

1. Tips & Tricks for Epson x900 Printers—Checklist

Welcome to our tips & tricks section. In the following, you will find tips and tricks to help you achieve good quality proofs with Epson x900 printers. The checklist gives you a good overview on all recommended steps.

Please follow the **See also** links for detailed instructions safely guiding you through the process.

Note Some of the below steps require special test forms which have been optimized for GMG ProofMedia and can be downloaded from our website. So far we cannot give any guarantee for a possible fix of print quality problems occurring with custom (non-GMG) media.

<i>Step</i>	<i>What to do</i>	<i>How to do it</i>	<i>Note</i>	<i>See also</i>
1	Shake up inks	Shake all ink cartridges well before first use or in case they have not been used for a while.	General printer specific steps.	
2	Clean white tile	Clean the white tile of SpectroProofer with a soft clean cloth and make sure the tile is completely clean and dry .		
3	Print head cleaning	Printer panel: Perform a print head cleaning (Level: Power Cleaning)		
4	Nozzle check	Printer panel: Print a nozzle pattern to see whether all print heads have fired or if you need further cleaning.	Media quality dependent steps—it is strongly recommended to perform these steps with high quality media such as GMG ProofPaper semimatte 250.	
5	Print head alignment (uni-directional)	Printer panel : Perform a print head alignment (Uni-D) .		
6	Print head alignment (bidirectional)	Printer panel : Perform a print head alignment (Bi-D all) .		
7	Determine roll tension value	Download the Roll Tension Adjustment zip file for your print medium and software version from our website (Support Area > Downloads > Printer Utilities > Epson x900 check list). Print the included roll tension test patterns and enter the value of the most homogeneous patch in GMG ColorProof to ensure color consistency and homogeneity (Output view > Change Medium: Media Specific Printer Settings > Roll Tension).	Media specific steps—roll tension and paper feed adjustment have to be evaluated for each used print medium. The required test forms are available only for GMG ProofMedia.	"Roll Tension Adjustment for Epson Stylus Pro x900 Printers" on page 3
8	Determine paper feed adjustment	Download the Paper Feed Adjustment zip file for your print medium, roll tension and software version from our website (Support Area > Downloads > Printer Utilities > Epson x900 check list). Print the included paper feed test patterns and enter the value of the most homogeneous patch in GMG ColorProof to ensure color consistency and homogeneity (Output view > Change Medium: Media Specific Printer Settings > Paper Feed Adjustment)		"Paper Feed Adjustment for Epson Stylus Pro x800, x880, x890, x900, WT7900" on page 4
9	Print quality check and evaluate the print quality	Download the GMG_Epson_x900_Print_Quality_Check_V1.pdf test chart from our website (Support Area > Downloads > Printer Utilities > Epson x900 check list). Print the test chart and check if the preceding steps have yielded the desired degree of quality.	Final printer-medium specific print quality check.	"Print Quality Check for Epson x900 Printers" on page 7

2. Required Information for Technical Support

When contacting the support, please provide the following information.

Hardware	Info
Printer model	
Serial number	
Printer firmware version	
SpectroProofer firmware version	
SpectroProofer mounter firmware version	
IP address	
Software settings	Info
Roll Tension	
Paper Feed Adjustment	

3. Roll Tension Adjustment for Epson Stylus Pro x900 Printers

In most cases, a roll tension adjustment is not required (**Roll Tension** = Standard). A roll tension adjustment is required **only** if you experience problems passing the tolerances of a control strip despite a successful printer calibration. As the roll tension affects the paper feed adjustment, it should always be performed first, followed by a validation of the paper feed adjustment (see "Paper Feed Adjustment for Epson Stylus Pro x800, x880, x890, x900, WT7900" on page 4).

To determine the correct roll tension, you need to print a specific test form. You can download these test forms (PRN files) from our website, under **Support Area > Downloads > Printer Utilities > Epson x900 check list**. Select the roll tension zip file according to the printer and print medium you are using.

How to print the roll tension PRN file

Note Before starting the roll tension test, it is recommended to clean the print heads and to print a nozzle pattern.

1. On the printer panel, set the **Roll Paper Margin** to 3 mm.
2. Start the tool **JobSpooler.exe** from the main program folder (default path: <GMG ColorProof *installation path*> *JobSpooler.exe*).
(No installation required.)
3. Click the **Setup** button.
4. Define the printer connection. Check the printer settings in GMG ColorProof as a reference, if required.
5. Click the **+** button in the left bottom corner of the dialog.
6. Browse your folders and select the PRN file according to the media type you are using, for example *RollTension_Ex900_GMGsm250_GMGgl250_GMGgl260_GMGm140_PB.prn*.
7. Click **Start**.
A test page with test patches for different **Roll Tension** settings is printed.

How to evaluate the print results and adjust the roll tension

1. Carefully check the printed test page and select the best print result (especially in terms of homogeneity). For a better comparison, you can cut out the patches for each **Roll Tension** value and align them horizontally.
2. In GMG ColorProof, in the **Output** view, click the **Change Medium** button.
The Change Medium dialog is displayed.
3. Under **Media Specific Printer Settings**, enter the **Roll Tension** that showed the best print result.

4. Paper Feed Adjustment for Epson Stylus Pro x800, x880, x890, x900, WT7900

A paper feed adjustment helps with inaccurate feeding of certain media types. In most cases, a paper feed adjustment is **not** required (**Paper Feed Adjustment** value = 0). If you, however, experience problems passing the tolerances of a control strip despite a successful printer calibration, we recommend to check the paper feed.

As it is currently not possible to optimize the paper feed adjustment automatically, this can be overcome by a manual paper feed adjustment. There are two methods to adjust the paper feed:

- Print and measure an image with a **ruler** and enter the measured length as **Paper Feed Adjustment**.
- Print and **visually** evaluate test forms to fine-tune the paper feed.

4.1 Visual evaluation method of determining the paper feed

Tip You can **download** these test forms (PRN files) from our website, under **Support Area > Downloads > Printer Utilities > Epson x900 check list**. Select the paper feed zip file according to the printer and print medium you are using

Which test form do I need?

To save print media, three separate test forms are provided for **each** printer–medium combination. For most cases, it is sufficient to print **Test Form 1**, as this test form evaluates the most likely range.

- ▼ **Test Form 1** (*_1.prn*) includes patches with **Paper Feed Adjustment** values in a range from **–0.25%** to **+0.25%**. If patches in this range give homogeneous print results, Test Form 2 is not required. (Additionally, patches for **–0.50%** and **+0.50%** are also provided on the top and on the bottom of Test Form 1. If the patches in the range from **–0.25%** to **+0.25%** do not give satisfying results, you can check the **–0.50%** and **+0.50%** patches to decide to which direction (negative or positive) the paper feed offset tends and thus which version of Test Form 2 you will need.)
- ▼ Two versions of **Test Form 2** are provided: One with negative **Paper Feed Adjustment** values up to **–0.70%** (*_2_neg.prn*) and one with positive values up to **+0.70%** (*_2_pos.prn*). You need to choose the appropriate test form 2 depending on the outcome of printing Test Form 1. For example, if a **Paper Feed Adjustment** value of **+0.50%** shows the best print result on Test Form 1, print Test Form 2 with positive **Paper Feed Adjustment** values (*_2_pos.prn*) for determining the exact value.

How to print the paper feed test forms

Note Before starting the paper feed test, it is recommended to clean the print heads and to print a nozzle pattern.

1. On the printer panel, set the **Roll Paper Margin** to 3 mm.
2. Start the tool **JobSpooler.exe** from the main program folder (default path: <GMG ColorProof *installation path*> *JobSpooler.exe*).
(No installation required.)
3. Click the **Setup** button.
4. Define the printer connection. Check the printer settings in GMG ColorProof as a reference, if required.
5. Click the **+** button in the left bottom corner of the dialog.
6. Browse your folders and select the PRN file (Test Form 1) according to the media type that you want to use, for example *PaperFeed_4900_GMGsm250_GMG gl250_GMGgl260_GMGm140_PB_RT-std_1.prn* for GMG ProofPaper semimatte 250.
7. Click **Start**. A test page with test images, each corresponding to a different **Paper Feed Adjustment** value, will be printed.

How to evaluate the print results and adjust the paper feed

1. Carefully check the printed test page and select the best print result (especially in terms of homogeneity). For a better comparison, you can cut out the patches for each **Paper Feed Adjustment** value and align them horizontally.
2. If a value within the range from **-0.25%** to **+0.25%** provides the best print result, proceed with step 4.
3. If this is not the case, check the **-0.50%** and **+0.50%** patches. If the **-0.50%** value provides the best print results (or at least you can observe an improvement in the negative direction), print the corresponding Test Form 2 with negative values (*_2_neg.prn*) as described before. Likewise, if the **+0.50%** value provides the best print results, print the corresponding Test Form 2 with positive values (*_2_pos.prn*). Carefully check the printed test page and select the best print result.
4. In GMG ColorProof, in the **Output** view, open the **Change Medium** dialog and select **Evaluate Test Images** as adjustment mode.
5. Enter the **Paper Feed Adjustment** value that gave the best print result.

Practical examples for evaluating the adjustment

When evaluating the patches, always focus on the **lower third** of the test image. Use a magnifier (thread counter) to see whether the printed lines are clearly distinguishable as they should be. The distinctness of the lines is best to be seen in the blue area of the test form. The printed test form should give an overall light and homogeneous impression.



Fig. 1 Test form with highly saturated colors.

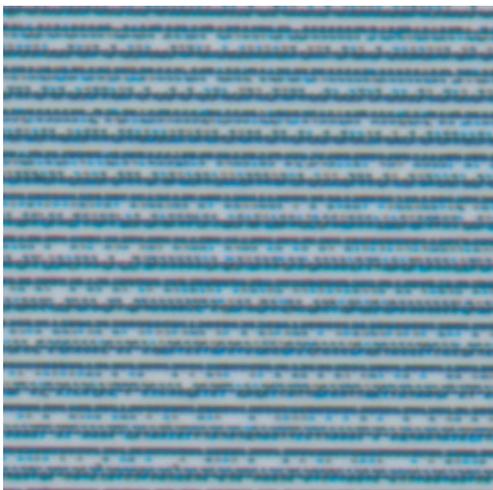
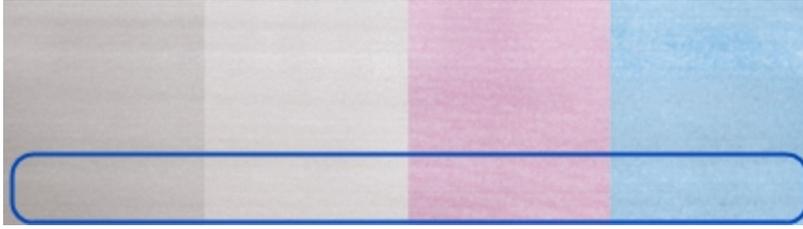


Fig. 2 The same test form as seen with a magnifier, showing very indistinct lines.

In the above example, the colors in the lower third of the blue area are very saturated, because the lines overlap. The next example shows the correct test form print for the paper feed adjustment—the lines are distinct and the lower third of the test form is homogeneously printed.



Good print result for paper feed adjustment, homogeneous and no overlapping lines.

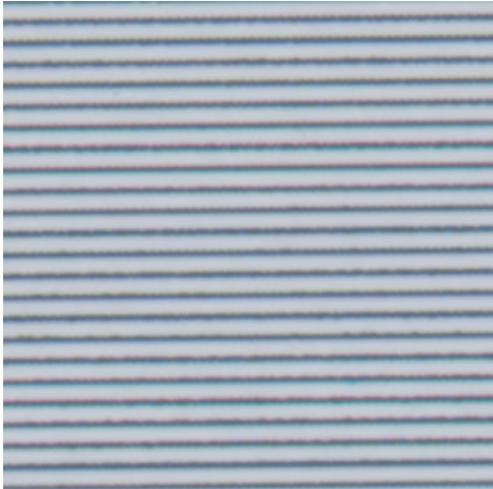


Fig. 3 The same test form as seen with a magnifier, showing clearly distinct lines.

Note The accuracy that can be achieved by this method is ± 0.15 . If the **Paper Feed Adjustment** value currently selected in the software and the actual value determined by this method are still within these tolerances, problems that might arise when calibrating the printer or any inhomogeneities cannot be attributed to a paper feed offset.

5. Print Quality Check for Epson x900 Printers

To check the resulting print quality, we recommend to print the test chart **GMG_Epson_x900_Print_Quality_Check_V1.pdf** which can be downloaded from our website (**Support Area > Downloads > Printer Utilities > Epson x900 check list**). Use a **linear** profile to print the test chart (default path: *<installation path> Profiles_Linear > CP_linear.mx4*).

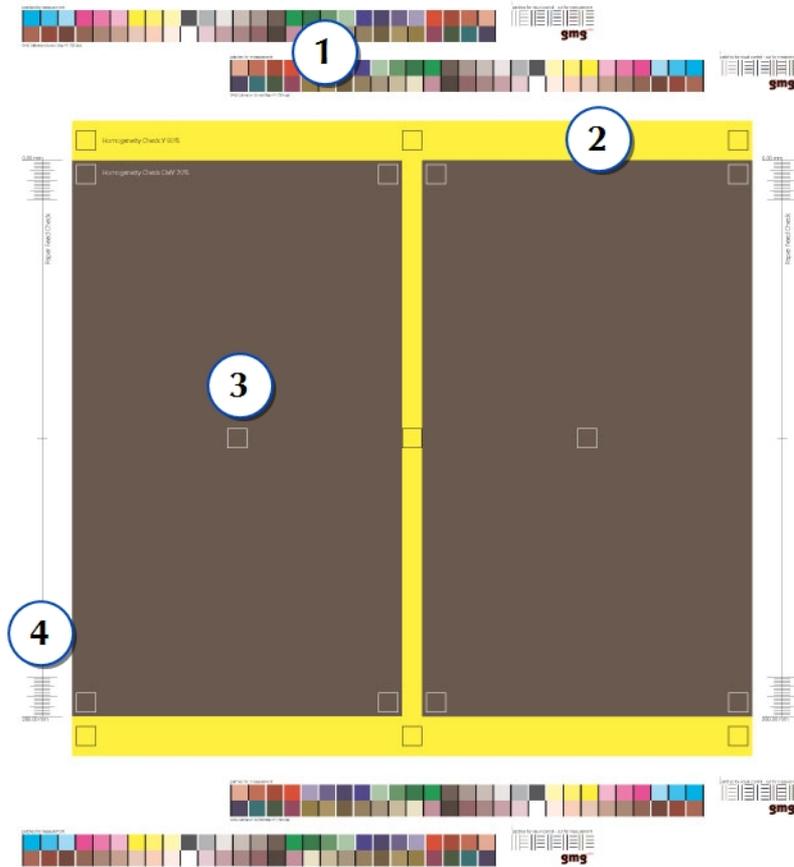


Fig. 4 GMG Print Quality Check test chart for Epson x900 printers.

All test elements are numbered on the chart. You will find a detailed explanation for all elements in the following table.

No.	Element	Description
1	Control strip	Four control strips have been placed on the test chart to evaluate the color consistency and check the print head alignment. These control strips consist of two parts: Patches for measurement and patches for visual analysis . The solid patches are measured with a spectrophotometer. Patches for visual analysis show vertical and horizontal lines on neutral gray. If the lines cannot be clearly distinguished, it is recommended to either perform a print head alignment (vertical lines) or to check the paper feed (horizontal lines).
2	80% Yellow	The color Yellow is very useful as an indicator for homogeneity problems caused by an incorrect paper feed adjustment or print head alignment. Measure the yellow area with a spectrophotometer at the indicated measuring points to evaluate the homogeneity and color consistency.
3	70% CMY Gray	The CMY areas serve to visually evaluate the homogeneity of the print. You can also measure the gray area with a spectrophotometer at the indicated measuring points to evaluate the homogeneity and color consistency. If all recommended steps have been taken as described in "Tips & Tricks for Epson x900 Printers—Check-list" on page 1, the gray areas should show no dark/light patterns, horizontal hairlines or strong colorimetric deviations.

<i>No.</i>	<i>Element</i>	<i>Description</i>
4	Paper feed control	Both sides of the test chart show paper feed controls with a length of 280 mm. Measure the controls with a ruler to see if they have been printed correctly (280 mm) or if they are below or exceeding the specified value. Change the Paper Feed Adjustment according to the differing value and print the test chart again.
