

HP® LASERJET 1200

TONER CARTRIDGE REMANUFACTURING INSTRUCTIONS



HP 1200 TONER CARTRIDGE (C7115A)

REMANUFACTURING THE HP LASERJET 1200 TONER CARTRIDGE

By Mike Josiah and the Technical Staff at UniNet

These instructions cover the recycling of the C7115A Toner cartridge used in the HP 1200 series of laser printers. The base HP 1200 has a street price of approximately \$399.00 USD*. It is a 15 ppm, 1200 dpi engine that comes standard with 8 MB of memory. The fuser is of the "instant on" variety, and along with the new processor, allows the first page out in 10 seconds. When you consider that the HP 1200 is an 8 ppm printer, this is a huge advance for a replacement printer. OEM Stated yield is 2,500 pages.

***Pricing as of March 2001, in U.S. American Dollars.**

As with the 1100, the higher priced models have the ability to scan, copy and fax. A new feature on some of the scanner machines is the scan to email function. With this you can scan a document, it will automatically store it in a PDF format, and open your Email program. All you have to do is address it and send, saving quite a few steps from older systems.

If you test with Anacom smart boxes, they will not work with the current versions. The printer has a "hot" interface that watches both the USB port and the parallel port. This allows you to have two computers connected to it at the same time. One of them can even be a Mac computer! Unfortunately, it also seems to need specialized information from the new driver before it will accept the print job. We have been assured that new chips are being worked on for the Anacom boxes that will work for both the 1200 series, and the 4100 series (the 4100 series of printers have the same type of interface).

All in all, the HP 1200 is a very nice machine, if there is a fault, I would have to say that the outer part of the paper tray is built very cheaply. If you haven't seen it yet, the paper tray not only has a top and bottom, but also has two halves: front and back. All the paper adjustments are built into the front of the machine. The removable part of the tray is just that, a paper tray. It's a shame that HP didn't make it more durable. In our opinion, it makes the printer seem less than it is.

The C7115A cartridge looks like a small version of the 96A cartridge. Once you take it apart, it is very simple to recycle. We say "once you take it apart," because like the 96A, and 27x cartridges, there are pins holding the two halves together. Unlike those cartridges, the inside of the pin-hole is sealed off making it difficult to get the pins out. While this cartridge does not have a chip to make our lives tougher, this pin system certainly will.

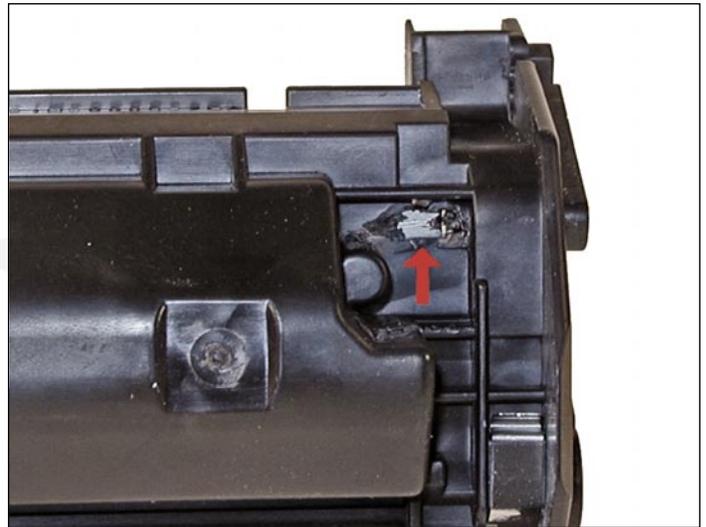
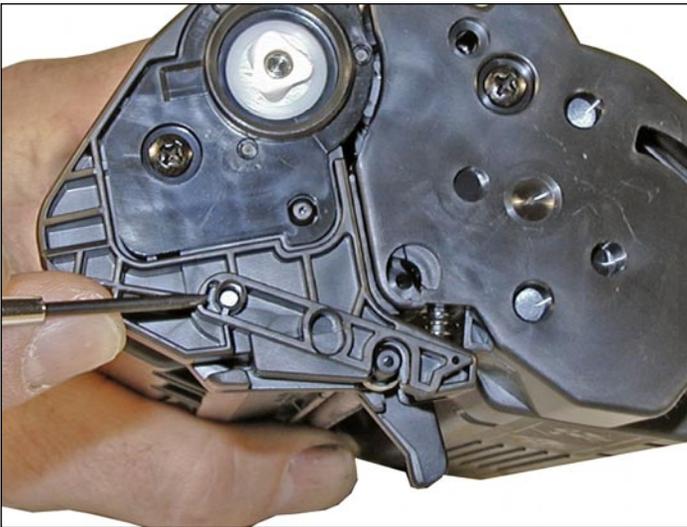
SUPPLIES REQUIRED

1. New replacement toner (190g) for use in HP 1200
2. Cotton swabs (CT-100)
3. Isopropyl alcohol (FR-8)
4. Drum Padding Powder

TOOLS REQUIRED

1. Phillips head screwdriver
2. Small common screwdriver
3. Safety goggles and breathing mask
4. Vacuum approved for toner

WARNING: Always wear safety goggles and breathing mask when working with or around toner. Do not disperse the toner into the air. Use approved toner vacuums and filters at all times.



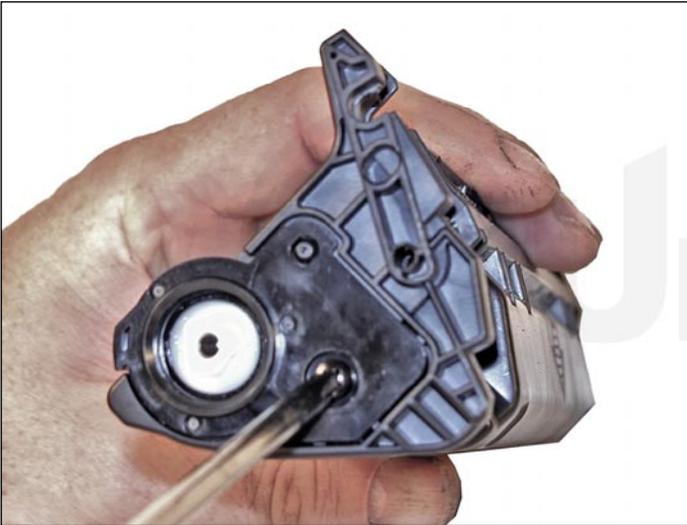
1. So far we have found two ways to remove the pins in these cartridges. Both involve some destruction of the cartridge shell. We will keep you posted on any new developments on the pin removal procedure.

Method 1: Carefully knock the pins in. This will cause at least some damage, which will be very difficult to control until you get a feel for it. Try to push the pins in just far enough so that the two halves come apart. If you push them in too far, the outside of the shell will break open, and possibly the PCR holder will also be damaged.



Method 2: Drill a shallow hole on each side of the cartridge as shown. Push the pins out with an allen wrench. Although this method also causes damage, you control how much there will be. This method is also safer for the PCR holder.

Regardless of which method you choose, the holes should be sealed up with black silicon.



2. Remove the drum end-cap and screw.



3. Remove the drum. Note the curved plastic piece around the drum. Because of this piece, the drum cannot be removed before the two halves are separated.



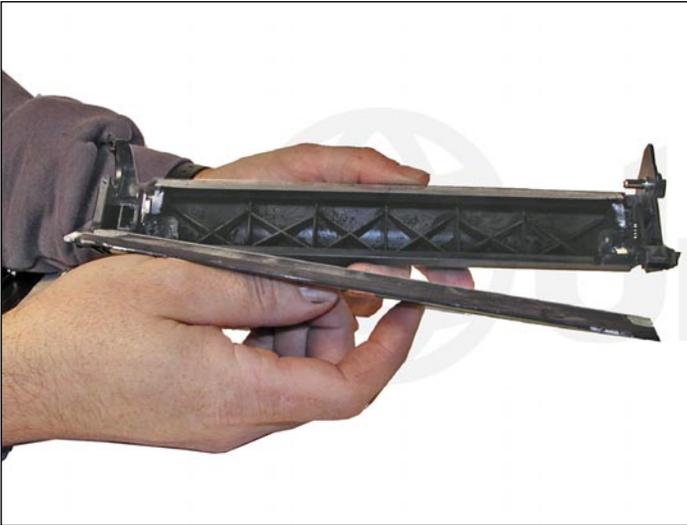
4. Remove the PCR and clean with your standard PCR cleaner.

We have been using Nu-Finish for years with out any problems.



5. Remove the wiper blade.

The blade is the same as used in the AX engine.



6. Clean out the waste toner. Re-install the wiper blade, PCR, drum, and end cap. In our testing, the above items will last another cycle, however, due to the speed that these cartridges run at, we recommend that at bare minimum, the wiper blade be replaced.

DRUM GEAR CHANGE

UPDATE: If you are replacing the drum, the gears will need to be changed over from the OEM to the new. There are two methods of removing the gears from OPC drums. The first and easiest method is to place the drum in a metal vice approximately 2" back from the gear, and slowly tighten the vice. The gear should pop out easily. This is the only method you can use on the OPC drums, which have a weighted slug in the center. If you use this method go on to **step #3**. The other method is as follows:

REQUIRED TOOLS AND MATERIALS:

1. A 1/4" x 15" metal rod
2. A 1" x 15" wooden dowel
3. A tube of super glue
4. A small piece of emery cloth or sand paper

Step #1: Removal of the drive gear

The drive gear is the gear that has no metal electrical contacts in it. These gears are usually larger than the contact gear.

- A. Carefully insert the 1/4" metal rod into the center of the gear that has the contacts, or the contact gear.
- B. Angle the rod so that the rod presses against the edge of the opposite gear.

The rod should be touching both the inside of the OPC Drum and the edge of the gear.

- C. Tap the end of the rod with a hammer, working the rod around the entire edge of the gear, until the gear comes loose.

NOTE: Gently heating the ends of the drum with a hair dryer or heat gun on low may cause the glue to soften and ease in the removal process. Just be careful not to use too much heat and melt the gear!

Step #2: Removal of the "contact" gear

- A. Insert the 1" wooden Dowel into the gearless end of the drum.
 - B. Tap the dowel with a hammer until the gear comes loose.
- works much better.

Step #3: Removal of any old adhesive from the gears, straightening out any damage done to the contact gears' metal contacts.

A. Removing the adhesive can be done with a small sharp common screwdriver. The glue comes off easily.

Step #4: Install the gears on the new replacement drum

A. Inspect the metal contacts on the contact gear.

Make sure that the contacts will make proper contact with the inside of the OPC drum.

B. Locate the side of the drum on which you are going to place the contact gear. On some OPC drums, this is critical. See individual instructions for more information.

C. Lightly sand the INSIDE of the OPC where the metal parts of the contact gear will meet. This will insure a good electrical contact.

D. "Dry fit" the contact gear in the OPC drum and check for a good contact with an Ohmmeter. The reading should be a direct short, or no more than 1 or 2 Ohms.

NOTE: When checking the contact, place one lead on the drum axle contact and the other on the edge of the drum. This way, you will not have to pierce the coating that is on the OPC surface.

Radio Shack carries cheap Ohmmeters for less than \$10.00 USD.

The sales people will normally be glad to show you how to use it.

E. Using the super glue, place a few (3-4) small drops of glue strategically around the inside edge of the OPC drum. Make sure you leave a blank area for the metal contacts!

F. Insert the contact gear.

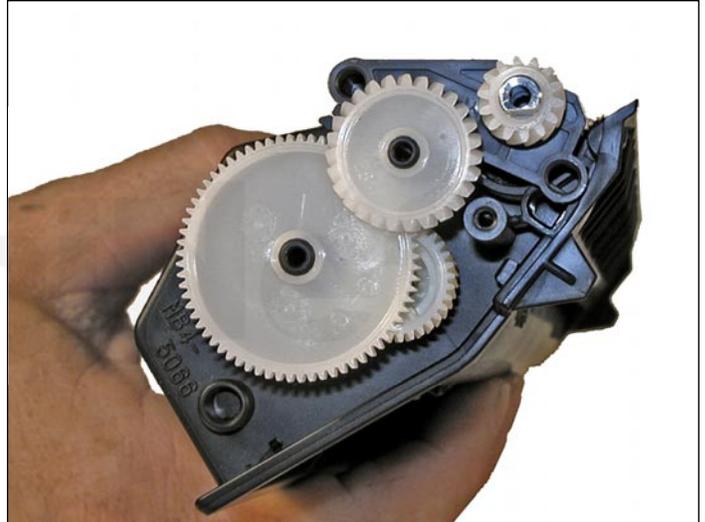
G. Check for continuity again with the Ohmmeter.

H. Repeat steps E and F for the drive gear.

NOTE: Be very careful not to place the metal contacts in direct contact with the glue, as this will interfere with the proper grounding of the drum, and the cartridge will not print properly, (solid black pages). It is also very important to NOT put any glue on the gear as the chances of it dripping out onto the drum surface and ruining it are high. Placing the glue inside the drum tube works much better.

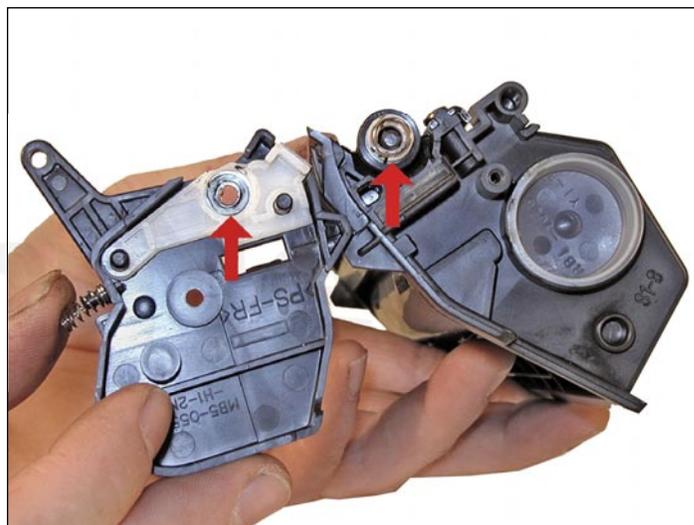


7. Remove the toner hopper end cap on the right side.



8. Remove the white gears shown.

These gears are loose and will fall off if not removed.



9. Remove the left side end cap.

This is the side that houses the magnetic roller contacts.

Clean both with a cotton swab and alcohol.



10. Remove the magnetic roller.



11. Remove the doctor blade. The HP 1200 doctor blade is almost identical to the AX except it is approx. 1/16" longer. Because of this a new blade is being developed.



12. Once a seal becomes available, it should be placed on top of the silver areas shown. The seal tab fits through the right side of the cartridge (fill plug side).



Shown are both the seal exit-slot and the fill plug.



Shown here is a close up of the seal exit slot. Note that it has a rubber gasket that seals off the opening. This is a unique feature of this cartridge. Be careful not to tear the gasket when installing a seal!



13. Fill through the magnetic roller opening with 190 grams of new replacement toner for use in HP 1200. You can fill through the fill hole, but until there is a seal available, you must hold the mag roller assembly in place (a tricky thing to do).

Re-assemble the toner hopper section. Install the left side first. Align the keyed magnet into the keyed slot.

Fill or patch any holes in the waste chamber with black silicon. If black is not available in your area, clear is fine, just make sure it is the type that stays flexible.

TROUBLESHOOTING

Backgrounding (gray streaks):

This is usually caused by a dirty/worn out PCR, or a worn out wiper blade.

Light Print:

Can be caused by a dirty or worn magnetic roller or doctor blade.

Solid Black Pages:

Bad drum ground contact, probably from the drum axle shaft to the contact gear inside the drum.

Perfectly straight thin black lines down the page:

Scratched drum.

Black dots that repeat every three inches:

Bad drum, or something is stuck to the drum surface.

Dark black Horizontal lines:

This is usually caused by a bad PCR connection, a pin-hole in the PCR, or a pin-hole in the drum.

These lines normally run about 1/8" thick and can show as few as four times per page and as many as 12 times per page.

"Tire Tracks" on the right edge of the page:

Caused by a worn out drum. Tire tracks are a vertical shaded area with lines in it that look like tire tread marks.