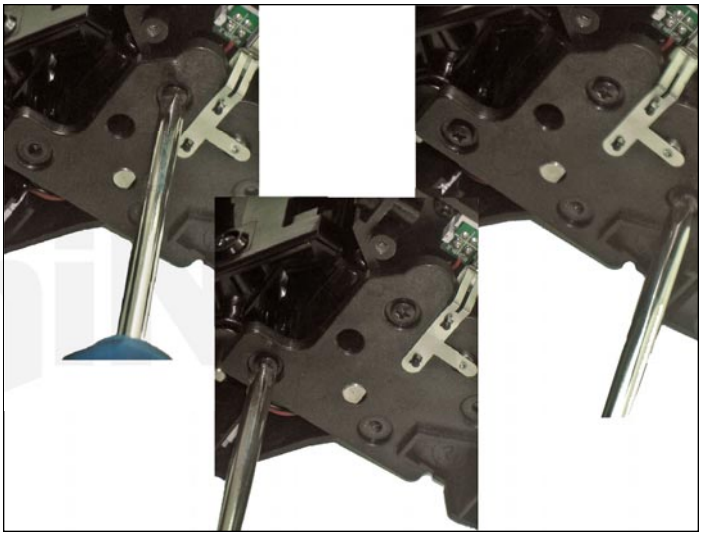
31. Only in case of replacement consider taking the doctor blade out, otherwise perform cleaning without removal. The sealing that it is used with the doctor blade requires careful worktop put it right. Measuring the distance between the doctor blade working edge and the magnetic roller surface gives 0.80 mm gap that must be observed when installing the blade.

32. Once the cleaning process is done load the new carrier with even quantities inside the mixer cavity.

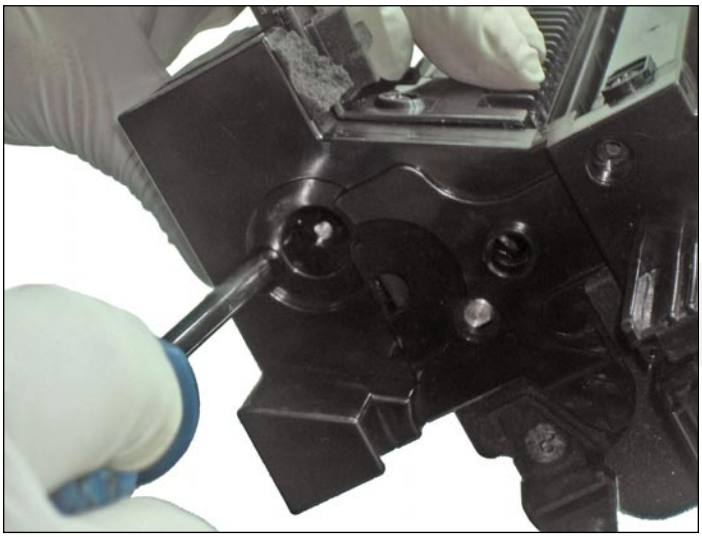
33. Install the magnetic roller protection aligning first all tabs and once all are locked, seat the opposite side to allow closing and securing with the screws.

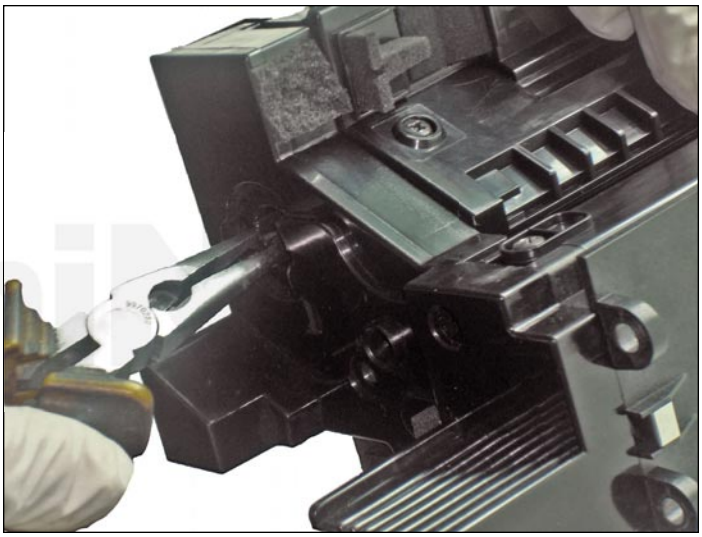
34. Now take the image section and match the mounting holes with the corresponding couplers, and with one section next to the other proceed to close one against the other until the magnetic roller seats practically against the OPC.



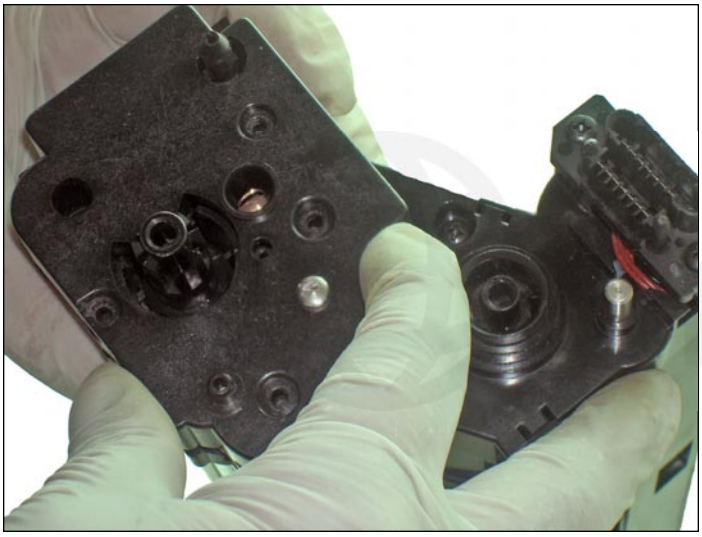


35. Fit the inside contact plate and secure with the four screws.

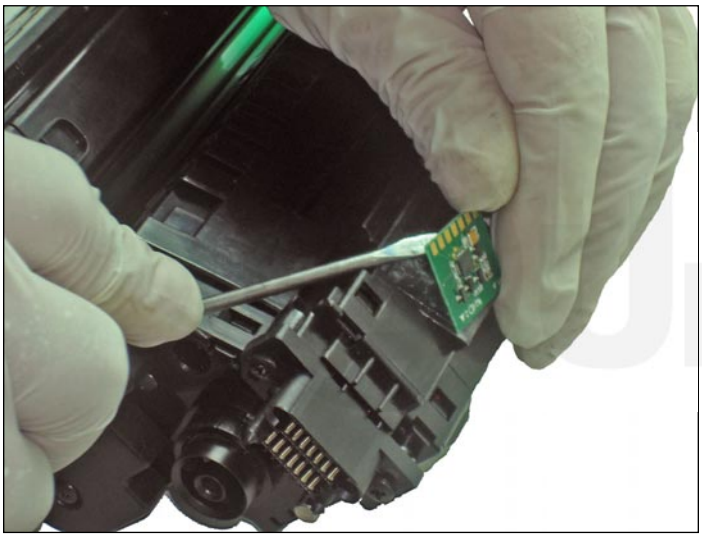




36. Now install the external front end with the two screws and mount the plastic coupling for the mixer.



37. Install the back end.



38. Install a new RF chip for use in the Xerox WorkCentre 4150.

BASIC REPETITIVE DEFECTS

PCR roller:	**44.00 mm**
OPC drum:	**94.25 mm**
Magnetic roller:	**78.54 mm**