

LEXMARK™ T640/644

TONER CARTRIDGE REMANUFACTURING INSTRUCTIONS



LEXMARK™ T640 SERIES TONER CARTRIDGE

REMANUFACTURING THE LEXMARK T640/644 TONER CARTRIDGES

By the Technical Staff at UniNet

The printer was introduced in mid 2005 and there are several models available within the series going from T640 of 30 ppm up to T644 of 50 ppm and all are capable of printing with a selectable resolution of 600/1200/1200 dpi.

The number of menus available in the printer is very large allowing for a wide range of Paper Use, Reports, Settings, Security and Help to the operator.

Such as with prior models T and Optras the PCR is not in the cartridge but inside the printer however in this specific case we must now deal with two PCRs instead of the traditional single one. The novel design from Lexmark now shows two PCRs operating in tandem and receiving polarization in parallel. Due to the physical disposition one of the PCR receives most of the possible toner from the surface of the OPC getting dirty quite rapidly. Unfortunately the wiper blades in these new models do not carry the known felt for cleaning purposes. This was found to be true in both the "starter" cartridge that was shipped with the printer as well as in new cartridges reordered.

There are three basic types of cartridges offered by Lexmark with a yield of 6,000, 21,000 and 32,000 pages at 5% coverage respectively, but only the model T644 is capable of using any of these three versions. All three cartridges inspected are identical in design, with the same toner hopper size. The only difference between the three versions is the toner load and the Anti-Recycling Chip. The waste bin in the cartridges are keyed identically in the 6K and 21K models while in the 32K model has no indent on the left side. The interlocking takes place inside the printer which defines which cartridge can be inserted, depending of the wedge position.



Dual PCR system



Single indent for 32K toner cartridge

The following table of available cartridges, published by Lexmark, clearly indicates that the printers are now regionalized or divided by world regions, and from this we see that the chips in the cartridges control the mechanics of identification. For this purpose, cartridges carry different part number for reordering:

Ref. No	Zone	Description	Yield	T640	T642	T644
64015SA	2	Devolution Program Cartridges	6000 pag.	X	X	X
64016SE	3			X	X	X
64017SR	4			X	X	X
64018SL	5			X	X	X
64015HA	2	Devolution Program H.Yield Cartridges	21000 pag	X	X	X
64016HE	3			X	X	X
64017HR	4			X	X	X
64018HL	5			X	X	X
64415XA	2	Devolution Program E.H..Yield Cartridges	32000 pag.			X
64415XE	3					X
64415XR	4					X
64415XL	5					X
64004HA	2	Devolut. Program H.Y Labels Cartridges	21000 pag	X	X	X
64004HE	3			X	X	X
64004HR	4			X	X	X
64004HL	5			X	X	X
64404XA	2	Devolut. Program Extra High Yield Labels Cart	32000 pag			X
64404XR	4					X
64404XL	5					X
64035SA	2	Low Yield Cartridges	6000 pag.	X	X	X
64035SE	3			X	X	X
64035SR	4			X	X	X
64035SL	5			X	X	X
64035HA	2	High Yield Cartridges	21000 pag	X	X	X
64035HE	3			X	X	X
64035HR	4			X	X	X
64035HL	5			X	X	X
64435XA	2	Extra High Yield Cartridges	32000 pag.			X
64435XE	3					X
64435XR	4					X
64435XL	5					X

Zones References 2= USA and Canada , 3= Europe, Middle East and Africa, 4= Far East , 5= Latin America

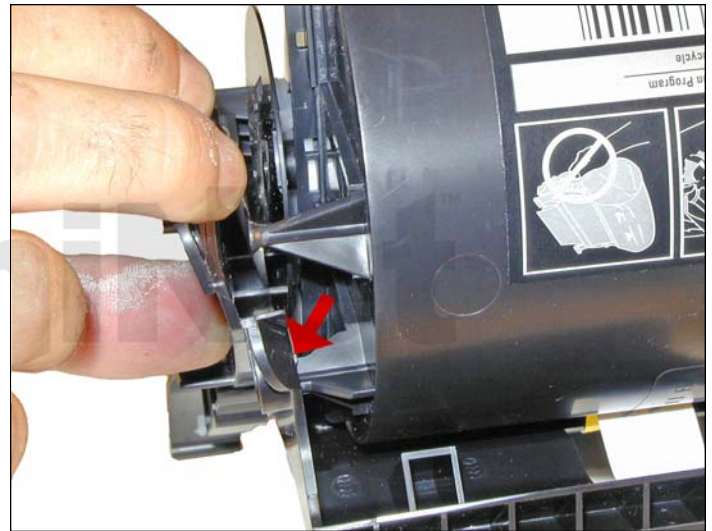
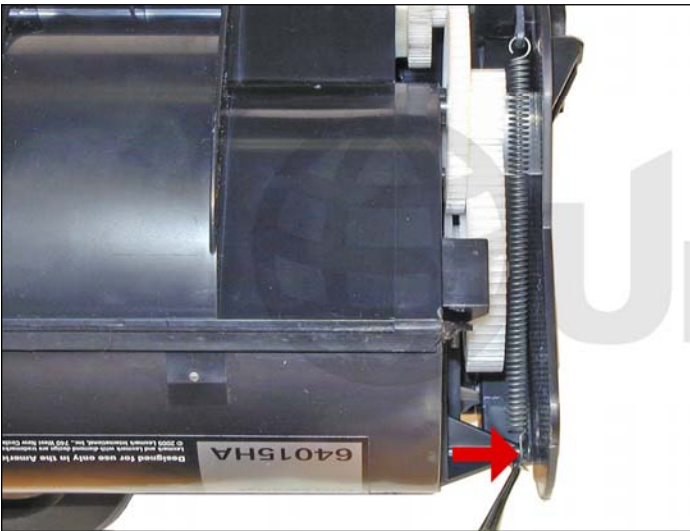
TONER CARTRIDGE

The cartridges Series T640 are quite similar to predecessors such as T630, T620,T610,etc. except for the handle and perhaps the V shaped cuts in the Waste Bin top. The shipping lock is new in design as not only engages the lateral post as with other devices but have a wedge type prongs that also helps maintaining the Developer Roller section from seating on top of the OPC drum during transit/storage. The cartridge that comes with the machine have a shipping lock of a simpler design without the mentioned wedges.

REMANUFACTURING INSTRUCTIONS

For those familiar with the remanufacturing of Optra S, T and similar models of Lexmark line, the procedure for the newer T640 series is absolutely identical with only one substantial difference related to the Doctor Bar removal/installation procedure. The doctor bar support now incorporates a no-hassle cover for the developer roller which acts as a clamp for the doctor bar, thus facilitating the access for maintenance or replacement. The doctor bar in this cartridge does not use any sealant except for a backing foam that allows it to perform a leak-proof operation without resorting to any type of caulk or putty. This will be covered in greater detail in these instructions.



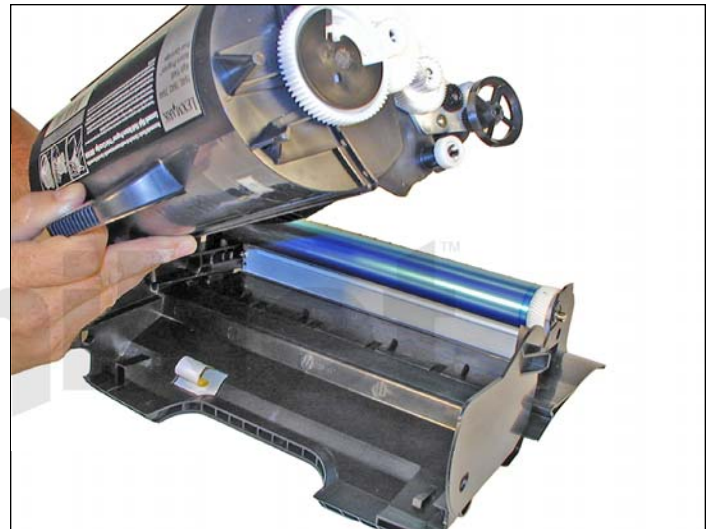


DISASSEMBLING THE CARTRIDGE

1. Start by placing the cartridge with the drum side up and the toner hopper facing you.

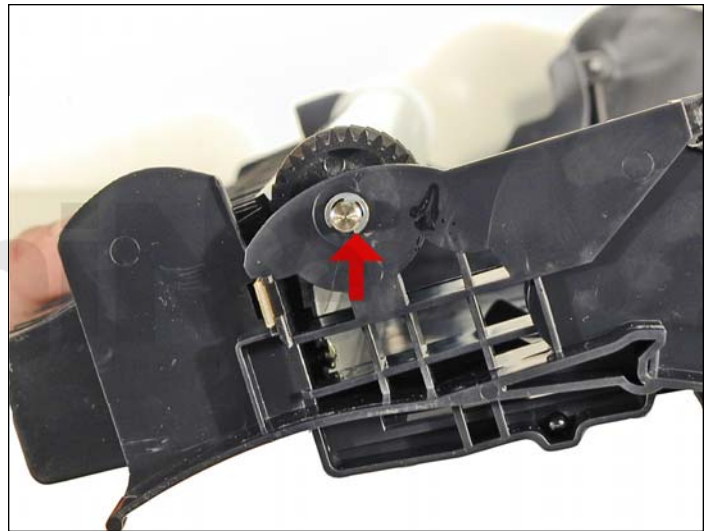
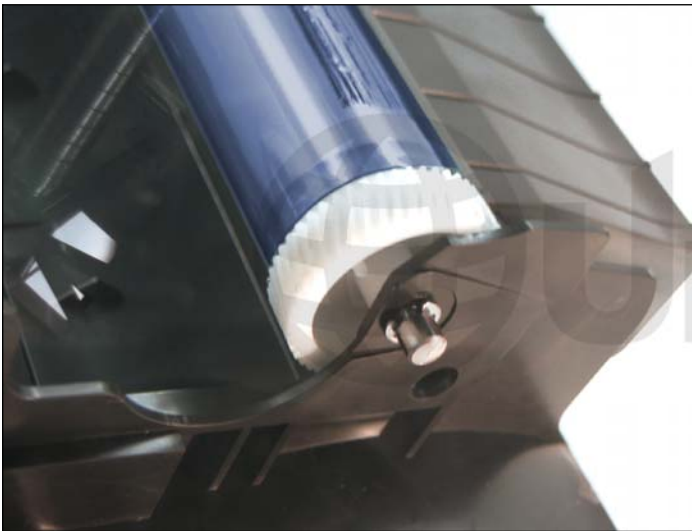
2. Open one of the lateral edges slightly to release the post engaging the toner hopper and the drum section together. Repeat with the opposite side.

Disengage the two side springs that hold the sections together using a spring hook or small pointed pliers.



3. With one hand pull the hopper section out while holding the drum section steady then repeat with the second post. Pull the hopper straight out to release the white bearings inside.

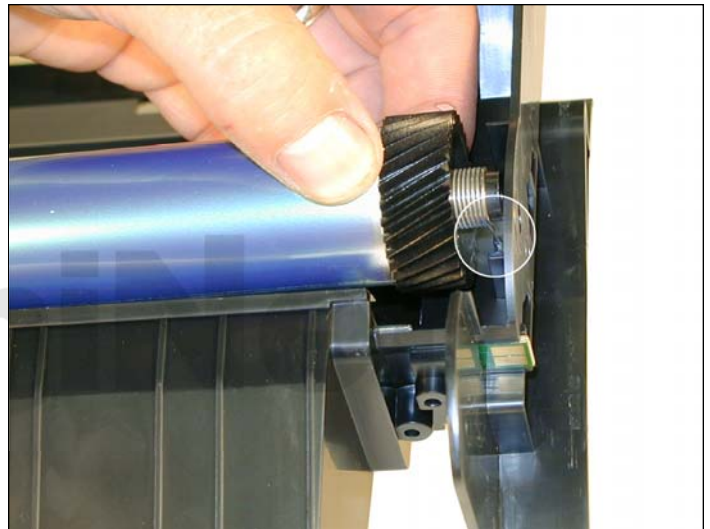
4. Drum unit with hopper section removed.



DISASSEMBLING THE DRUM UNIT

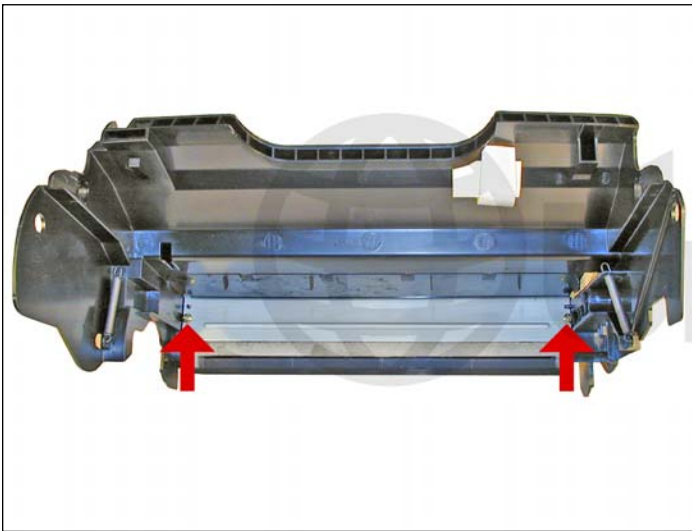
5. The drum is removed by extracting the shaft. First, using a small flathead screwdriver, release the "E" washer shown from the side where the small gear is located (gear with the internal contact).

6. Slide the shaft out by pulling it from the other end through the large helical gear shown. There is no need to release the "E" retaining washer from this end.



7. Slide the shaft out completely.

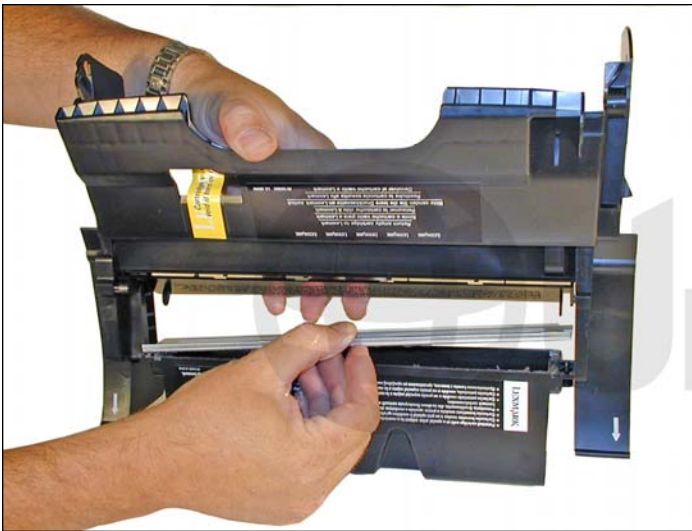
8. Holding the large helical gear, carefully lift the drum so as not to dent or damage the surface in any way. Make sure the spring on the gear (shown) is secured so it would not be lost or misplaced. Keep the drum in a dark place if it will be re-used.



9. Unscrew the two phillips screws shown at both ends of the wiper blade to remove it.

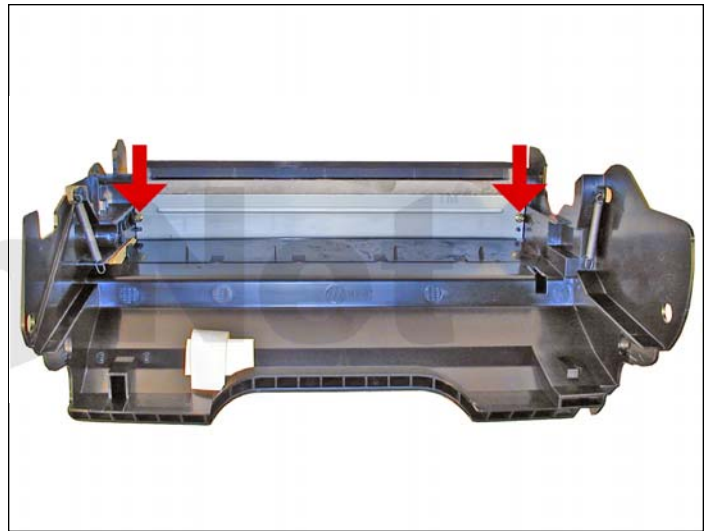
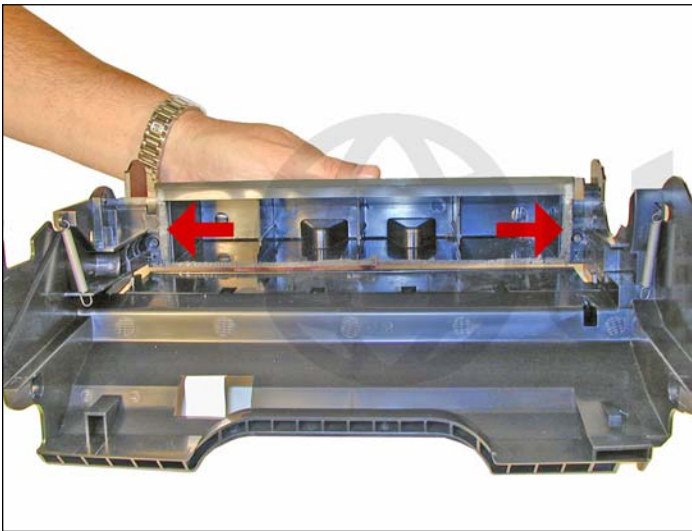


10. The wiper blade is sealed against the waste bin border by way of self adhesive foam in the back edge. This foam should be cut with a razor to release the blade from the cartridge.



11. Remove the blade by holding the laser shutter open.

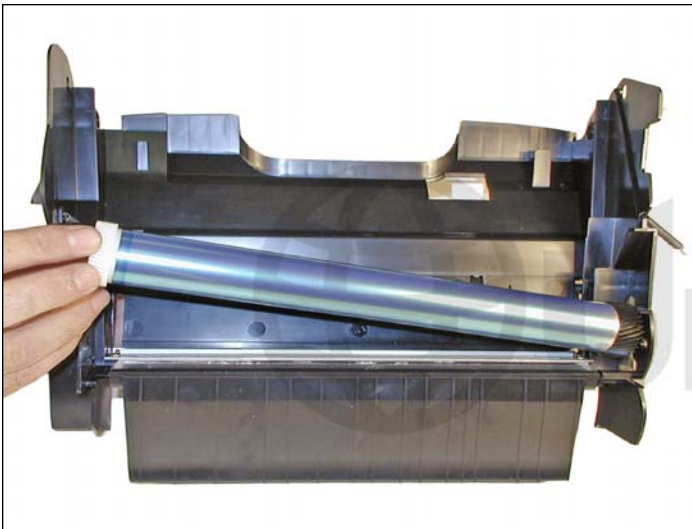
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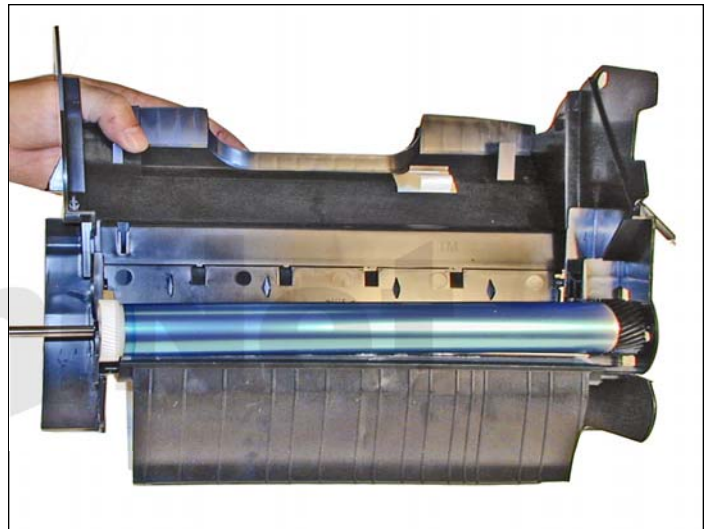
12 Vacuum the waste bin thoroughly protecting the integrity of the recovery blade.

Apply new sealing foam to the back of the support shown.

Add some lubricating powder to the working edge of the wiper blade prior to installing.



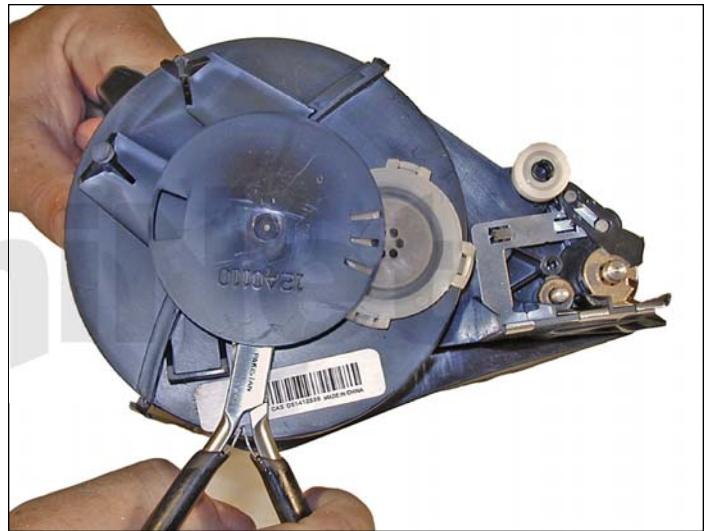
13. Place the drum in the manner shown.



14. Slide the drum axle in through the small contact gear as shown (only safe method to preserve the inside contact), aligning the holes in the structure of the cartridge and in the gear. Slide the axle all the way through the opposite gear until reaching the fixing hole in the cartridge.

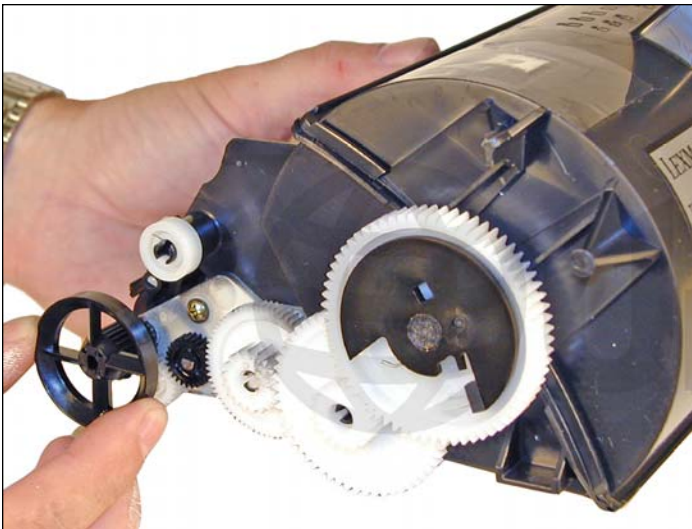


15. Insert the "E" retaining washer on the opposite end of the axle (helical side) turning the drum several times to ensure its proper seating. Put the section aside protecting the drum from the light.

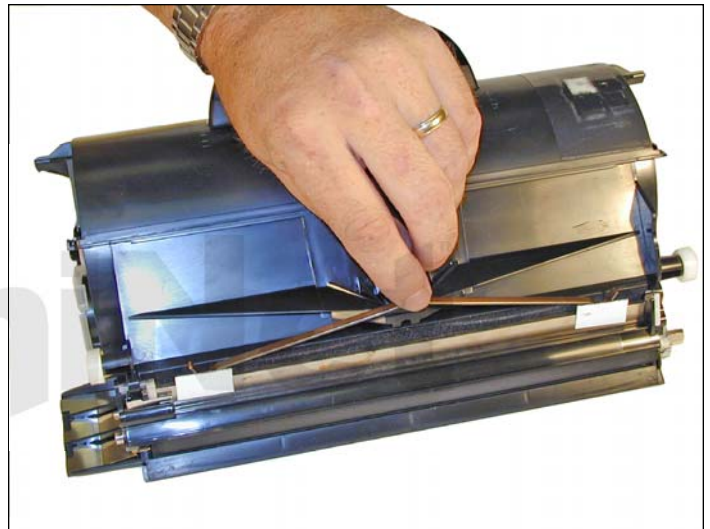


DISASSEMBLING THE HOPPER

16. Take the hopper section and inspect the encoder wheel. It has probably been heat-welded against the plastic shaft requiring certain care during its removal. Insert a pair of long nose pliers to access the shaft at the center beneath the wheel and pry it off.



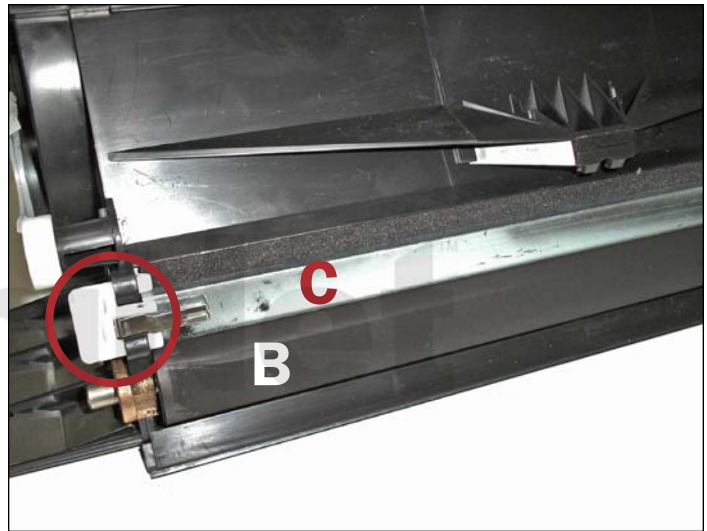
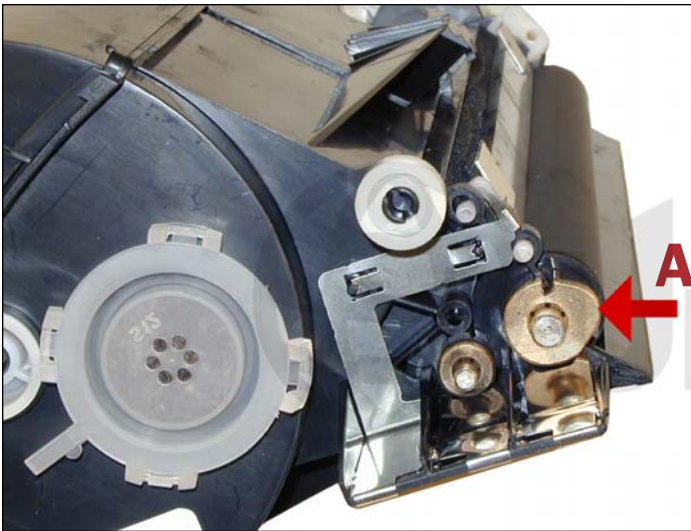
17. Extract the drive gear of the developer roller shaft.



18. Remove the spring (shown) that holds down the doctor bar by pressing it down from its center and releasing one end at a time.



19. Next, slide the developer roller protection lid (shown) to the left to disengage its pins from the holder. This lid also acts as the doctor bar clamp that not only facilitates the removal for maintenance or replacement, but combined with sealing foam, dispenses the use of caulking to obtain a leak-free operation.

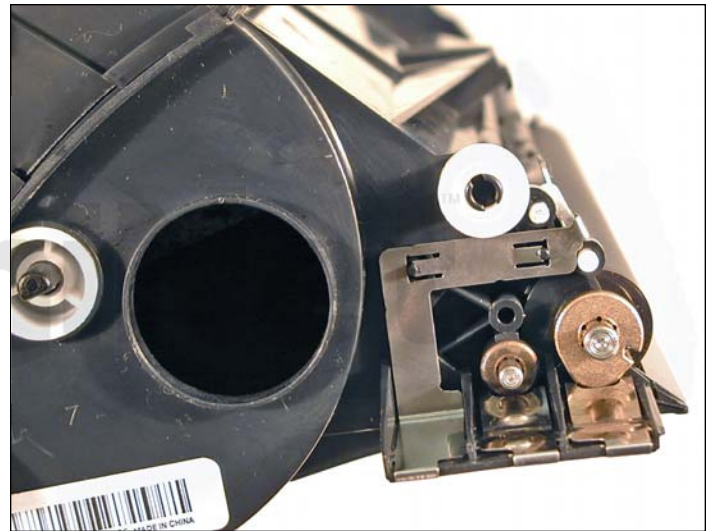


20. **A:** Remove the developer roller metal bushing by prying it up first, then off with a small screwdriver. This will release the roller.

B: Extract the developer roller observing great care not to lose or misplace the spacing washers at each end. These OEM washers are transparent but can be replaced with the white type in case of need, observing that the thickness not exceed 0.10mm. Clean the roller with dry compressed air holding it from the shaft.

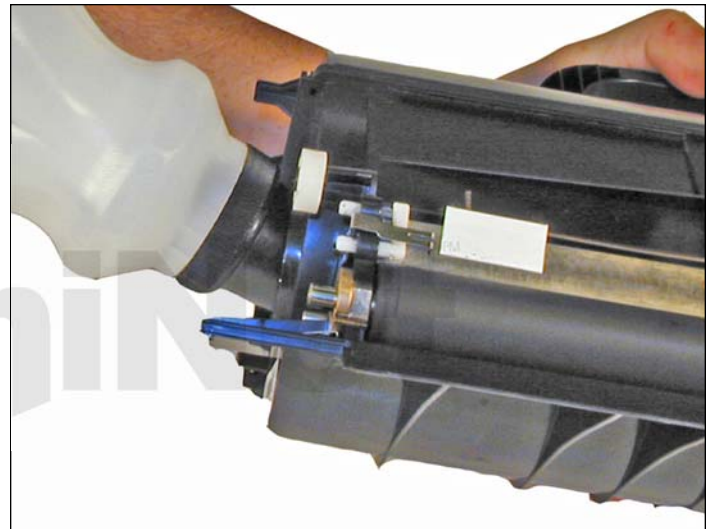
C: With the developer roller removed. Remove the doctor bar shown for inspection and or replacement. Be careful not to damage the contact shown on the left side (circled).

Inspect the sealing foam where the bar was mounted to ensure it is in good condition. Replace if worn or dented. The quality of the sealing foam will depend on a leak-free operation.



21. Remove the white fill plug from the side of the hopper by prying it open at the base using a small flathead screwdriver. Opening the breather section (top portion of plug) does not give access to the hopper. Upon opening, be careful not to damage or dent the contour of the hole and seat of the plug to prevent leakage.

Proceed to vacuum the entire hopper or clean with dry compressed air being careful not to damage the inner and outer retaining mylar blades. Any creasing or bending is an indication that the blades will leak if not replaced with new ones. Use a cotton tip swab and isopropyl alcohol to clean the seal where the developer roller sits.



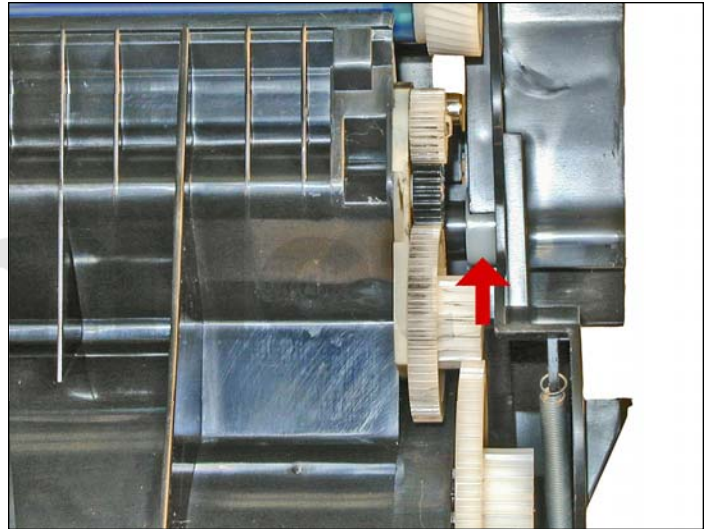
ASSEMBLING THE HOPPER

22. Proceed to install the components in reverse manner beginning with the developer roller, inserting the chamfered end first in the right, then the bushing into the other end. Move the tab of the bushing down to lock the roller in place.

Install the doctor bar in place and insert the spring that holds it down. Slide the plastic developer roller lid to engage the pins. This will maintain the doctor bar securely without any possibility of getting undone.

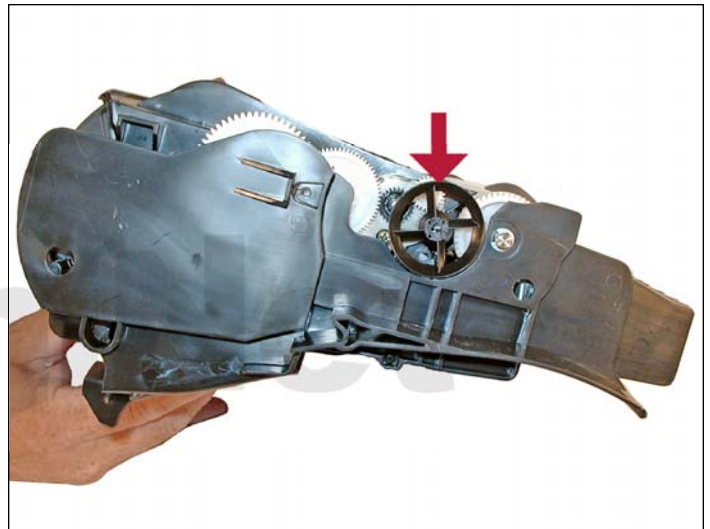
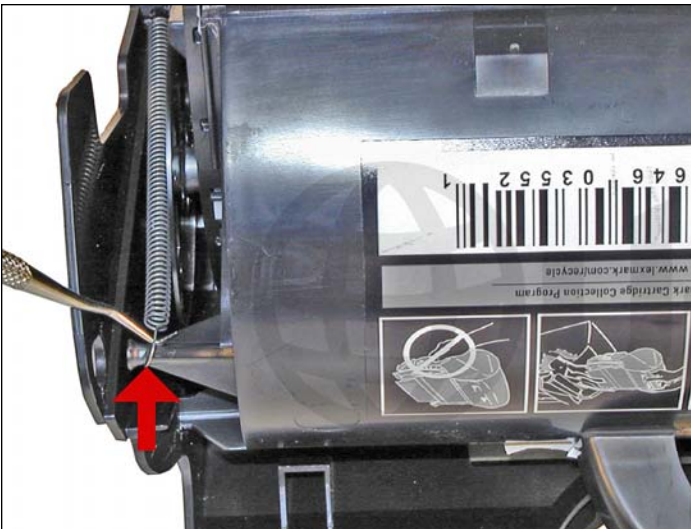
23. Fill the hopper with the adequate quantity of T644 toner which for a 21K cartridge is 630 grams and for 32K is 980 grams. There is also a cartridge available for 6K which proportionately should take some 190 grams.

Install the fill plug and the encoder wheel.



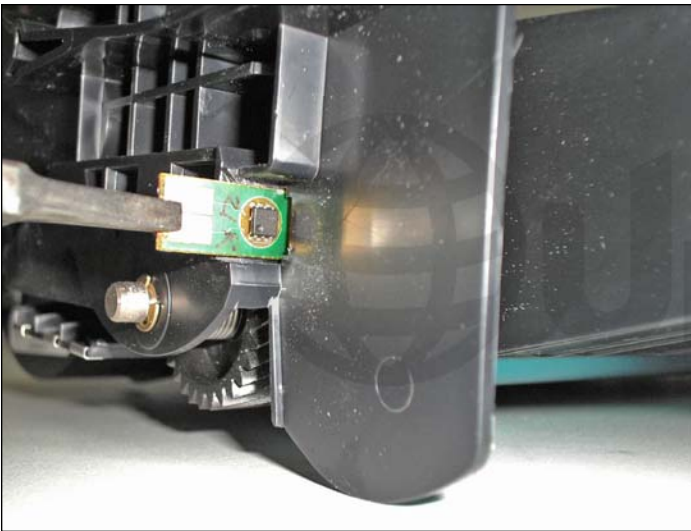
JOINING CARTRIDGE SECTIONS

24. With both the drum section and toner hopper section at hand proceed to insert first the left side of the hopper ensuring proper aligning of the post below as well as the white bearing inside. Then proceed to insert the right side caring for both the post and the other white bearing while opening the lateral of the drum section to facilitate insertion.



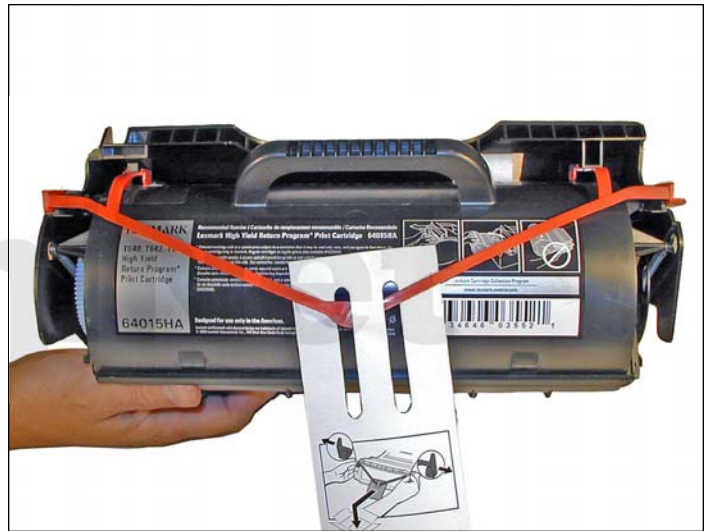
25. Finally tie the two springs, one at each side, to their respective posts and mount the drive gear to the developer roller.

The cartridge is now assembled.



CHIP REPLACEMENT

26. As it was explained at the beginning of this manual, the printer is sold regionalized and the toner cartridge that uses an Anti-Recycling Chip. It carries a part number different for each zone of the world. The new compatible chip that is to be fitted into the cartridge must correspond to such mentioned characteristics and certainly to the volume of toner that was charged. Check the table to confirm the part number applicable to your country/zone. There is nothing else, except the right compatible chip and the toner load that impedes using a 6K cartridge as 21K, since the position of the recesses in the waste bin are identical.



27. Independent of the final destination of the cartridge, whether shipping to a customer or keeping it in stock, it is highly recommended that a shipping lock be fitted to the cartridge. This will help in maintaining the needed gap between the OPC drum and the developer roller, thus preserving its integrity. Also, since the OPC drum is partially exposed, care should be observed on its protection by reusing the original foam or wrapping the area with a soft new one.