

# Service-Information

## Filling Needles - One Size Fits All? The „Pierced Filter Screen“ Issue



Page 1/3

Dear customer!

Is shelf life stability becoming an issue? Are the below print examples (Fig. 1 and 2) becoming increasingly familiar among your customer returns?

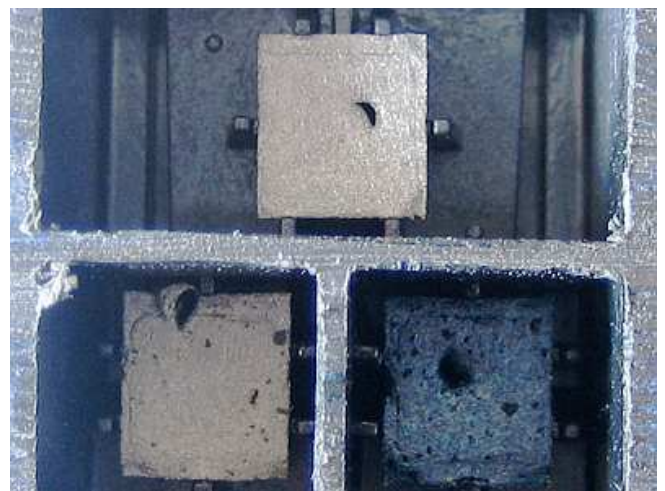
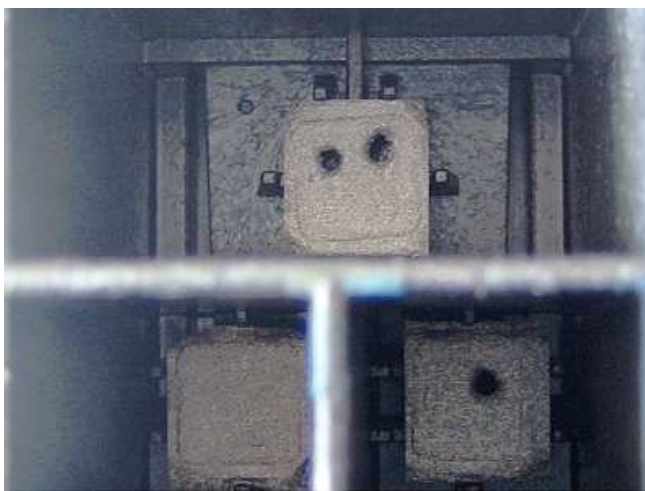


*Fig. 1: Irregular yellow of a remanufactured HP 57*



*Fig. 2: "Scratchy" yellow print of a refilled HP 343*

The cause is simple, but from outside invisible: Pierced Filter Screens! Recent investigations proved that – at average - as much as 50% of non virgin empties have at least 1 filter screen pierced (see fig. 3).



*Fig. 3: Two examples of HP 57 cartridges with Pierced Filter Screens*

### What has happened?

Basically when the filter screen is pierced or ruptured in any way the transfer of ink from the foam to the pre-firing chamber becomes interrupted, and this interruption results in ink starvation to various degrees in the print test page after a shelf life period of one to two weeks.

...Page 2

**OCP inks...**

**...inks of finest quality!**

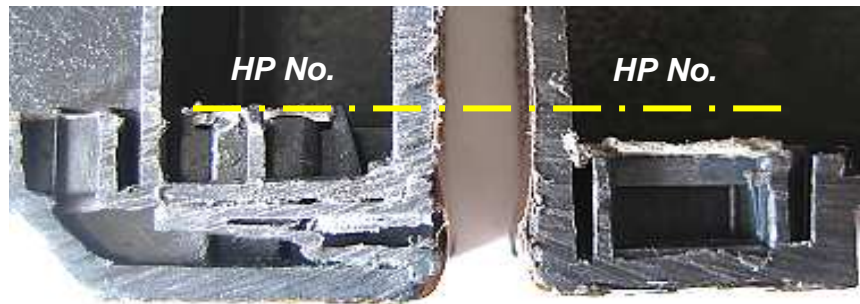
# Service-Information

## Filling Needles - One Size Fits All? The „Pierced Filter Screen“ Issue



### “One Size Fits All”

The pierced filters are being caused by re-fillers who are using a “one size fits all” philosophy when it comes to equipment or needle length, as the assumptions are being based upon the external appearance of the cartridge. For example the HP 56 looks dimensionally the same size as the HP 57, but if the same needle length used to fill the HP 56 is used to fill a HP 57 the needle will enter the filter screen around 3mm (see fig. 4).



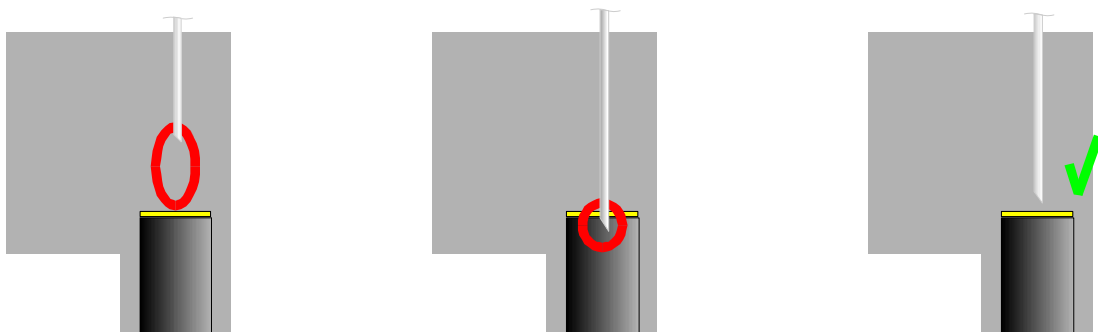
**Fig. 4:** When the cartridges are cross sectioned you can see that there are differences in the heights of the filter screens.

Another example: The same needle which exactly matches the depth requirement for a HP 338 (94, 131, 852) will enter a 336 (92, 132, 850) filter screen by 7mm!

### How to resolve this problem?

When using really Virgin empty cartridges, the risk of already having pierced filters inside is “0”. But when using Non-Virgin empties for remanufacturing, filters should be checked individually to avoid any malfunction (and customer returns) caused by this issue. Already pierced filters must be replaced.

To prevent non-pierced empties from being pierced during the remanufacturing process, any needles applied to an Ink-Jet cartridge during cleaning and/or filling procedures must be short enough to avoid any contact with the filter screens. On the other hand side, the end of the filling needles should be as close as possible to the filter screens in order to provide the ink filled in at the optimum position (see fig. 5)



**Fig. 5:** Needle too short

needle too long / piercing filter screen

optimum needle length

**OCP inks...**

**...inks of finest quality!**

# Service-Information

## Filling Needles - One Size Fits All? The „Pierced Filter Screen“ Issue

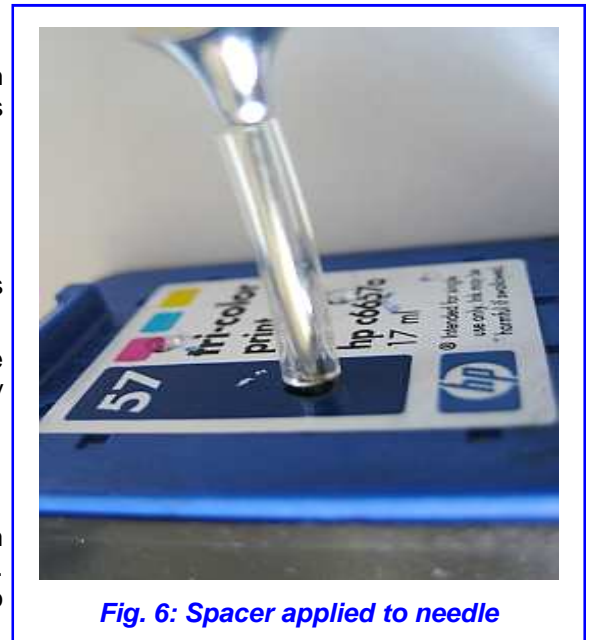


### The Solution

As a consequence, the needle size must be adopted for each single type of cartridge to match the dimension requirements perfectly. There are two ways to reach this target:

- 1) Use individual needles with exactly matching lengths,  
or
- 2) Apply spacer / retainer to the filling system / filling needles to prevent them from being inserted too deep.

Fig. 6 shows a suggested inexpensive method of preventing the needle tip from being pushed too far into the cartridge by mounting a silicon tube on the filling needle.



**Fig. 6: Spacer applied to needle**

### The guide to the correct needle lengths

The following table is a detailed guide to achieve the optimum (= maximum) needle length for each individual filling application. Measurements are made in mm, corresponding values are also given in inches.

OEM Cartridge	Max length (mm) (*)				Max length (inch) (*)			
	BK	C	M	Y	BK	C	M	Y
HP 21	30mm				1 1/8"			
HP 22		25mm	25mm	25mm		1"	1"	1"
HP 56	28mm				1 1/8"			
HP 57		25mm	25mm	25mm		1"	1"	1"
HP 58	26mm	26mm	26mm		1"	1"	1"	
HP 23 (1823)		80mm	73mm	80mm		3 1/8"	2 3/4"	3 1/8"
HP 17 (6625)		80mm	73mm	80mm		3 1/8"	2 3/4"	3 1/8"
HP 78 (6578)		80mm	73mm	80mm		3 1/8"	2 3/4"	3 1/8"
HP 92, 336, 132, 850	29mm				1 1/8"			
HP 93, 342, 136, 854		21mm	21mm	25mm		3/4"	3/4"	1"
HP 94, 338, 131, 852	22mm				3/4"			
HP 95, 343, 135, 855		21mm	21mm	25mm		3/4"	3/4"	1"
HP 96, 339, 130, 853	21mm				3/4"			
HP 97, 344, 134, 857		21mm	21mm	25mm		3/4"	3/4"	1"
HP 98, 337, 129, 851	25mm				1"			
Lexmark 12A1970	58mm				2 1/4"			
Lexmark 12A1980		43mm	43mm	43mm		1 2/3"	1 2/3"	1 2/3"
Lexmark 10N0026		21mm	21mm	23mm		3/4"	3/4"	3/4"

**(\*) Note:** All measurements are taken from the top of the cap to approx 1mm above the filter screen. In case that needles with exact length are not available, choose a shorter (not longer) alternative.

For further questions, please contact OCP Sales directly.

**OCP GmbH**

**OCP inks...**  
...inks of finest quality!