

# BROTHER® HL-1240 • 1650 • TN430 • 460 • DR400 TONER & DRUM CARTRIDGE REMANUFACTURING INSTRUCTIONS



## BROTHER® TN430 • DR400 TONER & DRUM CARTRIDGE

# REMANUFACTURING THE BROTHER HL-1240/1650 TN430/460/DR400 TONER & DRUM CARTRIDGES

By Enrique Stura and the Technical Staff at UniNet

Released in 1999 the Brother multi-platform HL-1240, HL-1250 and HL-1270N printers possess a printing speed of up to 12 ppm, true 600 x 600 dpi output, and first page printing in 14 seconds.

When compared to its predecessors HL-1040 and HL-1050, the new HL-1200 series offers no engine changes except a slightly small footprint, stylish design and some modifications to the paper trays setup, paper handling capacity, and two options of toner cartridges.

Depending on the market, the drum and toner cartridge codes for the three models can vary. For North and South America, the drum unit has a code DR400 giving some 20,000 prints while the corresponding toner cartridges carry numbers TN430 for 3,000 pages, and TN460 for 6,000 pages at 5% coverage. For other territories, the codes are DR6000 for the drum unit, TN6300 for 3,000 pages and TN6600 for 6,000 pages respectively.

The compatibility of either code is wide as these cartridges can be used in quite a number of printers, fax and multifunction equipment as follows:

**HL-1440 / HL-1450 / HL-1470N / HL-P2500 MFP**  
**Intellifax 4750 / 5750 / 8350P / 8750P**  
**MFC-2500 / MFC-8300 / MFC-8500 / MFC-8600 / MFC-8700 / MFC-8750P / MFC-8750P-NLT**  
**MFC-9600 / MFC-9650 / MFC-9650N / MFC-9660 / MFC-9660N**  
**MFC-9750 / MFC-9750LT / MFC-9850 / MFC-9870LT**  
**MFC-9970MLT / MFC-9980 / MFC-9980N**  
**MFC-P2500 / PP1630 / PPF4750 / PPF5750**

Some of the characteristics of the toner and drum cartridge are of interest. The toner cartridge carries the developer roller and the doctor blade together with the hopper. The drum unit carry the OPC drum, the transfer roller, the drum cleaning assembly (including the recovery blade) and the primary charging corona.

In all, the electrophotographic system used in the above mentioned equipment in spite of the use of corotron is of radical design as the developer roller is in direct contact with the drum such as happens with some of Lexmark Optra series and the waste bin is designed to hold a very small amount of toner.

Instead of wiper blade the cartridge uses a polarized felt to clean the drum but at the same time by means of switching polarities send captured particles of unused toner back to the drum and to the developer roller to enter the hopper again.

The following remanufacturing instructions will apply specifically to the TN430 and TN460 toner cartridge.



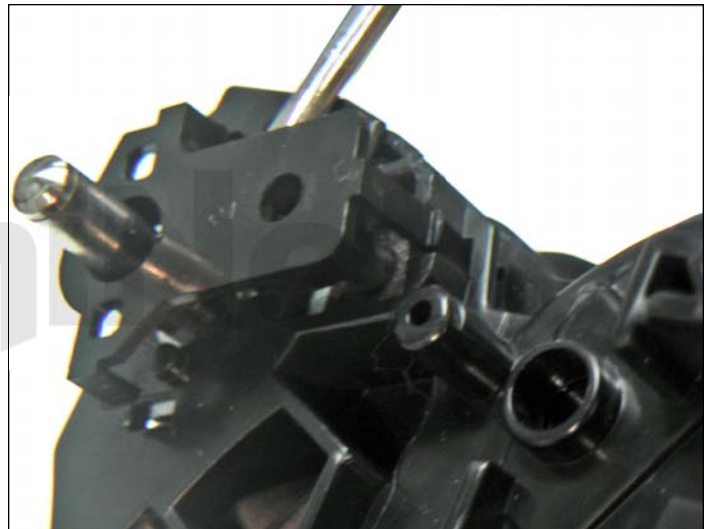
**TONER CARTRIDGE**

1. Using a small flat head screwdriver, slightly pry up the white plastic alignment hub located from the non-gear side of the developer roller and remove it.

2. **NOTE:** Be aware of the tension spring behind the white plastic hub and do not lose it.



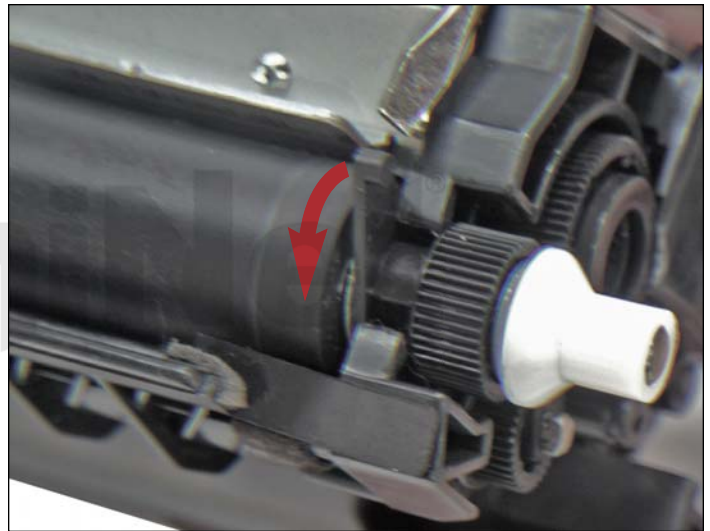
3. On the same side, and with the help of a small jewelers screwdriver, release the three clips holding the developer roller bearing plate to the toner hopper. The first clip is right below the screw holding the developer blade, the opposite clip is between the side of the roller and the casing, while the third one is accessible from outside the casing.



4. With a small flat head screwdriver, pry the bearing plate off the developer roller axle and the fixing post.



5. On the other side of the cartridge above the white plastic hub on the gear side, locate the clip that holds the developer roller bearing plate. **NOTE:** Contrary to the other bearing plate, this one is located between the developer roller and the side of the cartridge.



6. Press the clip in towards the developer roller and rotate the piece towards the front of the toner hopper, until the bearing plate is perpendicular to the roller.



7. Lift the developer roller from the hopper.

**NOTE:** Clean the roller using a clean lint-free cloth.

DO NOT USE any solvent or chemicals on the developer roller.



8. Remove the fill plug from the hopper. Discard any remaining toner from the toner hopper. Use dry compressed air or vacuum to THOROUGHLY clean out the toner hopper. Clean the developer blade using a dry lint-free cloth.

**NOTE:** DO NOT attempt to re-use any of the toner remaining in the cartridge and DO NOT complete the charge by adding new or unused toner from another old cartridge.





9. Reassemble cartridge in reverse order. Fill the cartridge with the adequate amount of new toner for use in the TN430 (110 grams/3,000 pages) or the TN460 (210 grams/6,000 pages).



10. Recap the hopper securely.



11. Insert the yellow plastic OEM or the compatible seal cover over the developer roller to protect it during transit.

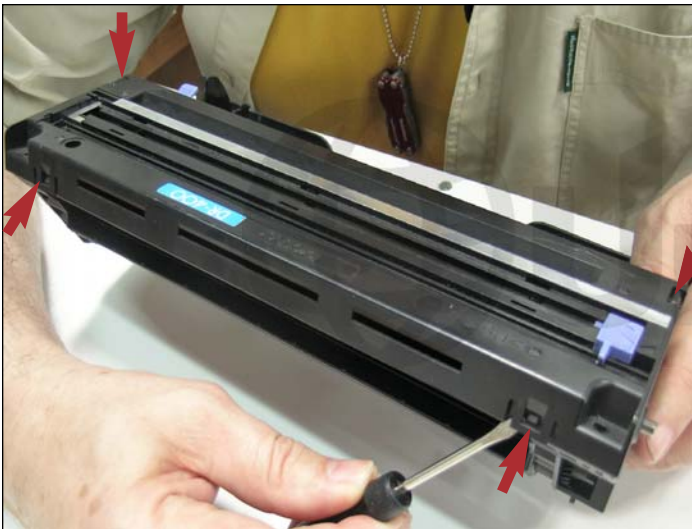
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**DRUM CARTRIDGE**



12. With a medium size Phillips screwdriver, remove the three screws that hold the corona wire assembly in place. There are two screws on the top left and right corner covers. The third one is visible through the hole near the top right corner screw. This screw secures the electrical contact of the control grid and cleaning felt.



13. Press the four tabs to remove the assembly from the top of the cartridge starting from the two behind followed by the ones on each side.



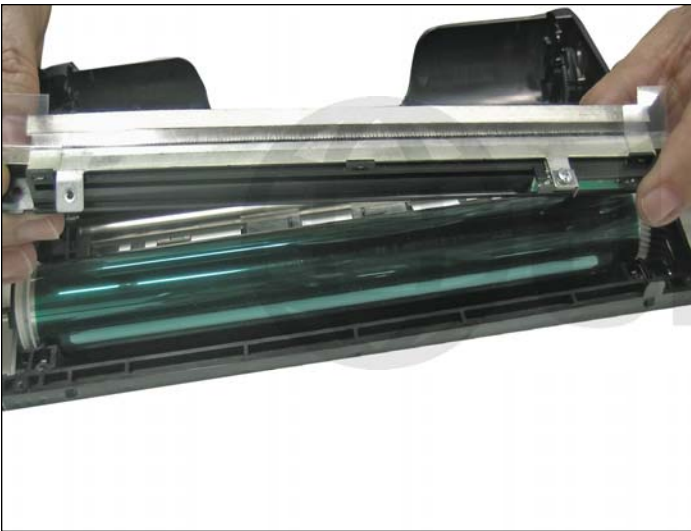
14. Clean the grid surface of any remaining toner with compressed air.



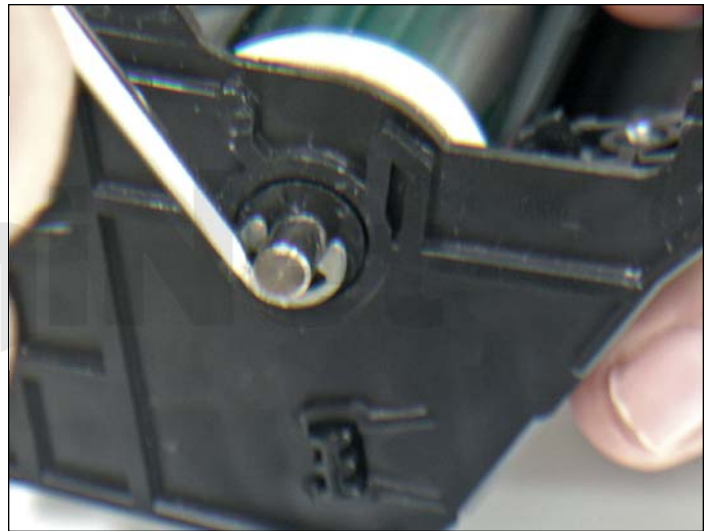
15. Finish with a dry lint-free cloth.



16. With a Phillips screwdriver remove the two screws holding the drum cleaning assembly. You will notice that it contains a cleaning felt, recovery blade and a couple of scraper blades.

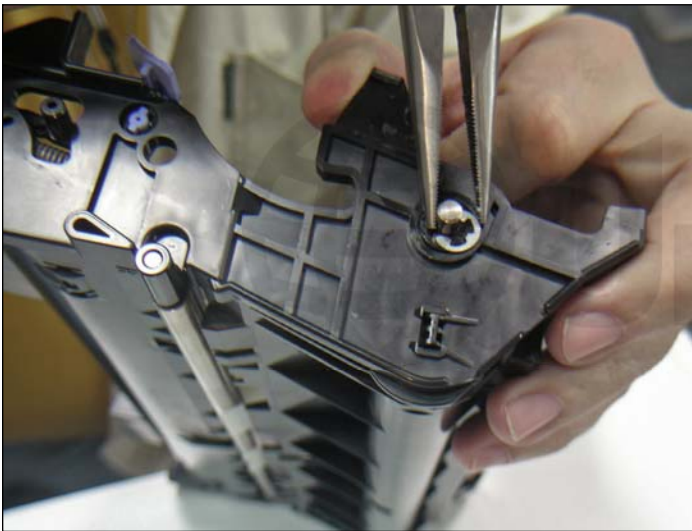


17. Remove and clean the assembly thoroughly removing all remaining old toner.

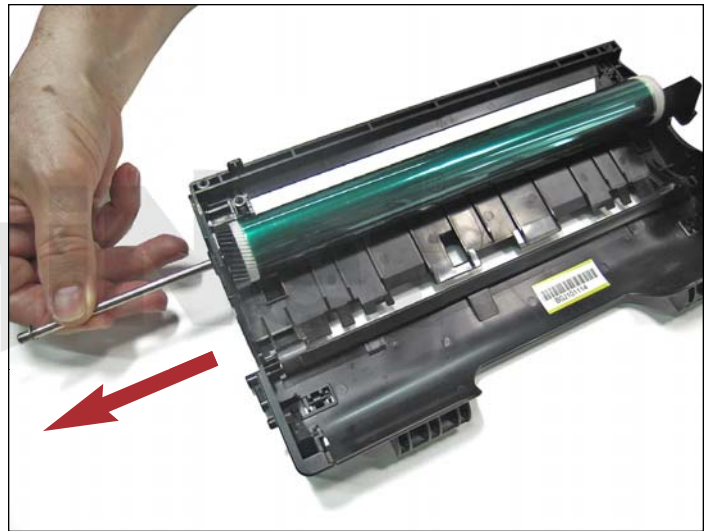


18. Remove the retaining washer from the drum axle on the left side of the cartridge.





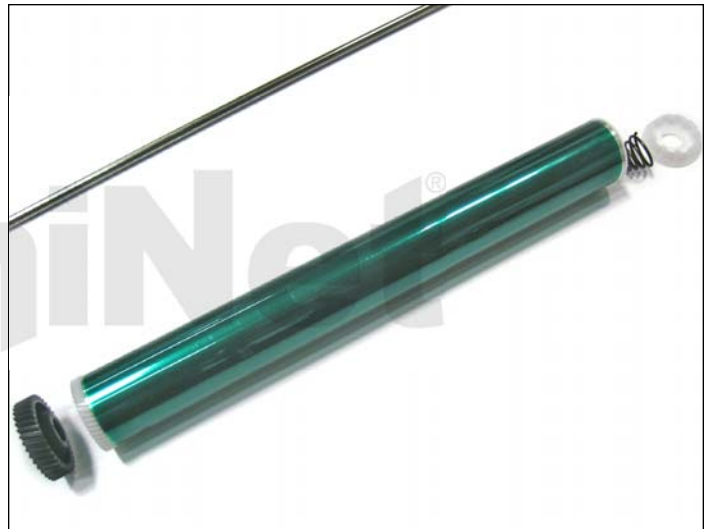
19. Pull axle out using a pair of needle-nose pliers.



20. Slide the axle away from the cartridge as shown.



21. Remove the drum. There will be a spring-loaded clutch piece at one end, and a drive gear on the other side that will come loose.



22. Do not lose these three pieces which will be needed to assemble the cartridge, even if a new drum is installed.





23. **NOTE:** There is also a plastic stabilizer bearing for the axle located on the same side of the clutch gear which must be secured.

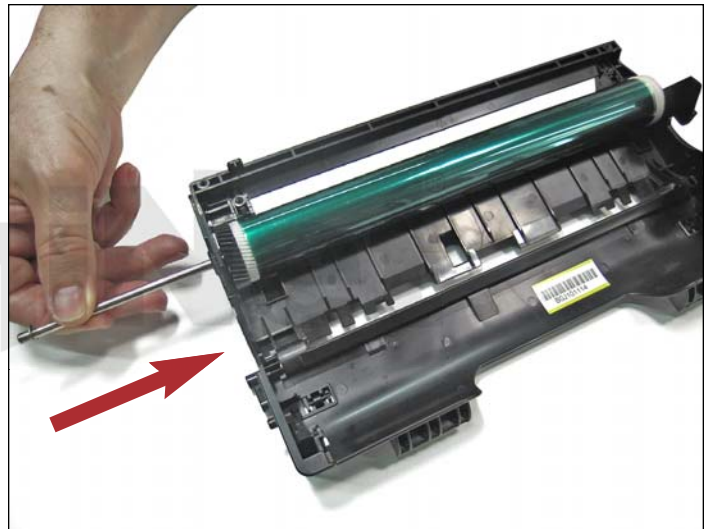


24. Remove the transfer roller from the cartridge using a pair of long nose pliers. Notice that the saddles and the helical gear will also come out. Clean the roller with compressed air or vacuum cleaner. DO NOT USE any solvent or chemicals on the transfer roller. Replace the transfer roller together with its saddles and the helical gear.



25. Replace the OPC drum by installing the clutch and spring on the right side and engage the drive gear on the left.

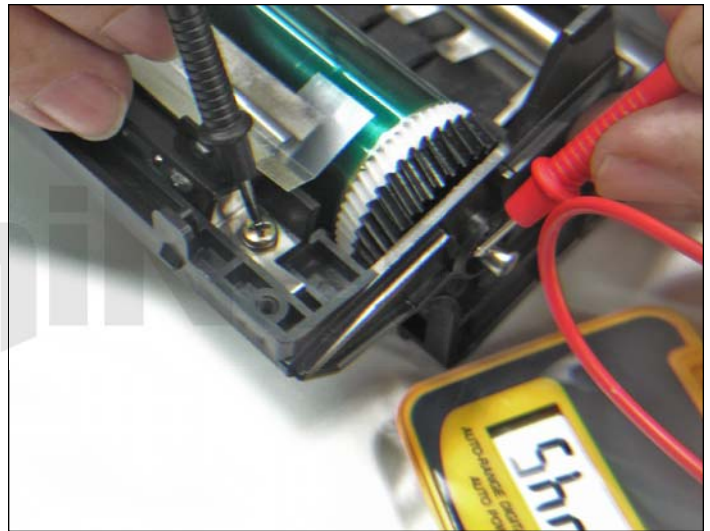
**NOTE:** Before inserting the axle, lift the spring-loaded contact wire located between the drive gear of the OPC and the side of the cartridge.



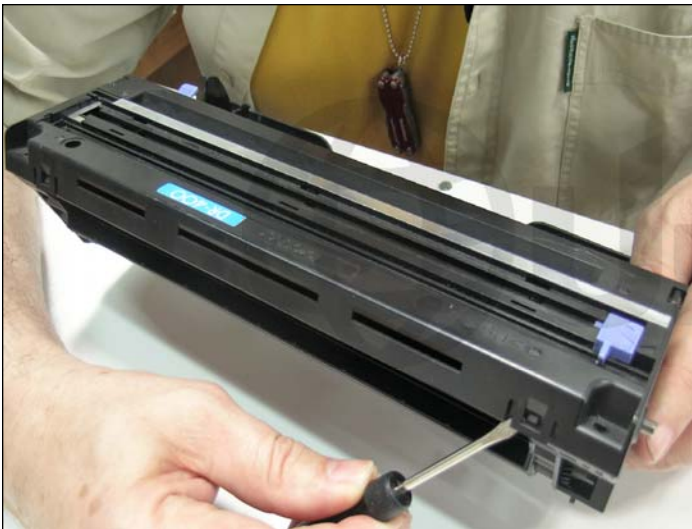
26. Slide the axle from left to right. Insert the bearing in place and the retaining washer to secure the axle in place.



27. Insert the drum cleaning assembly, and with a Phillips screwdriver, tighten the screws to secure it to the cartridge. The screw on the left will pressure the contact between the assembly and the drum axle.



28. Using a tester, check the electrical continuity between the contact of the assembly and the drum shaft.



29. Insert the lid containing the corona assembly, align the four clips, and press down to clamp it.



30. Tighten the external screws and finally, the small internal one.