



HL-3140CW, HL-3150CDW toner refill instructions

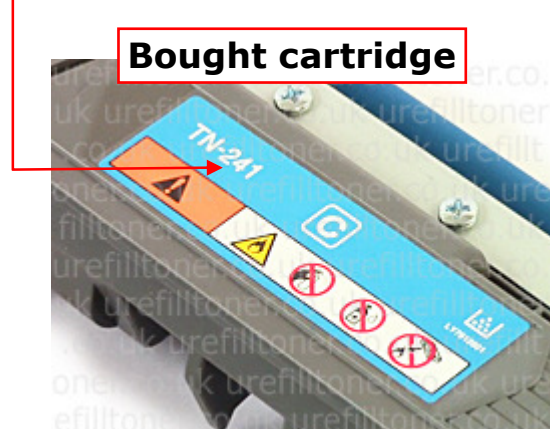
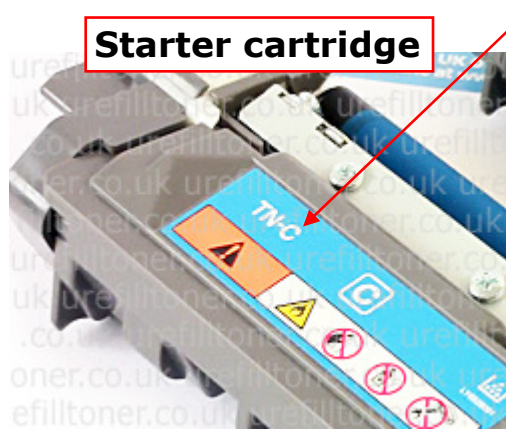
Also for: HL-3170CDW, DCP-9020CDW, MFC-9140CDN, MFC-9330CDW, MFC-9340CDW.

Before use, familiarise yourself with the safety information on pages 7 to 9.

Consider doing the refill on top of sheets of old newspaper in case of accidental spills.

Starter cartridges need different treatment

Your new machine arrived with a set of "starter" cartridges. They're different from the ones Brother subsequently want you to buy. Starter cartridges lack the numeric stock code (either 241 or 245).



In order to refill starter cartridges, you need to *add* a reset wheel in the "loaded" position. Bought cartridges already have a reset wheel: all you need to do is *reset* it to the "loaded" position.

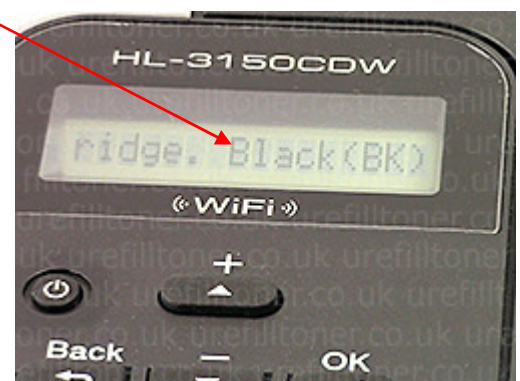
Reset cartridge at "Replace toner" message, then continue to print in order to provoke toner fade out

Wait for the "Replace toner" message. The machine will also refuse to print at this point.



The scrolling display on the printer's LCD control panel will tell you which cartridge to reset.

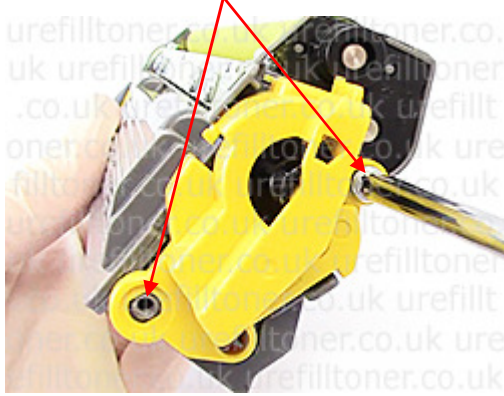
Note: before either resetting or refilling, you have to take the toner cartridge out of its drum unit. If in doubt, see "Replacing the toner cartridges" in the "Routine Maintenance" section of the User Guide (page 111 in ours).



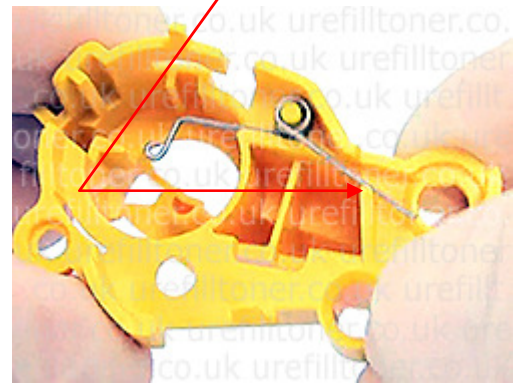


To reset a "starter cartridge"

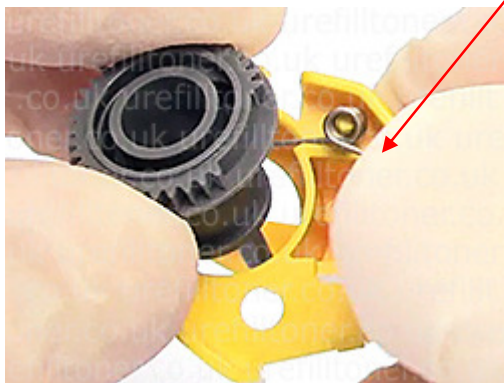
1) Take out 2 screws and remove coloured plastic end plate



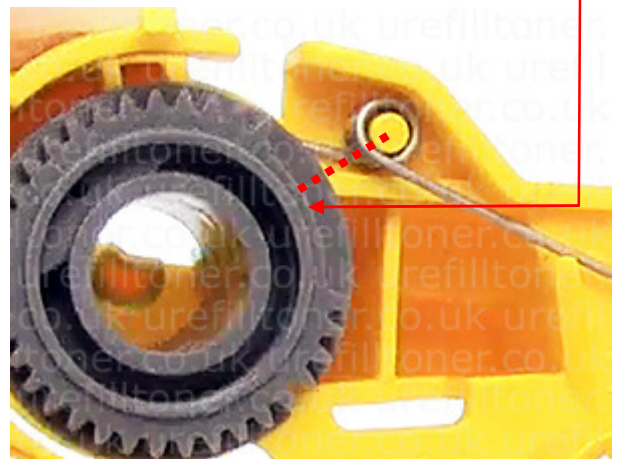
2) Add spring. Note how it rests near this elbow



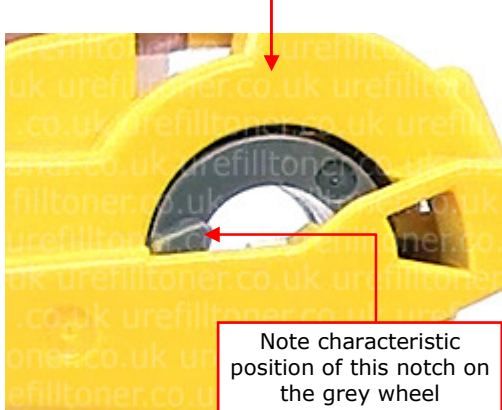
3) Insert reset wheel past spring. Hold spring onto locator post with thumb. A bit of fiddling is needed that can't really be shown in a photo. But aim for the finishing position shown in next 2 photos.



4) Correct position: note position of locator post relative to the gap in the teeth on the cog, as indicated by red dotted line. We could say it's slightly "high" of the middle of the gap in the teeth



5) Note: the wheel assembly will tend to find the right position by itself, so it will "feel right" once you've tried it a few times. You can check the position from the outside too, shown here



6) Replace and screw on end plate with 2 screws



If you did the above in response to the "Replace toner" message, now put the cartridge back in the machine and just keep printing until you get fade out.

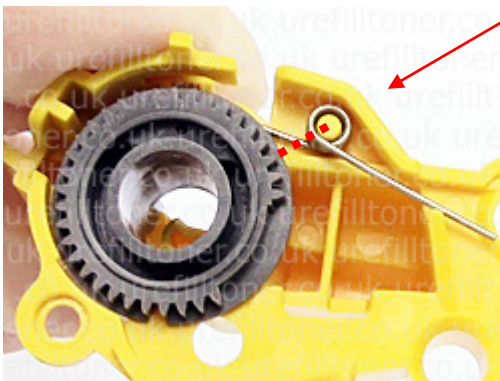


To reset a bought cartridge (or starter cartridge with wheel added)

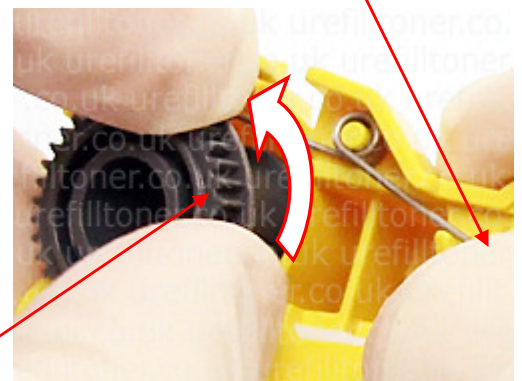
- 1) As you take cartridge out of printer, note "fired" position of reset wheel: specifically this notch inline with right angle of coloured end plate
- 2) Remove 2 screws and pull off plastic coloured end plate



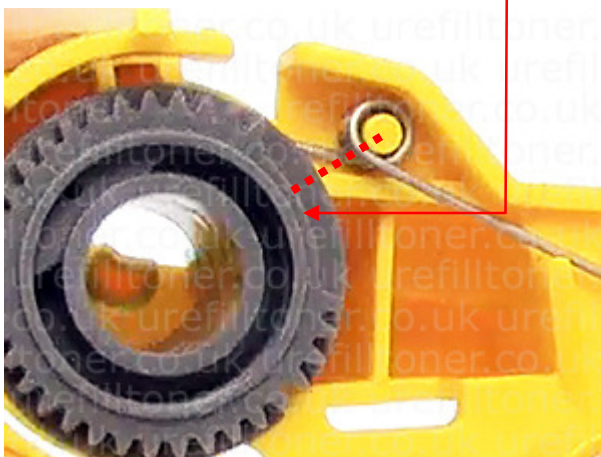
- 3) Note "fired" position of reset wheel from inside: locator post aligned with 3rd tooth on cog as shown by red dotted line



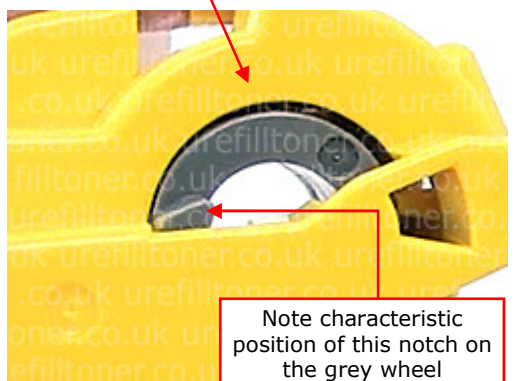
- 4) Hold right hand tail of spring in position with thumb



- 5) Lift wheel a few millimetres and turn anti-clockwise about 45 degrees to find "loaded position". Push wheel back in
- 6) Correct position: note position of locator post relative to gap in teeth on cog as indicated by red dotted line. We could say it's slightly "high" of the middle of the gap in the teeth



- 7) Note that the wheel assembly will tend to find the right position by itself, so it will "feel right" once you've tried it a few times. You can check the position from the outside too



- 8) Replace and screw on end plate with 2 screws



If you did the above in response to the "Replace toner" message, now put the cartridge back in the machine and just keep printing until you get fade out.



Reset and 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 virtually *no toner powder* left in it. Don't confuse that - fade out - with the "Replace cartridge" message. The "Replace cartridge" message *does not* mean the cartridge has no toner left in it: **far from it.**

If you respond to the "Replace cartridge" message with any other action than a reset, you will leave substantial amounts of toner in the cartridge. You'll experience this yourself when you see how many prints you get from a cartridge after resetting it.

But further, if you refill *on top* of the toner that's still remains at the "Replace toner" message, it's unlikely that all the refill toner will go in on the first refill. And impossible that it would all go in on subsequent refills, because left to it's own devices, more and more residual toner will build up at successive "Replace toner" messages. This would open a Pandora's Box of print problems nobody wants.

We've been through all this in the lab. Now you don't have to. That's why resetting the cartridge at "Replace toner" and then *printing with it until it fades out* is the only way to go with the Brother HL-3140CW family.

Spot fade out

You'll see immediately that something's going on with your prints. But colour laser printers suffer from a lot of different print defects, so you need to check that what you're seeing is to do with fade out and not something else. 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 "Put more toner in" section below. **But remember**, after *putting more toner in*, **reset it as well.**

Here's an actual scan (right) of the black cartridge fading in our HL-4150cdw.

You can see that although black printed words can still be seen pretty clearly, there's obviously something going on with the black zone whereas blue and orange remain solid.

The yellow band was solid too - to the human eye - but could not be picked up by our scanner because of the low density of pure yellow (or insufficient skill on our part?)



Now you know which cartridge is fading out, put more toner in and then reset it again



Put more toner in

- 1) **STOP!** Are you doing this in response to actual toner fade out? If not, re-read second half of page 1
- 2) Turn on melting tool and leave to warm up for 5 minutes (see page 7 for guidance on safe use of melting tool)
- 3) Melt hole in position shown



- 4) Shake unopened bottle vigorously for 5 seconds
- 5) Open toner bottle and screw on spout – very tightly



- 6) Hold cartridge almost vertical with one hand. Use other hand for bottle
- 7) Keeping bottle horizontal, jam spout into hole lean cartridge back to about a 45 degree angle



- 8) Wait for a count of 5 for toner to flow in
- 9) Return cartridge to almost vertical. Rotate bottle down to horizontal and disengage from cartridge



- 10) Shake bottle with finger firmly over end of spout
- 11) Repeat shake/pour until no toner left in bottle. CARE: SOMETIMES AERATED TONER (ESPECIALLY YELLOW) WILL ONLY JUST FIT INTO CARTRIDGE. TO AVOID SPILLS LEAVE 10 SECONDS EXTRA SETTLING TIME BETWEEN POURS
- 12) Clean any stray toner from the cartridge with the swab provided
- 13) Seal with plug. Groove in flange of plug marries with inside edges of the melted hole



**Now reset your cartridge again !
See page 3**



Three refills, and maybe then some

If you've been following us since the early 1990s (and who hasn't) you might know that we put "our corporate neck on the chopping block and say that the rule of thumb is **three refills, and maybe then some**".

As far as problems due to "wear and tear" go, the HL-3140CW is an "and then some" cartridge.

In the course of 19 refills and run-outs (at 13th March 2014), we consistently got 3 plus refills from cartridges.

"Soft reset" option

The reset wheels provided with this kit, although slightly fiddly to install, give you a solid and reliable reset by imitating the behaviour of a Brother original cartridge. We call it a "hard" reset method.

We're aware that there's the possibility of an electronic, or "soft" reset for this printer as well. It involves an arbitrary ritual of opening and closing the machine and holding combinations of buttons down.

At the time of writing the jury is out on the "soft reset". It was put forward on the internet but if you read the comments by people who have tried it, you'll see that it's a bit "iffy" to say the least. There's also doubt about whether it can be used at all with DCP- or MFC- printers in this family.

However, if it could be shown to be reliable, there's no doubt it would make refilling this family of printers a lot easier.

We'll be checking out the soft reset possibility on our own machine and we'll post the results on Facebook (www.facebook.com/urefilltoner).

Tale of two toners

A word of warning, though. In between the previous entry level printer – the HL-3040CN – and this one, Brother changed the melting temperature of the toner through changes to wax additives.

Of course, the "me-too" toner refill sites of the world immediately started selling the old HL-3040CN toner for use in the 3140CW family.

And it does kind of work OK: *for about one and a half refills*. Whereupon, you start to get what, many years ago, we christened "striations". So if you've bought 3140CW refills from someone else (especially if it was before April 2014) and got some strange results, that's almost certainly why.

How do we know all this? Because we tried printing ourselves with the best quality HL-3040CN in existence and were dismayed to observe the disappointing results. And resulting delay until we could release a product for the HL-3140CW family.

Of course, the "me-too" toner refill crowd on the internet don't pause to test anything before selling it to you.

Other things the machine uses

Besides the toner cartridges which these instructions have focussed on, the printer also has the following consumable components that can bite you when you're least expecting:

Drum unit, code DR241CL, yield 15K

Belt unit, code BU220CL, yield 50K

Waste toner box, code WT220CL, yield 50K

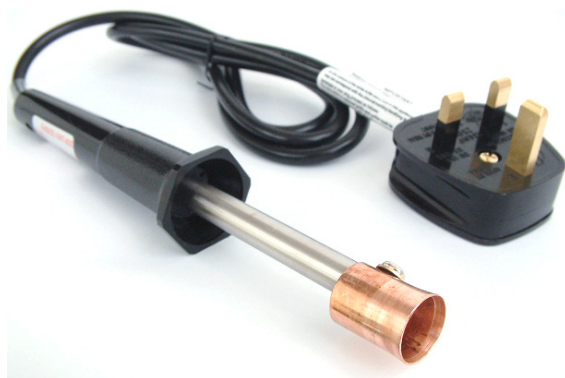
As you can see, they have their own duty cycles, which aren't affected by whether or not you refill. At only 15K, the Drum Unit is the one you'll run into most often.

They can all malfunction. Often before the yield stated by Brother.

See section 4, "Routine Maintenance", in your PDF User Guide for more information.



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

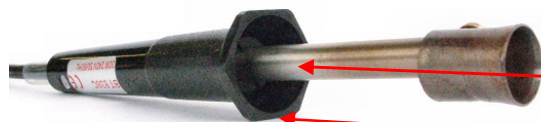
usually do any harm, but be aware that it's there and retire the cartridge if it shows signs of physically jamming.



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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 Brother HL3140CW type toner

Only to be used by a competent risk-aware adult. 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	Brother HL-3140CW type refill toner
Part no.	BR3140BOTB, BR3140BOTC, BR3140BOTM, BR3140BOTY
Supplier	U Refill Toner Ltd. Contact details as per page header

2 Hazards identification

Classification	Not believed to be classified as hazardous according to OSHA CFR 1910.1200 or EU Directive 1999/45/EC, as amended.
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. Polypropylene (9003-07-0) is classified by IARC as group 3

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	Seek medical advice. Oral toxicity is believed to be low.

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/m3 (inhalable dust), 3mg/m3 (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 classified for acute oral toxicity according to EU Directive 67/458/EEC and 1999/45/EC
Inhalation toxicity	No data
Eye irritation	Not classified as irritant according to OSHA HCS and EU 67/548/EEC as amended
Sensitization	Not 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. Polypropylene (9003-07-0) is classified by IARC as group 3
Mutagenicity	Negative (AMES test)
Reproductive toxicity	Not classified as toxic according to EU 67/548/EEC as amended

9 Ecological information

Not tested for ecological effects

10 Disposal considerations

Collect into tightly sealed containers. Dispose of waste in accordance with all local laws. Do not throw in open fires in order to prevent risk of dust explosion.
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11 Transport information

General	Not regulated
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12 Other information

Labelling EU 67/458/EEC	
R & S phrases	Not required
Hazard symbol	Not required

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.



Your kick-start to toner refill success: the Starter Kit

These CopyLeft instructions are the same as those included with our Brother HL-3140cw HL3150cdw HL-3170cdw "Starter Kit". A Starter Kit is our "zero to hero" kick-start. It's got all the materials and know-how you need to refill your empty cartridge the right way. Right first time.

These instructions show you **how we did it**, not how we imagine it could be done. In the case of the HL-3150cdw, we successfully did this refill 22 times and printed 15,291 test prints. Most of those prints were sent out to real customers in the form of catalogues and printed instruction booklets like the one you're reading now.



Click the link below to get your Starter Kit (UK and most of Europe)

http://www.urefilltoner.co.uk/toner_refill_products.aspx?manufacturer=Brother&engine=BR3150CDW&printer=HL-3140cw

See the video of us doing this refill:

<http://www.urefilltoner.co.uk/how-to-refill/brother/HL-3140cw.html>

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. We've survived for over 22 years – fighting giant corporations that dwarf us – thanks to the trust placed in us by customers all over the world who were prepared to give refilling their own toner cartridges a go. Rest assured, no one at U Refill Toner ever takes that trust or our astonishingly beautiful home planet for granted.

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



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

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