



HP LaserJet Pro M452dn refill instructions

M452dn, M452dw, M452nw, M477fdn, M477fdw, M477fnw, M377dw

Before use, familiarise yourself with the melting tool guidance and safety information on pages 7 and 8. Consider doing the refill on top of sheets of old newspaper in case of accidental spills and always have absorbent paper at the ready to wipe up toner powder.

Refill any cartridge, toner will barely fit into "introductory" cartridges

Any HP original cartridge in the family can be refilled. That is: the "introductory" black, cyan, magenta and yellow cartridges or a HP original bearing any of the following codes -

- CF410A, CF411A, CF412A, CF413A
- CF410X, CF412X, CF411X, CF413X

The weight of toner supplied in the bottle will give a 2,300 page yield (strictly speaking: 2,300 pages of the ISO 19798 test suite). This is a conscious decision because the weight of toner that would be needed to mimic the "high" yield cartridges will not fit into either the "introductory" or standard capacity cartridges.

However, the toner in the bottle will **barely fit into "introductory" cartridges**, so be prepared to take two bites at the cherry to get all the toner into those.

Ignore "[Colour] cartridge is low" message



Ignore this message: keep printing

Override "[Colour] cartridge is very low" message

Important! Only override the message, do not refill!

There'll come a point where the printer interrupts your print job and gives this "[Colour] cartridge is very low" message (Note: it alternates with "replace now", the orange ! symbol flashes and the printer refuses to print).



Press OK > at "Prompt again" press ► four times > press OK

Press OK > see "print may fade" > see "press OK to confirm" > at "prompt again" press ► four times > see "never stop to prompt" > press OK

Now carry on printing until one of your cartridges fades out. **Under no circumstances refill at this point and never refill a cartridge until you have confirmed actual fade out with the fade out swatch.**

Run until fade out is the only way to go

You get fade out when the cartridge is trying to print, but there really is *no toner powder* left in it. Don't confuse that – actual fade out – with “helpful” messages the printer puts out. Over time, the various messages bare little or no relation to the actual amount of toner left. So just ignore or work around messages and instead pay attention to cartridges when they *actually fade out* due to lack of toner. In addition, you definitely don't want to be refilling *on top* of toner that could still be in the cartridge. Refilling at fade out is the only reliable way to avoid that.

Only refill the cartridge that's fading

You'll see immediately that something's not right with your prints. But depending on what you happen to be printing at the time, it can be tricky to tell which cartridge is fading. And you need to be sure because ***you're only going to refill the cartridge that has fade out***: and leave the others well alone.

Here's an example of the kind of counter-intuitive effect you can get when a colour laser printer fades out. The cyan cartridge is fading and what should be royal blue comes out pink



Diagnose the colour that's fading out

Download this 4 colour A4 swatch from:

<http://www.urefilltoner.co.uk/downloads/toner-refill-fade-out-swatch.pdf>



Print the swatch a few times and identify the fading cartridge as follows in this table:

Colours affected on swatch	Cartridge fading
Black only	Black
Blue only	Cyan
Blue and orange	Magenta
Yellow and orange	Yellow

Having identified the fading cartridge, refill it according to the “How to refill it” section on the next page.



Here's an actual scan of our cyan cartridge fading out. You can see there's obviously something going on with the blue zone here, whereas black, orange and yellow remain solid. Left hand page is how it was before fade out.

Now you know which cartridge is fading, refill it (and leave all the others alone!)

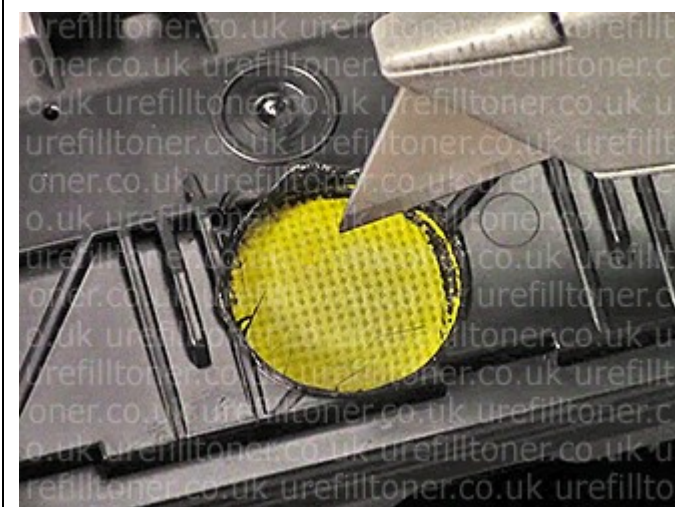


How to refill it



CARE! ONLY PUT MORE TONER INTO A CARTRIDGE THAT YOU HAVE CHECKED HAS FADED OUT USING THE FADEOUT SWATCH. IF IN DOUBT, READ PAGE 2

Melt your hole as shown (see guidance on use and safety of melting tool on page 7)



Note exact position of melt hole

Cut a cross in the woven material you've exposed



Fold back four corners of material underneath cartridge body



Shake bottle before pouring

Hold cartridge nearly vertical and marry spout up to hole with bottle still below horizontal

Remember! If refilling an "introductory cartridge" (i.e. one that arrived with the new machine) it will be difficult to get all the toner in in one go. When you notice the toner level inside the cartridge is high, stop for now and put the rest of the toner in next time.



Jam spout into hole and lean everything back to approx. 45 degree angle

Wait 5 seconds

Bring cartridge back to near vertical and disengage spout.

Repeat shake and pour as necessary to get all the toner in

Fold corners of membrane back into place



Use alcohol swab or absorbent paper to clean surfaces around hole.

Put the plug in

Check from time to time for any toner leakage. If found to be needed, the plug can be sealed in with either a rubber-based glue like Copydex or bathroom sealant.



If doing so, put a running trail of sealant all around the groove of the plug, then insert it in the cartridge



Empty waste before doing 2nd refill

Or wait for streaks and mitigate by shaking the cartridge

Emptying waste is messier than a refill

As these machines print, they produce waste toner. It's sneakily stored inside an empty chamber inside the toner cartridge. If the waste fills up completely, you'll start to get "waste streaks" vertically down the page.

If you get any vertical streaks of toner down the page, it could be waste overflow.

For this family of printers, this is highly likely to happen during the running of the second refill. So the preventative route, if you want to empty the waste, is to do it at the **end of the first refill**.

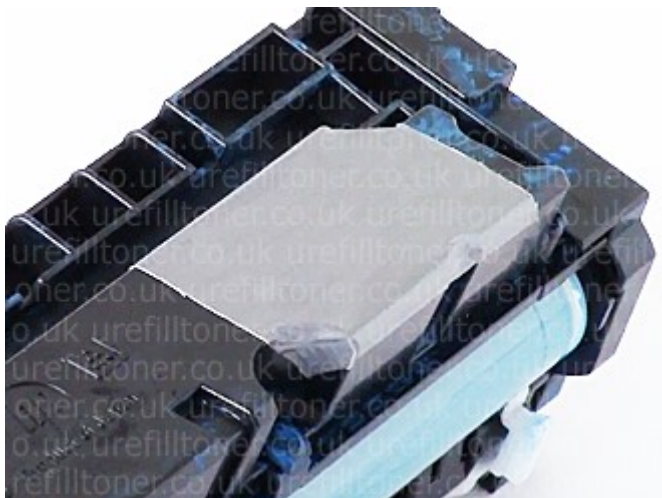
If you like to wing it, it is viable to deliberately wait for the first signs of waste streaks and then shake the cartridge gently from side to side. That will usually get rid of waste overflow streaks for a number of prints.

Eventually, though it will become impossible to get rid of waste streaks by shaking. And at that point you can consider if you want to empty the waste. We say "if" you want to empty the waste, because it's your call. Emptying the waste is messier than just refilling.

If you're up for it, though, here's how to do it:



1. Melt waste hole as shown (you can see how cyan waste puffed out when our tool got through the wall)
2. Shake waste toner straight into an outside bin: do not expose the pale blue OPC drum to direct sunlight.
3. Wipe stray toner from cartridge surface with absorbent paper.



4. Use alcohol swab or absorbent paper to clean and prepare flat surfaces around hole.
5. Seal hole with any tape that's wide enough. Duct tape is best.
6. Check the patch for leaks periodically. Re-do the patch if in doubt. Duct tape (also known as "Gaffa" tape) has given us the most reliable results.

Consciously "chipless"

To get the cheapest possible refilling strategy, we've released these products on a platform that

- 1) Enables you to use all the original and refill toner you paid for: by running the cartridges till they fade out
- 2) Avoids the cost of new chips
- 3) Avoids the extra hassle of having to install new chips

And we've checked over thousands of prints that this solution is viable over the long term.

Because it's not necessary for a successful refill, a chip is **not supplied** with this Starter Kit.

But there is a downside to this approach. It's that you don't get any warning before a cartridge runs out. And you might print some prints that are no good before you notice. But we think that what comes off smallish laser printers tends to be looked at pretty frequently.

Further, colour laser printers aren't the most reliable technology in the cosmos and owning one is going to involve you in some hands-on management. And that, Charlie Brown, is what we're thinking on your behalf at the moment. Feel free to let us know if you disagree.

Striations

Can you see the sharp vertical lines through the blue sky in this print from one of our catalogues?



This is most probably caused by deposits of wax on a component called the "doctor blade" in the cyan cartridge in this case.

Striations tend to be more visible in photos with light uniform colours in the background: like the sky in the photo above.

These striations appeared after about 4,000 copies with that cyan cartridge: so less than 2 complete refills.

At the moment, there's no cure for them that we know of.



Use and safety of the melting tool



The tool needs at least 5 minutes to reach an efficient melting temperature.

To melt a hole, apply a light force similar to pressing on paper with a ballpoint pen. Ease off the pressure as the tool sinks into the plastic.

During the first 6 minutes of the first ever use, smoke will come out of the heated part of the tool as manufacturing lubricants burn off. This is normal.

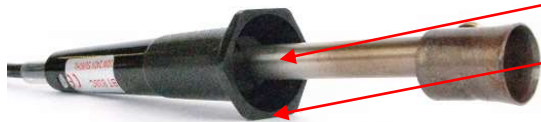
Use a screwdriver to push out the residual plastic plug while the tool is still hot.

Occasionally, the plastic plug falls inside the cartridge. Try and get it out using tweezers or pliers if you can. A piece of plastic this size inside the toner compartment doesn't usually do

any harm, but be aware that it's there and retire the cartridge if it shows signs of physically jamming.

Important safety information

- To be used only by a competent, risk-aware adult.
- Use only in a well-ventilated situation. As with the combustion of any organic substance (such as petrol or tobacco) a cocktail of gases can be produced and some of these are harmful or at least irritant.
- All metal parts of the tool get dangerously hot. Never touch any metal part of the tool, including the steel shaft near the plastic handle.



- When not in hand, the tool is designed to be rested at an angle created by the flange of the handle, keeping the hot parts suspended above your surface. But take care that the power cable doesn't force the handle to rise and the hot end of the tool to dip.
- Take care not to melt through the tool's own electric cable.

- Do not use the tool with the end-piece or blank filler tip removed.
- Turn off and unplug the tool as soon as you've melted your hole. Leave to cool at least 2 metres away from your toner pouring area.
- Do not leave on for more than 30 minutes at a time.
- After use, allow the tool to cool down naturally. Do not immerse in water.
- Take all precautions for the use of a powered hand tool. Use eye and hand protection.

Assumption of risk notice

We ourselves have no hesitation in researching and refilling cartridges using the melting technique in a well-ventilated room. However, the company gives no warranties, neither explicit nor implicit, as to the safety of melting holes in toner cartridges or the use of the melting tool. Any activity or process has an element of risk. The onus is on you, the purchaser, to assess any possible risk, including the inaccuracy or incompleteness of currently available information. If you decide not to go ahead, return the product to us and we'll cheerfully refund your money. This offer is additional to your statutory rights.

©® Ownership of all intellectual property relating to the melting tool has been asserted and secured.

Safety Data

Not to be used by children. Avoid inhalation of product. Avoid eye and skin contact. Do not ingest. Avoid sources of ignition while pouring and at all times.

1 Identification of the substance and the company

Product name	HP M252 type refill toner
Part no.	HPM252BOTB, HPM252BOTC, HPM252BOTM, HPM252BOTY
Supplier	U Refill Toner Ltd. Contact details as per page header

2 Hazards identification

Classification	Not known to be classified as hazardous.
Acute health effects	
Skin contact	Unlikely to cause skin irritation
Eye contact	May cause irritation
Inhalation	Irritation to respiratory tract if exposed to large amounts of toner dust
Ingestion	Unlikely when used as intended. Acute oral toxicity is believed to be low
Potential health effects	
Routes of exposure	Skin contact, eye contact and inhalation. Ingestion unlikely.
Chronic health effects	Prolonged inhalation of excessive amounts of any dust may cause lung damage
Carcinogenicity	Carbon black is classified by IARC as group 2B (possible human carcinogen). Carbon black in this preparation, due to its bound form, is not believed to present this risk.

3 First aid measures

Inhalation	Move person to fresh air. If breathing is difficult, obtain medical assistance
Eye contact	Flush with plenty of low pressure water for at least 15 minutes. Do not rub eyes. Remove contact lenses to ensure thorough flushing.
Skin	Wash with water, obtain medical attention if ill effects occur
Ingestion	Rinse out mouth with water. Drink one or two glasses of water. If large quantity swallowed seek medical advice

4 Fire fighting measures

Hazardous combustion products	Carbon monoxide and carbon dioxide
Extinguishing media	Water, dry chemical, carbon dioxide or foam
Special fire fighting procedures	Avoid inhalation of smoke. A self contained breathing apparatus and suitable protective clothing should be worn.
Unusual fire & explosion hazards	Toner is a combustible powder; formation of an explosive dust-air mixture is possible. Avoid all ignition sources if toner has been dispersed in air.

5 Accidental release measures

Spill/leak procedure	Sweep up or vacuum spilled toner and transfer into sealable waste container. Sweep slowly to minimize generation of dust. If vacuum is used, the motor must be rated as dust tight and safely applicable to the vacuuming of toner dust. Residue can be removed with soap and cold water. Garments may be washed or dry-cleaned after removal of loose toner.
Environmental precautions	Do not flush into surface water or sanitary sewer systems. Dispose of waste material in accordance with all applicable laws.

6 Handling and storage

Handling	Keep containers closed when not in use. Handle and open containers with care. Use with adequate ventilation. Avoid inhalation of dust and contact with skin and eyes. Keep away from sources of heat, sparks and open flames.
Storage	Store at room temperature in the original container. Keep container tightly closed and dry. Do not store with strong oxidizers.

7 Exposure controls and personal protection

UK exposure guidelines	WEL: 10mg/m ³ (inhalable dust), 3mg/m ³ (respirable dust)
Personal protective equipment	
Eye / face	Wear dust resistant safety goggles if there is danger of eye contact
Hands / skin	Wear protective gloves
Respiratory protection	Wear approved respirator for dust when exposure exceeds permissible limits
Additional measures	Use in a well ventilated area. Use engineering controls to reduce air contaminants to permissible limits. Wash hands after use.

8 Toxicological information

Oral toxicity	Tests on toners have indicated there is no evidence of acute oral toxicity. Not believed to be classified for acute oral toxicity according to EU Directive 67/458/EEC and 1999/45/EC
Inhalation toxicity	No data
Eye irritation	Not believed to be classified as irritant according to OSHA HCS and EU 67/548/EEC as amended
Sensitization	Not believed to be classified as sensitizer according to OSHA HCS and EU 67/548/EEC as amended
Chronic toxicity	No data
Carcinogenicity	Carbon black is classified as a group 2B by IARC, but carbon black is present only in bound form in this preparation.

Notice. All safety information is given to help facilitate the safe use of this product and is based on information obtained from the manufacturer. This information is believed to be correct, but does not purport to be all-inclusive and shall only be used as a guide. U Refill Toner Ltd makes no warranty, express or implied, as to the accuracy or completeness of this information. It is the user's responsibility to determine the suitability of this information for the adoption of necessary safety precautions and / or compliance with local laws and regulations.

All information offered is believed to be true and is offered for consideration in good faith. However, U Refill Toner Ltd gives no warranties, neither explicit nor implicit as to the completeness or accuracy of any information offered nor the ultimate safety of refilling toner cartridges in any manner described or suggested nor the ultimate safety or hazardousness of products supplied by U Refill Toner Ltd. The onus is on the purchaser to evaluate all possible risk, including the possible incompleteness or inaccuracy of currently available information, and by proceeding to use the refill product or products, the purchaser thereby assumes all risk of peril or injury howsoever arising.

If you the purchaser decide not to go ahead with refilling for whatever reason, simply return the product or products to U Refill Toner Ltd and we will cheerfully refund your money. Your statutory rights are unaffected.



Refills by you ... thanks to you

Thanks for refilling the toner cartridges in your printer. We invented "do-it-yourself" toner refills in 1992, "melt & pour" in 1996 and put "unplug & pour" into internet-speak in 2002. We've never tried to patent or otherwise restrict the use of these ideas.

If you liked our product, please recommend us to friends and colleagues. We've survived for over 20 years – fighting giant corporations that dwarf us – thanks to your custom and recommendation. No one here takes that, or you, for granted.

U Refill Toner. Now needed more than ever. Now refined more than ever.

- ✓ more than halve the cost
 - ✓ halve CO₂
- ✓ defend your consumer choices and right to reuse



*Original and largest selling
do-it-yourself laser toner refill*

[youtube.com/user/urefilltonerUK](https://www.youtube.com/user/urefilltonerUK)

[facebook.com/urefilltoner](https://www.facebook.com/urefilltoner)

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