

# HP® ENTERPRISE M652 MFP M681 SERIES TONER CARTRIDGE REMANUFACTURING INSTRUCTIONS



HP CF450A TONER CARTRIDGE

# REMANUFACTURING THE HP ENTERPRISE M652 MFP M681 SERIES BLACK & COLOR TONER CARTRIDGES

By Mike Josiah and the Technical Staff at UniNet

The HP M652 series of multifunction color laser printers are based on a 60 ppm black and color 1200 x 1200 dpi engine, (3600 dpi with Resolution Enhancement Technology or RET). The cartridges are an all-in-one type cartridge that consists of the toner supply, drum and waste chamber.

These machines have a new feature called HP Sure Start. Each printer now regularly checks its operating code and repairs itself from attempted hacks.

Like a few older series of HP printers, these machines also have an anti-theft feature which allows the user to lock a set of cartridges to a specific printer. According to HP this helps prevent theft. Once locked if a cartridge is moved to another machine a "Protected cartridge" message will display. This feature is also off by default on new machines.

## PRINTERS BASED ON THE M652 ENGINE

**HP Color LaserJet Enterprise M652n**  
**HP Color LaserJet Enterprise M652n**  
**HP Color LaserJet Enterprise M652dn**  
**HP Color LaserJet Enterprise M653dn**  
**HP Color LaserJet Enterprise M653x**  
**HP Color LaserJet Enterprise MFP M681dh**  
**HP Color LaserJet Enterprise MFP M681f**  
**HP Color LaserJet Enterprise Flow MFP M681f**  
**HP Color LaserJet Enterprise Flow MFP M681z**  
**HP Color LaserJet Enterprise MFP M682z**

## CARTRIDGES USED IN THE M652 ENGINE

<b>CF450A (Black)</b>	<b>655A</b>	<b>12,500 pages</b>	<b>USD\$220.99 List*</b>
<b>CF460X (Black High Yield)</b>	<b>656X</b>	<b>27,000 pages</b>	<b>USD\$342.99 List*</b>
<b>CF451A (Cyan)</b>	<b>655A</b>	<b>10,500 pages</b>	<b>USD\$274.99 List*</b>
<b>CF461X (Cyan)</b>	<b>656X</b>	<b>22,000pages</b>	<b>USD\$484.99 List*</b>
<b>CF452A (Yellow)</b>	<b>655A</b>	<b>10,500 pages</b>	<b>USD\$274.99 List*</b>
<b>CF462X (Yellow)</b>	<b>656X</b>	<b>22,000 pages</b>	<b>USD\$484.99 List*</b>
<b>CF453A (Magenta)</b>	<b>655A</b>	<b>10,500 pages</b>	<b>USD\$274.99 List*</b>
<b>CF463X (Magenta)</b>	<b>656X</b>	<b>22,000 pages</b>	<b>USD\$484.99 List*</b>
<b>P1B94A (Toner Collection Unit)</b>			

\*Pricing, in U.S. American dollars, current as of July 2017

### REQUIRED TOOLS

1. Toner approved vacuum
2. A small screwdriver (common style)
3. A Phillips head screwdriver
4. Needle nose pliers
5. Spring hook
6. Modified sprint hook/dental probe (see text)

### REQUIRED SUPPLIES

1. Toner for use in the HP M652 Series
2. New replacement chip. Make sure you have the correct color and yield!
3. New long life drum
4. New wiper blade
5. Drum cover
6. Lint free cloths
7. Conductive grease
8. Isopropyl alcohol
9. Cotton swabs



1. Remove the springs from both sides of the cartridge.

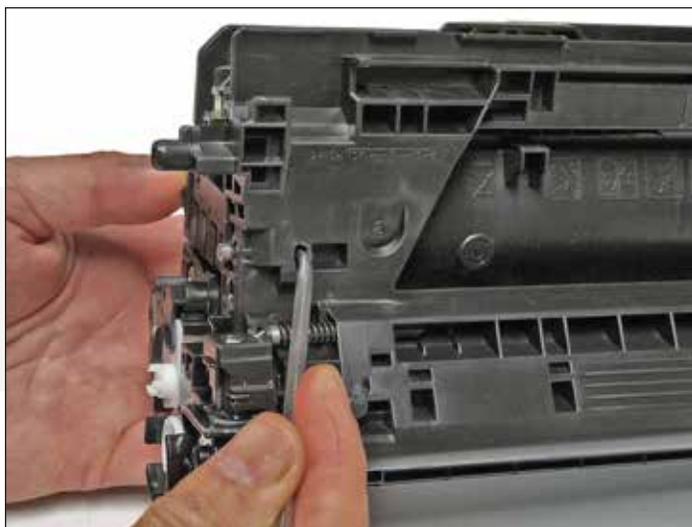
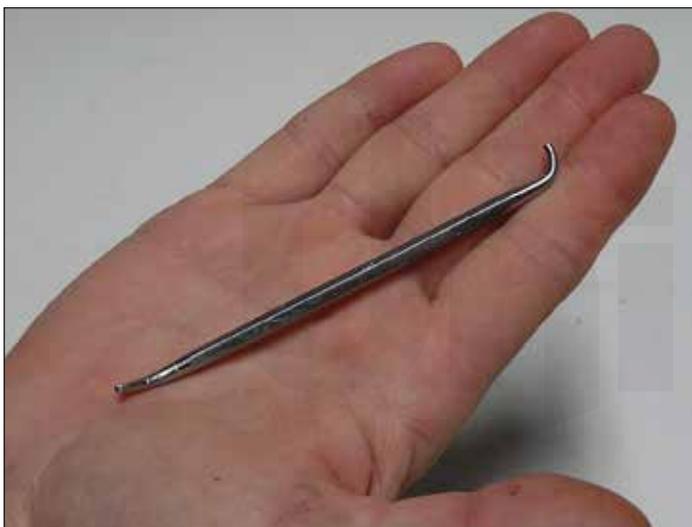


2. With a razor knife, carefully shave the plastic from the heads of the hinge pins on both sides of the cartridge.



3. Drill a small hole in the top of each side of the cartridge as shown.

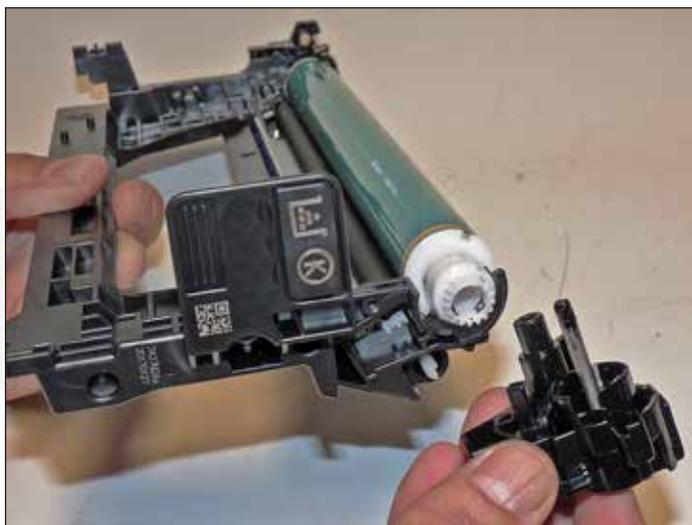
This hole will enable you to remove the pins.



4. With the modified spring hook/dental probe, insert the bent side into the hole you drilled and push the pins out from each side.



5. Lift the two halves apart.



6. On the waste chamber, remove the screw from the drum axle end cap.

Remove the end cap.

There is no need to remove the opposite side end cap.



7. Remove the drum.

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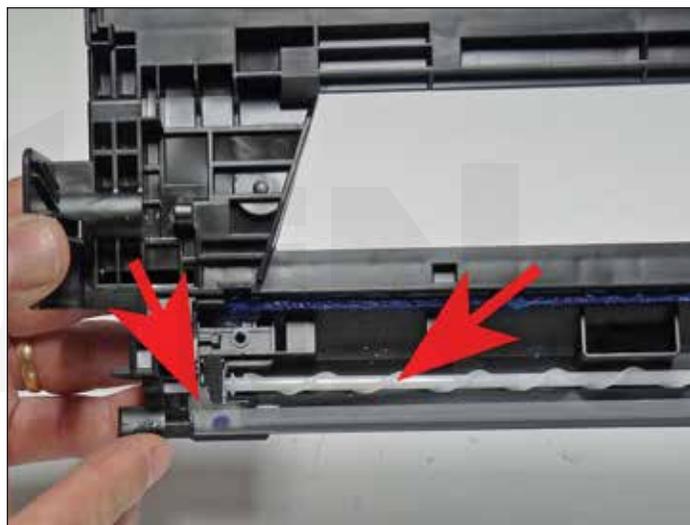
8. Remove the PCR.



9. Remove the two screws from the wiper blade.

Slide the razor knife along the back edge of the blade to release it from the glue.

Remove the wiper blade.



10. Clean out all the waste toner from the chamber. Try not to get any toner on the wiper blade seal if possible.

11. Clean the felt seals on each end of the wiper blade. If the wiper blade glue has toner on it, clean it off with alcohol and a foam swab. If it does not become sticky again, it needs to be removed and a good silicone caulk used to seal the blade off. GE 100% Silicone and Phenoseal are two good brands for this. Make sure the waste auger turns freely.



12. Install a new or cleaned, lubricated wiper blade and two screws.

If you removed the wiper blade glue, seal the back edge of the blade with the silicone now.



13. Clean the PCR with your preferred cleaner and install in the cartridge.



14. Install the drum long hub side onto the remaining end cap.

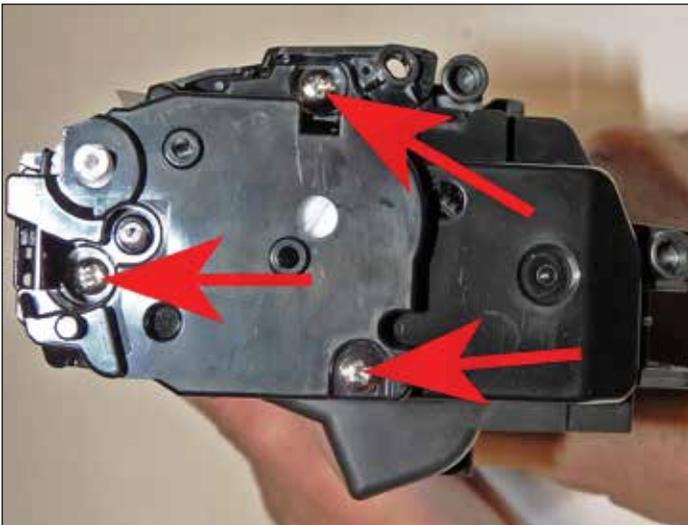
Note the new internal drive gear inside the hub.



15. Clean and replace the conductive grease on the drum axle. Install the end cap and screw.

Make sure the augers align properly.

16. Place the waste chamber aside.



17. On the supply chamber, remove the three screws from the gear side end cap.



18. Remove the inner and outer end cap together as one piece. Note that the gears stay in the end cap!



19. On the contact side, remove the two screws. Remove the small top end cap with the white gears.



20. Pry off the larger inner end cap.



21. Remove the developer roller.



22. Remove the two screws from the doctor blade. **IMPORTANT:** The **Right** (gear side) screw uses a **LEFT-HAND THREAD!** Lift the blade up and twist so that it comes free from the cartridge. **KEEP THE LEFT-HAND THREADED SCREW SEPARATE!**



23. Remove the round white felt washers from both sides of the feed roller to prevent them from being lost.



24. The clear bushing that holds the feed roller in place in previous style cartridges were removable, but in this series it is glued in place. The only way to clean and fill the supply chamber is to melt a hole in the chamber at this time.



**NOTE:** These cartridges have a self-removing seal that is not accessible from the outside of the hopper. To install a seal it looks like the hopper will have to be split. Testing is ongoing for this possibility.

25. Melt a small hole in the supply chamber. Remove all remaining toner and clean the feed roller. Make sure the edges of the hole are flat so there will not be any leaks.



26. Fill with the correct color of toner for use in the M652 series.



27. Place a sealing label over the hole to seal it off.



28. Install the feed roller felt washers.



29. Use the appropriate shims to set the gap. Install the doctor blade and two screws.

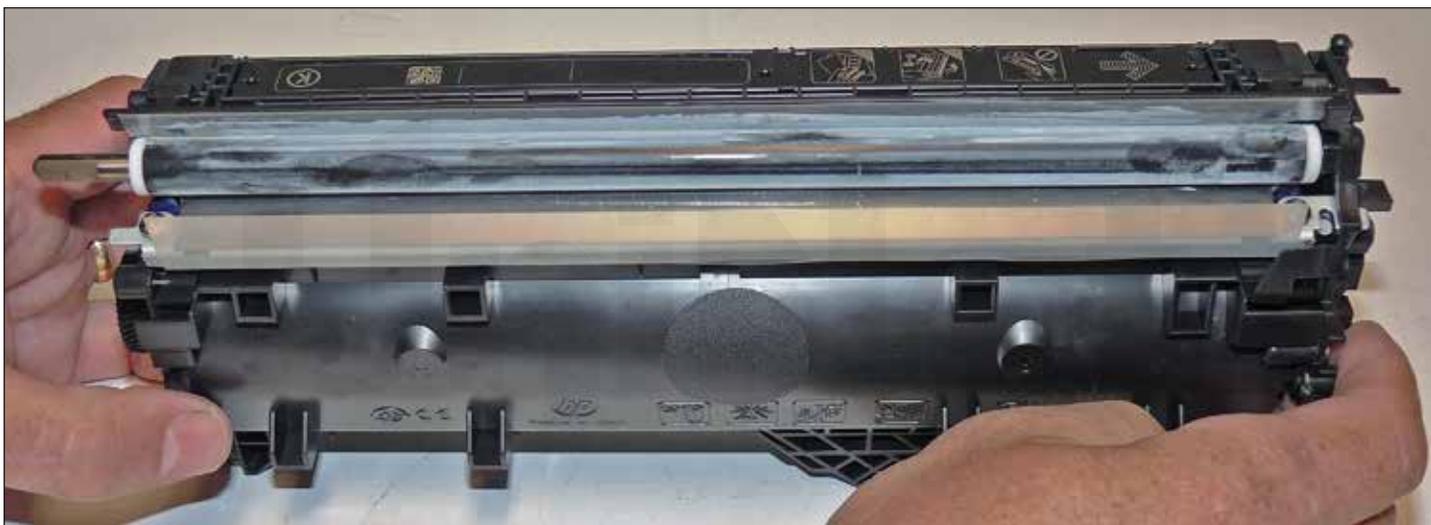
Make sure the sticky seals on either end of the blade seal correctly.

If the material is no longer sticky, clean it with alcohol or replace it with a small amount of silicon.

Make sure you use the left-handed screw on the on the right (gear side) of the blade!



30. Install the inner contact end cap and screw.



31. Install the cleaned developer roller keyed end to the gear side.

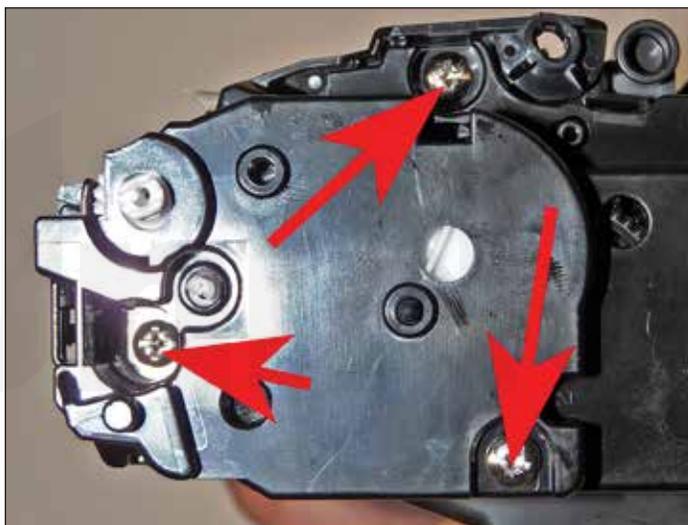
Do **NOT** use any chemicals to clean this. A lint-free cloth works fine.



32. Set the developer roller shaft and feed roller shafts as shown. Flat side up.



33. Set the gears inside the end cap so that the two drive gears for these shafts have their flat side also on top.



34. Install the gear end cap and three screws.

You might have to turn the gears slightly for the end cap to fit in place.



35. Place the base of the triple gear on the developer roller shaft and fit into the spring assembly on the small end cap.

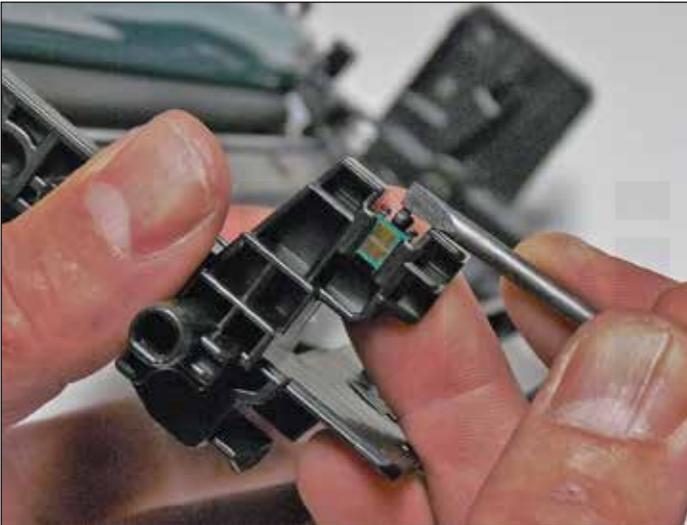
Install the end cap screw.



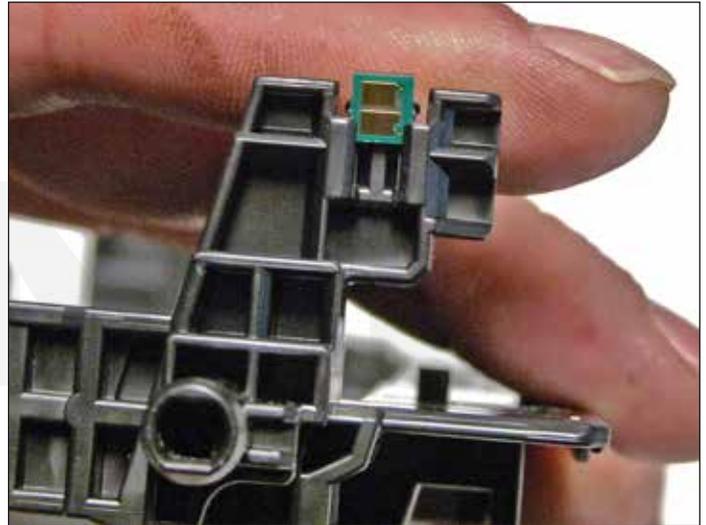
36. If the white plastic plate and spring came apart, this is how they should be.



Note that there are no metal contacts on this end cap as you would normally see. The contacts are there, but are now made of conductive plastic.



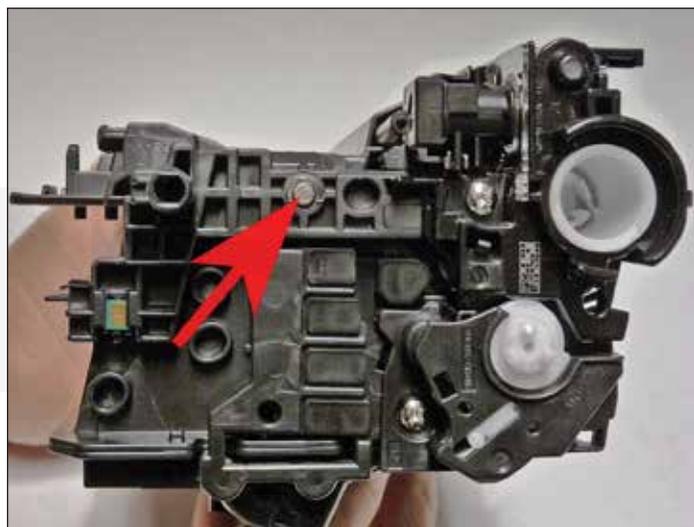
37. On the waste chamber, remove the chip by prying the locking tab back slightly.



38. Remove and replace the chip. Make sure you have the correct color chip for the cartridge color!



39. Place the two halves together.



40. Install the two pins.



41. Install the two springs.



42. Install the drum cover.

This cover is important in that it separates the drum and developer roller helping to prevent a flat spot on the developer roller.