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LEXMARK T640/T644 CARTRIDGE REMANUFACTURING INSTRUCTIONS

LEXMARK OPTRA T640/T644

MONOCHROMATIC PRINTER

T644 TONER CARTRIDGE
64018SL 6K FRONT

T644 REAR

T640 CARTRIDGE FRONT

T640 GEARLESS SIDE

T640 GEAR-SIDE

T640 REAR

PRELIMINARY TECHNICAL DETAILS & CARTRIDGE REMANUFACTURING INSTRUCTIONS

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PREFACE

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 Image Q. 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 talk about two PCR instead of the traditional single one. The novel design from Lexmark now shows two PCR 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 model 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.

T640 SERIES DUAL PCR SYSTEM

There are 3 basic types of cartridges offered by Lexmark with a yield of 6000 , 21000 and 32000 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 same Toner Hopper size and all indicates that 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 21 K models while in the 32 K model has no indent on the left side. The interlocking take place inside the printer which define which cartridge can be inserted, depending of the wedge position.

SINGLE INDENT FOR 32K TONER CARTRIDGE

The table of cartridges available published by Lexmark clearly shows that the Printers are now regionalized or divided by world zones and from this we see that the Chips in the cartridges controls 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.

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DISASSEMBLING THE CARTRIDGE

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

2. Disengage the two springs holding the sections together using an spring hook or small pointed pliers.

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

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

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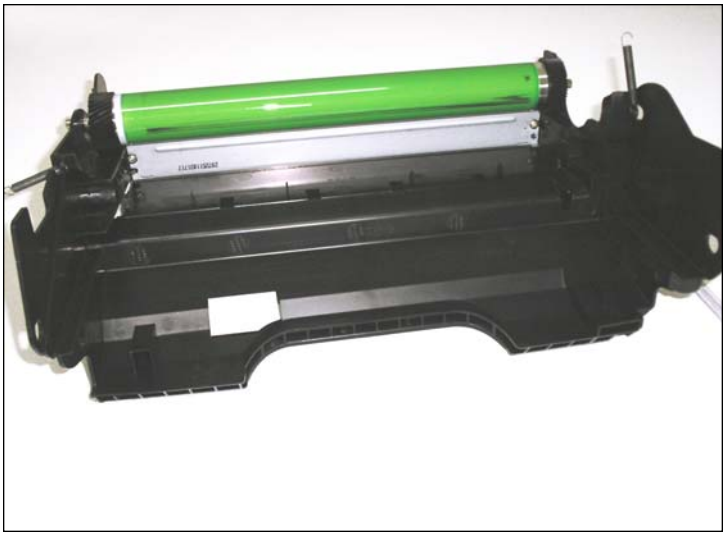
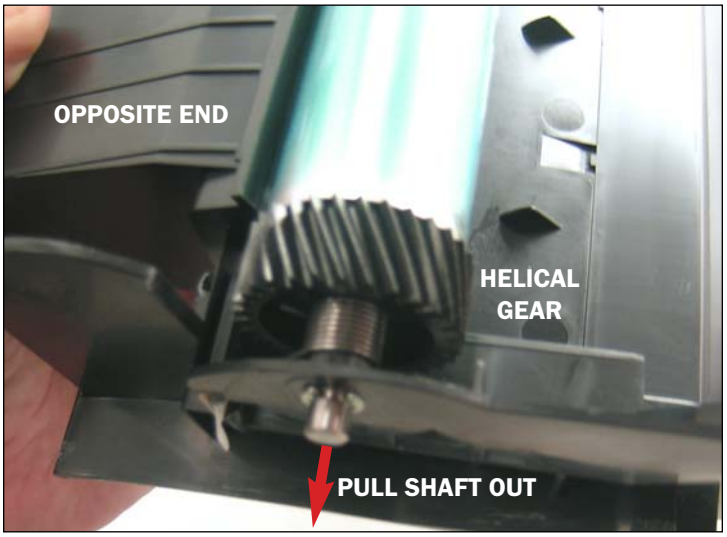


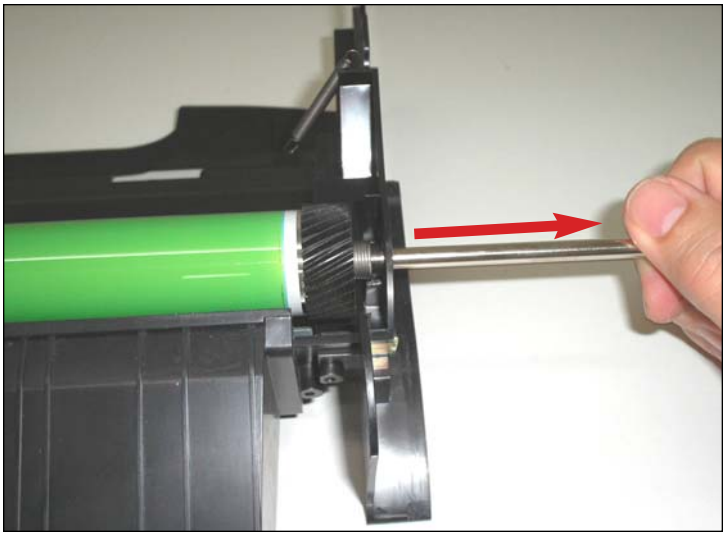
5. Drum unit with hopper section removed.

DISASSEMBLING THE DRUM UNIT

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



7. 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.



8. Slide the shaft out completely.

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9. 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.

REMOVAL AND REPLACEMENT OF THE WIPER BLADE

10. The removal of the wiper blade is done by unscrewing the two phillips screws at both ends.

11. 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 free the blade from the cartridge.

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

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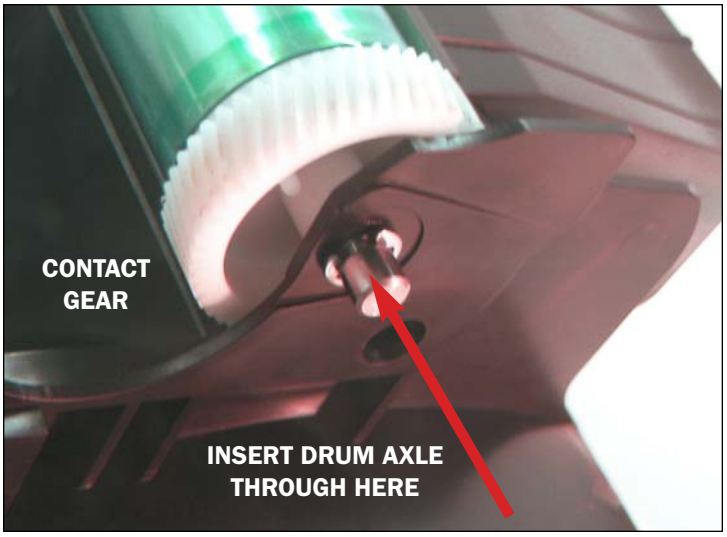
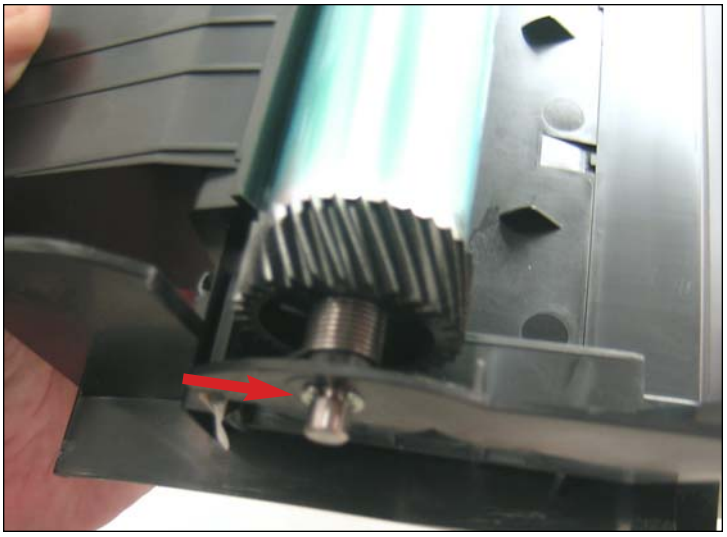
13. (a) Vacuum the inside of the waste bin protecting the integrity of the recovery Blade. (b) Apply new sealing foam to the back of the support. (c) Add some Methuselah Powder to the working edge of the wiper Blade and install in the reverse manner.

INSTALLING THE OPC DRUM

14. Take the new or used OPC drum and apply a light coat of Methuselah powder. Place the drum in position inside the cartridge with the large helical gear holding the spring to the right.



15. Insert the drum axle from the left side gear (only safe way to preserve the inside contact) aligning the holes in the structure of the cartridge and in the gear. Slide the axle all the way and passing thru the opposite gear until reaching the fixing hole in the cartridge.



16. 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.

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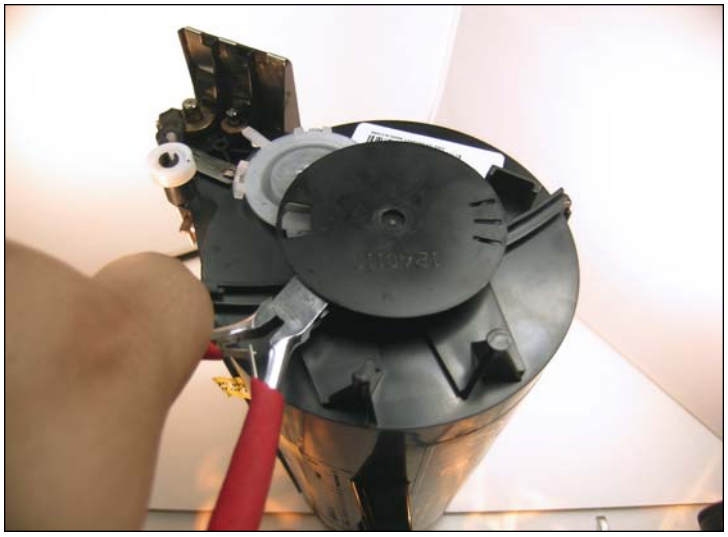
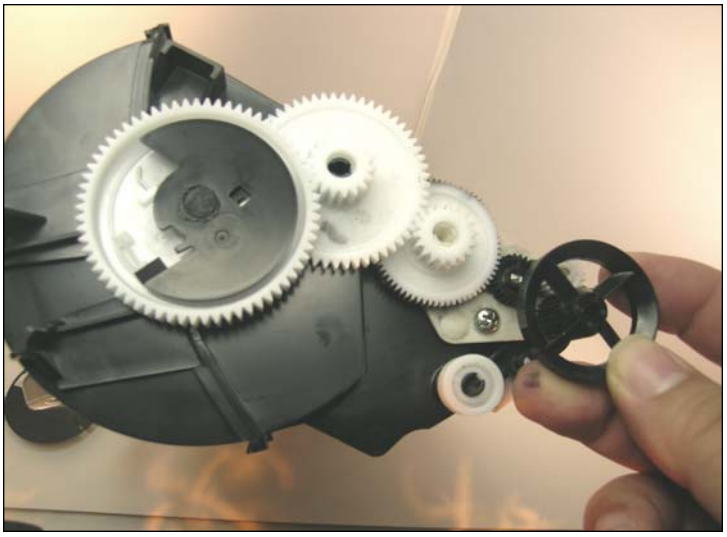


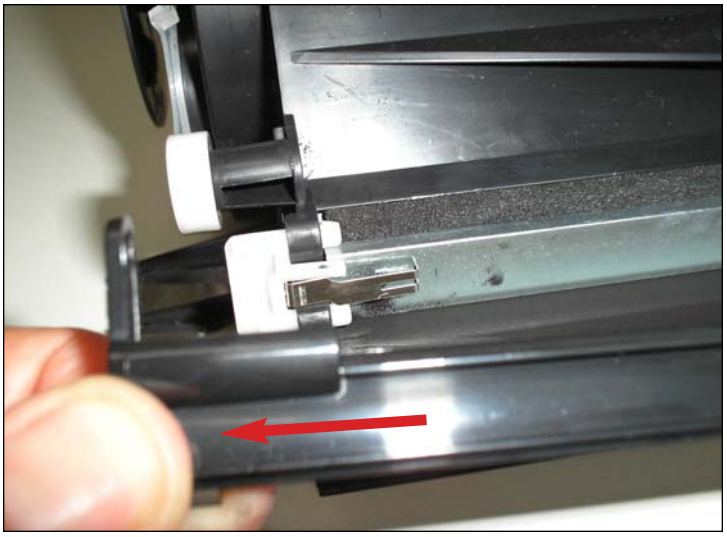
DISASSEMBLING THE HOPPER

17. 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.



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

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



20. 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.

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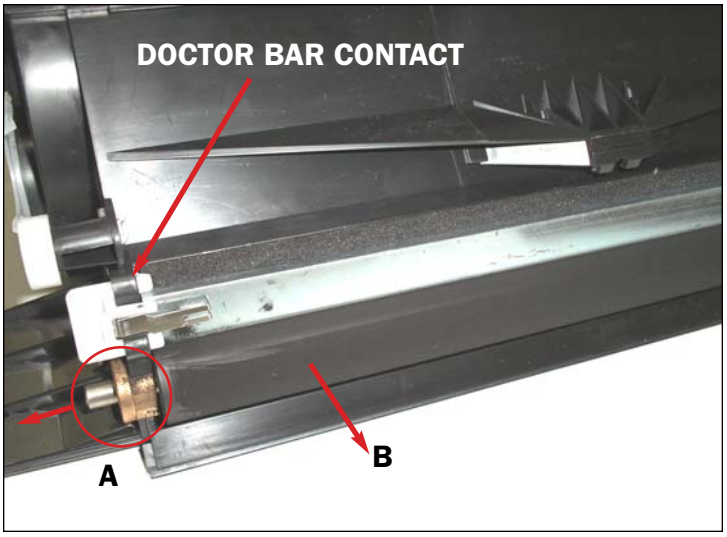

21. (a) Remove the developer roller metal bushing by prying it up first, then off with a small screwdriver. This will release the roller.

(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.

22. Remove the Doctor Bar for inspection and or replacement. Be careful not to damage the contact on the left side (shown in previous step).

23. Inspect the sealing foam where the bar is 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.

24. Remove the complete white fill plug at the side of the hopper. This is done by prying it open at the base near the border of the hole using a small flathead screwdriver. Opening the breather section (top portion of plug) does not gives access to the hopper.

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25. Upon opening, be careful not to damage or dent the contour of the hole nor the seat of the plug as it may leak.

Proceed to vacuum the entire hopper or clean with dry compressed air being careful not to damage the inner and outer retaining blades made of Mylar. Any creasing or bending is an indication that the blades will leak if not replaced with new ones.

Use a cotton tip swab and IP alcohol to clean the seal where the developer roller sits.

27. This action will maintain the doctor bar securely without any possibility of getting undone.

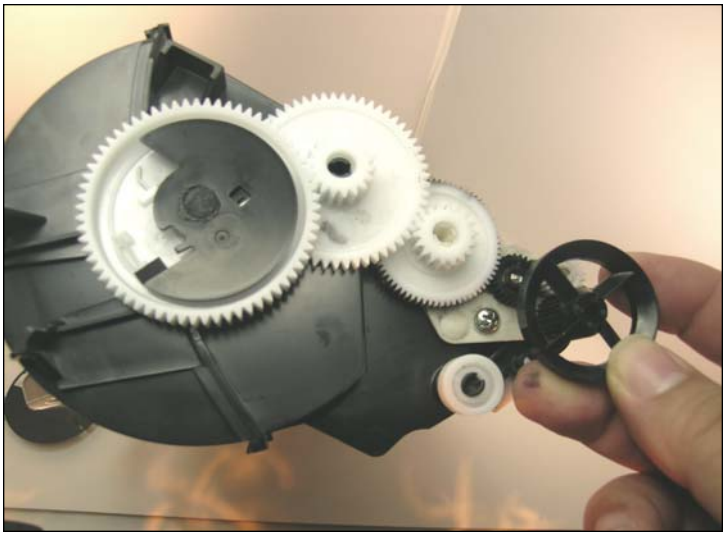
ASSEMBLING THE HOPPER

26. 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.

28. 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 BOTH SECTIONS

29. 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. Finally tie the two springs, one at each side, to its respective posts and mount the drive gear to the Developer Roller. The cartridge is now assembled.

CHIP REPLACEMENT

30. 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.

31. 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.

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