Rемanufacturing the HP® 4200/4300

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HP 4200 & 4300

These two models are HP’s latest entry into “The more the merrier!” Replacing the 4100 with a 35 ppm printer, the 4200 has loads of features. Available in five different base models (4200, 4200n, 4200tn, 4200dm, 4200dtns & 4200dtnsl). Base price (HP’s web site) is $1000.00 & tops out at $2325.00 for the DTNSL version. The big brother to the 4200, the 4300 is rated at 45 ppm, with the base price at $1400.00 & climbing to (The same five extensions) $2755.00 all dressed!

For those interested, or unfamiliar with HP’s letter extensions, here’s a list of the above:

N = Network ready w/16mb extra memory.
T = Additional 500 sheet input paper tray.
D = Auto duplex system.
S = 500 sheet stacker.
L = 500 sheet stacker w/stapler.

The print cartridges (excuse me, the Smart Print Cartridges) are rated at 12,000 copies for the 4200 (HP part number Q1338A) & 18,000 for the 4300 (Q1339A). Speaking of Smart Print, like the 4100 before, these cartridges can be recycled and installed without the chip. That was the good news, the bad news is, the two cartridges are not interchangeable. The parts, mag, blades, drums and so on, are being tested at the time of this printing. The method to remanufacture the two cartridges is identical.

There is a simple reset to bypass the error message, follow the instructions on the display, basically this is a series of “checks” or agreements that you understand the cartridge is a non-HP cartridge. As with the 4100, the printer will not report when it’s low on toner. And again like the 4100, I have not heard a lot of complaints about this loss of features, one of which is, the printer will disable economode.

The rated duty cycles from HP are 200,000 maximum copies per month, for the 4300 & 150,000 maximum copies per month, for the 4200.

**Tools**

- #2 Phillips screwdriver
- Small slotted screwdriver
- Large slotted screwdriver
- Long nose pliers
- Conductive grease
- Toner wipes (Stretch N’ Dust)
- Toner vacuum

**Supplies**

- Toner, 690g/4200, 1020g/4300
- Drum
- PCR
- Mag sleeve
- Doctor blade
- Cleaning blade
- Other parts as necessary
Getting started

Gently pop off the drum shutter arm. (FIG 1) The spring might come off as you remove the arm. In FIG 2 you can see how to resent the spring. There is no top or bottom, or left & right to this spring.

Slide the spring over the arm hub and lock the lower arm under the detent. Wind the spring in a counter-clockwise direction about ¼ turn and lock the upper arm in the outer detent.

When you reinstall the drum shutter arm after the cartridge is complete, moving the arm one “open-close” rotation will cause the spring to snap into the operating position.

Note: FIG 2 is actually the drum shutter arm from a 4100 cartridge. I told you they were similar!

FIG 3 shows the cartridge with the drum shutter arm removed. The arrow is pointing to the hole in which the shutter wire was installed. Gently disengage the wire from this side & continue on to step 4.

Rotate the drum shutter to the full open position and disengage the second shutter wire. Note that this side has a “keyed” end on the shutter wire, so that you must fully open the drum shutter. When reinstalling the shutter you must start with this side first!
**Divide & Conquer!**

Locate the four screws as shown in FIG 5, and remove them.

FIG 6 is a view of the gear pack inside the cover. These gears are locked in place with snap pins. Normally they will not fall out, and need no adjustments or lubricants.

FIG 7 shows the side of the cartridge where the drum shutter arm was located. Remove the two screws indicated by the arrows. Do not remove the third screw (X) at this time. This is the drum flange & ground contact, which will be removed later.

Now that the screws have been removed from both sides of the cartridge, it’s time to divide! On the side where the gears were, gently spread the two sections apart about 1”. As in FIG 8, use a small screwdriver to pry open the drum flange cover. This will take some practice, but will become easier. Pulling the cover back slightly, work the waste section until it unlatches. You might want to practice putting it back together and taking it apart again a few times. Later on we will demonstrate how to easily remove the left cover.
Now to the easy part!

Once the cartridge is separated as in FIG 9, you can move on to the waste hopper/drum section.

FIG 10 shows the right side of the waste hopper. This drive gear flange may be removed, but is not necessary.

FIG 11 is the left side of the waste hopper. This side has the metal drum flange & contact point. This is the side to remove in order to remove the drum.

The photo on the right shows the flange pin. As on the 4000, the plastic pin must be centered in the slot on the flange before tightening the screw.
Waste bin foam?

FIG 12 is a photo of the waste bin with the drum and PCR removed. What looks familiar is not. The drum cleaning blade is similar to the 4100, but not interchangeable.

FIG 13 shows HP’s latest trick on playing with our minds! This is some sort of liquid foam sealant that’s been used instead of traditional foam seals. To remove the cleaning blade, first remove the two screws, then use a box knife and slice along the bond between the steel of the cleaning blade & the foam. Luckily, the cleaning blade will last at least one more cycle. To reseal, use either 1/4” wide by 3/8” thick weather stripping (open cell foam), or silicone sealant that is NOT paintable. Non paintable sealant generally will stay soft & easy to remove. The problem with this, is that you will need to wait at least 4 to 6 hours, (but should wait overnight) for the sealant to cure.

Developer section

FIG 14 is a photo of the gear side of the 4200 cartridge. This section is not much different then other HP developer sections of the past. The main thing to point out here, is that none of the consumable parts are interchangeable with any of the older HP cartridges.
FIG 15 shows the mag roller core “D” bracket off. Note the position of the “D” cut on the mag core. When reinstalling this bracket, be sure to realign the core with the bracket.

In FIG 16 the arrows are showing the mag roller pressure spring & the mag roller bearing/bracket pivot pin. Remove the pin, then carefully pull the bracket off the mag roller. The spring will fall out. To replace the spring during reassembly, simply press back into place at an slight angle.

FIG 17 shows the all the parts of the developer section with (FIG 18) showing a blowup of the clear shims and the white doctor blade end wipers. Be sure to reinstall the shims & spacers, or quality might be light. At each end of the mag roller there are black bearings that will fit into the bearing/bracket, these are “keyed” so be careful to rotate until the “key” slips into place. Also notice that the two screws for the doctor blade are silver, all other screws are black & the slightly smaller.
FIG 18 shows a close-up of the clear shims & the doctor blade end wipers. Before reinstalling the end wipers, straighten the “finger” that wipes the mag roller surface, this will insure that toner will not migrate past this area.

Back to the left side!

In FIG 19 the three arrows are pointing to the three plastic rivets that secure the cover in place. There are a number of ways to remove or workaround this “feature”. The easiest is by not touching them at all and fighting the two sections back together. This will definitely slow production down.

Working from the back of the toner hopper, insert a large slotted screwdriver, as in FIG 20, under the cover & next to the first rivet. With one swift motion, pry the cover up. This will break the rivet.
Move on to the second rivet, located at the bottom of the hopper, and remove it in the same fashion as the first, as in FIG 21.

In FIG 22, to pop the third rivet, slide the screwdriver under the contact plate and along a ridge as indicated by the arrow on the right in FIG 23.

FIG 23 shows the positions of the three rivets. Reassembly of the cartridge with the side cover removed will make the job go quicker.

We’ve found that while it is not necessary to replace the rivets, you can carefully drill out the rivet placements and install small screws.

Reassemble the cartridge in reverse order, replacing parts as needed (and when available!), and you’re done.

For more information on this & other products, please visit our booth 210-213. Or contact us at:

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