

# Printhead nozzle health plot



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## HP Latex 700 and 800 Printer Series

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The printhead health status plot consists of patterns designed to highlight printhead reliability problems. It helps determine whether any printheads are experiencing clogging or other problems and can diagnose IQ issues.

### How to print the printhead health status plot

There are two ways to print the plot through the front panel menu:

- *Optimize Quality*  > *Printhead Cleaning* > *Print Status Plot*
- *Optimize Quality*  > *Advance Calibrations* > *Printheads Hard Cleaning* > *Print Status Plot*

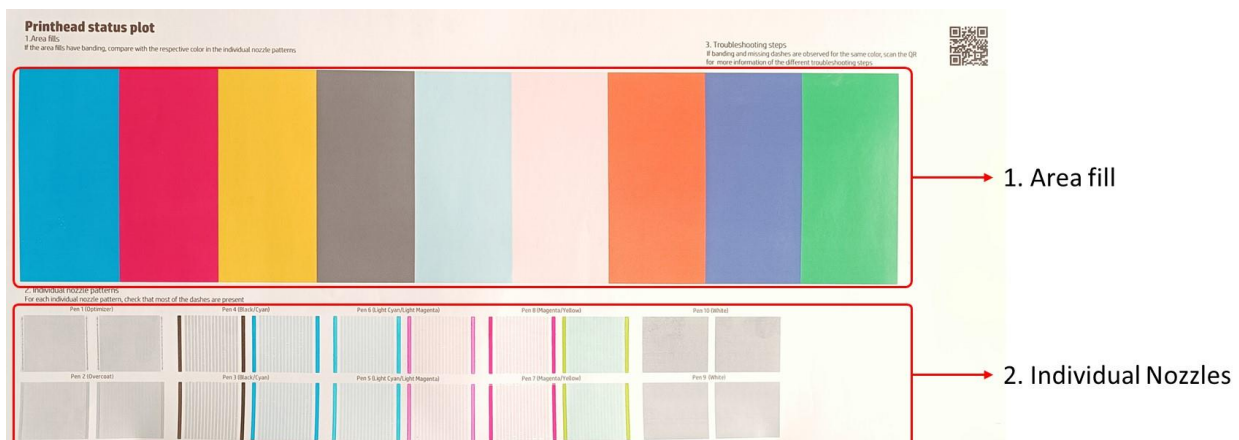
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**IMPORTANT:** Print this plot with vinyl media, preferably gloss. Print at least 24 inches wide for maximum visibility. Other substrate types may not show enough detail to present optimizer dashes clearly.

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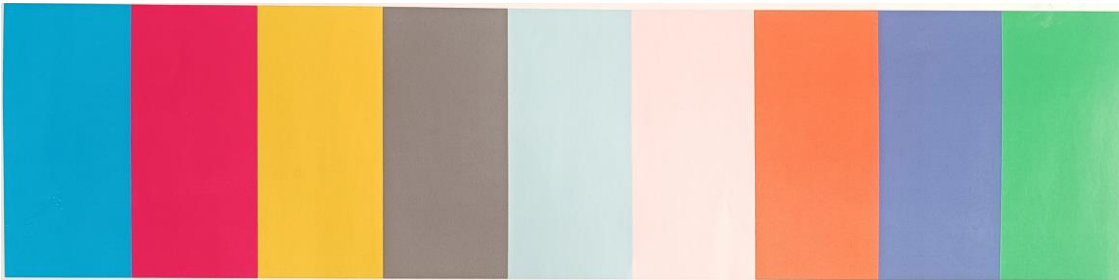
### Printhead status plot description

The plot has three different areas: area fill, individual nozzles, and basic color pattern.

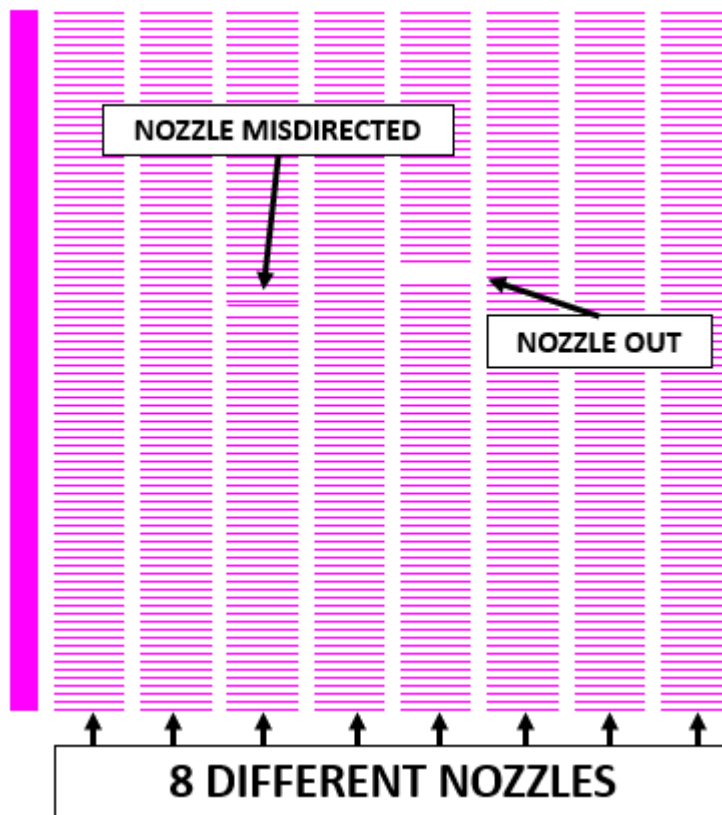


1. Area fill: this is a .tiff image in which the printer applies error hiding and adjacent nozzle replacement.

If some nozzles are out but the area fill has printed correctly, printhead status is OK.



2. Individual nozzles: this section consists of dashes printed individually for each nozzle. Each missing dash represents an individual nozzle not firing ink.



The pattern was designed to make it easier to find misdirected or out of place nozzle.

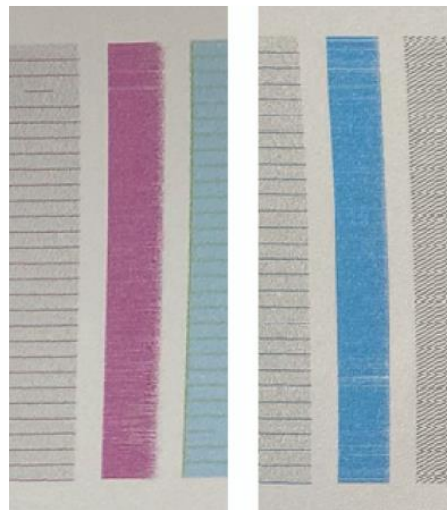
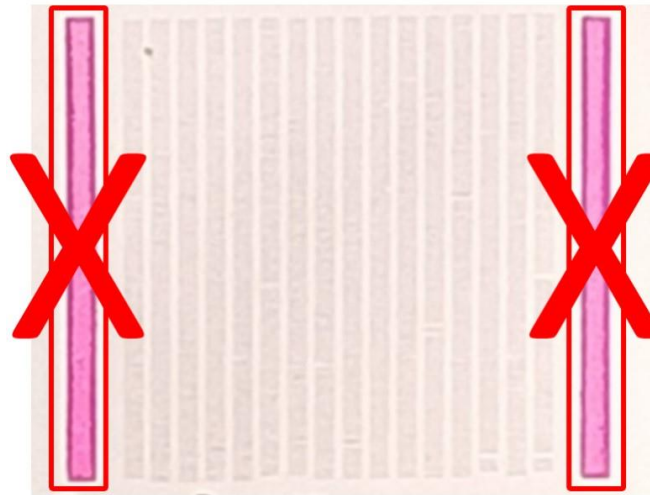
It is important to check for out of place or misdirected nozzles. Misdirected nozzles have a significant impact on image quality, causing issues such as banding and grain.

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**NOTE:** The printer can continue printing with good quality while missing nozzles. The software uses surrounding nozzles to compensate for a missing nozzle (adjacent nozzle replacement). Print quality does not only depend on the number of nozzles not firing, but also on their location. If failing nozzles are randomly deployed, the system is easily able to compensate for them even if a significant number of nozzles are out of place. If the number of out of place nozzles is concentrated in one area, the indicator will be worse.

**IMPORTANT:** Spit bars are not part of the check; these color columns are printed to fine-tune the printhead to print the next pattern of nozzles. If any of these columns has a printing defect, it should not be considered.

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The marks on the spit bars are not issues.

	Purpose	Can it be used to check printhead health?
Area fill	Check the current implication of the printhead	Yes
Individual nozzles	Check the health of the printhead	Yes
Spit bars	Warm up the printheads	No

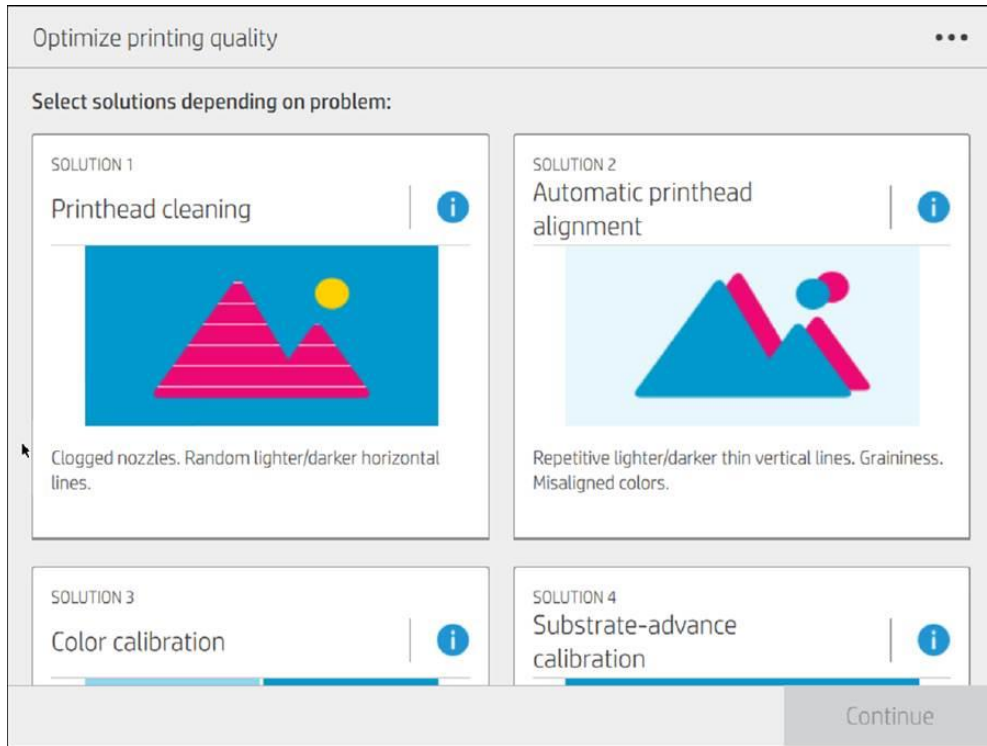
## How to recover printheads and improve IQ

If you detect several affected printheads or are not sure which printhead is affected, proceed with printhead cleaning, which carries out a basic clean of all printheads.

If you detect a printhead with several out of place nozzles, the first step to recover the printhead nozzles is to clean the affected printhead using the printheads hard cleaning procedure.

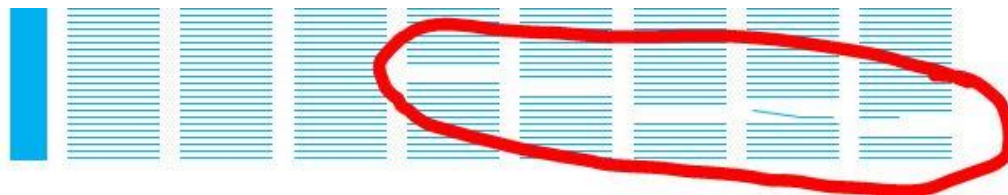
The printhead cleaning procedure can be found through the front panel menu:

- *Optimize printing quality*  > *Printhead cleaning* > *Continue*



After performing the printhead cleaning procedure, print the print status plot again to recheck printhead nozzles.

If you detect many out of place nozzles in the same area, there may be fiber stuck to the printhead nozzle.



If this is the case, check the bottom of the affected printhead's nozzle area. If there is any ink, dampen a soft, fiber-free cloth with distilled water and let the printhead sit on it for a couple of minutes.



Clean the rest of the printhead gently with a soft, fiber-free cloth dampened with distilled water, avoiding the electrical contact area.

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**IMPORTANT:** Never put optimizer ink in contact with other printheads.

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If there are many nozzles in the same row, there could have been cross contamination with pretreatment/optimizer caused by a carriage crash.

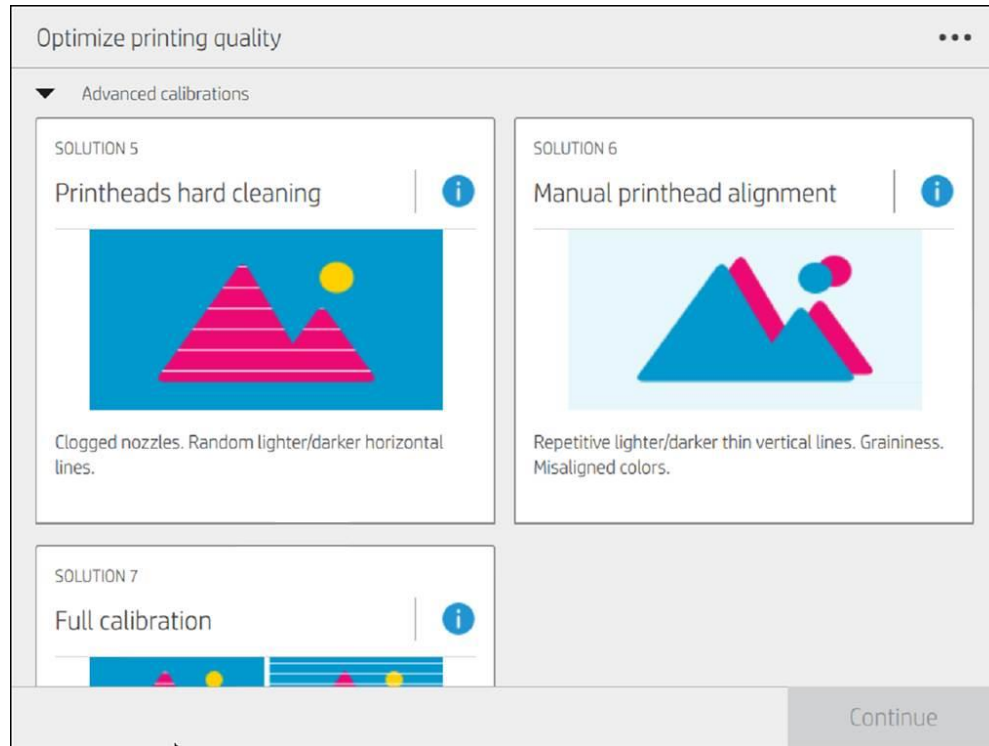


Check that the maintenance cartridge's fabric is not damaged and does not have wrinkles. If it does, the fabric should be tensioned and passed a few millimeters.

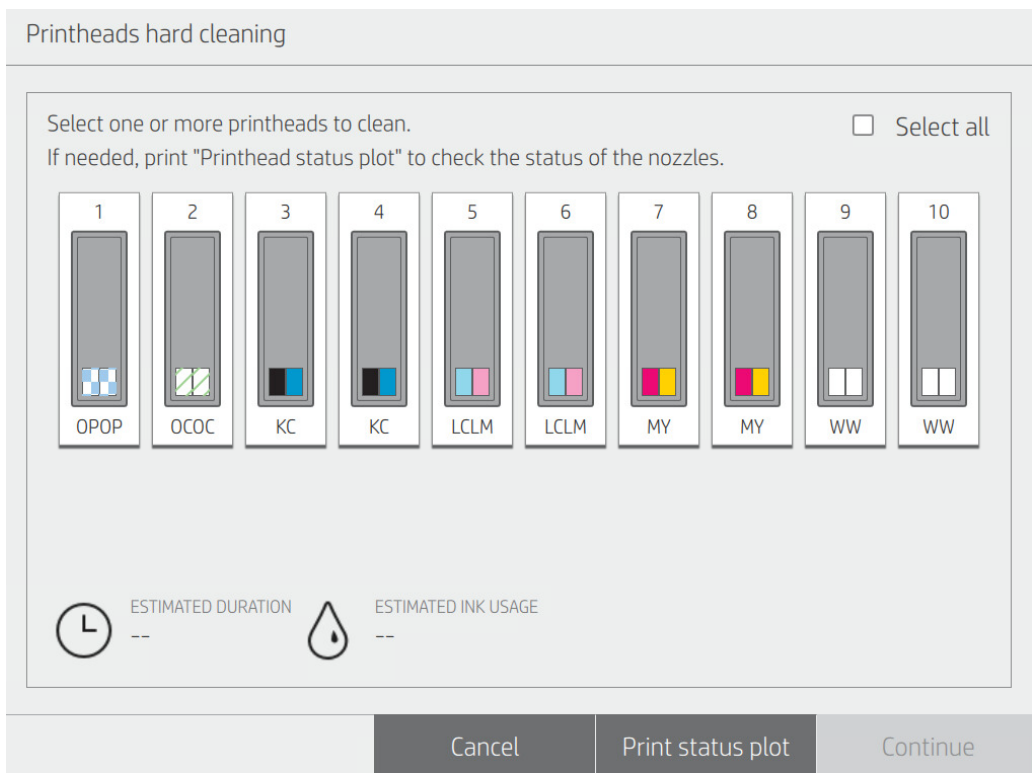
If the result is still unacceptable, carry out the printheads hard cleaning procedure.

The printheads hard cleaning procedure can be found through the front panel menu:

- *Optimize printing quality*  > *Advanced Calibrations* > *Printheads hard cleaning* > *Continue*



In the following step, select the affected printheads and select 'Continue' to carry out hard cleaning of the selected printheads.



After the printheads hard cleaning procedure, reprint the print status plot to check the printhead nozzles. If the result is unacceptable, carry out the printheads hard cleaning procedure a second time.

If after a second printheads hard cleaning procedure results are unacceptable, the affected printhead(s) need to be replaced.