
Print Quality

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Print Quality

Print Quality Troubleshooting Checklist

When faced with a Print Quality problem, use the following checklist as a guide in troubleshooting the problem:

- 1 Problem reproduction
 - Reproduce the problem that the customer is seeing using their original settings.
- 2 Printer configuration
 - Print Mode: Set to **Best** (in the driver).
 - Dry time: Set to **Automatic**.
 - Select the correct media setting when loading the media.
- 3 Hardware check list
 - Firmware Revision
 - Check if the latest version of the firmware is installed. If not update the Printer with the latest firmware revision.
- 4 Printheads
 - Printhead Troubleshooting Process
 - If you don't have any samples yet, reproduce the original problem with the correct printer settings.
 - Perform the **Troubleshooting** procedure using the exact settings and Media that the Customer used when faced with the Print Quality problem.
 - Printhead Alignment and Check
 - Perform the Printhead Alignment using HP High-Gloss Photo Paper. If not available, use Coated media if required.
- 5 Media
 - Make sure that you use HP or HP-approved media.
 - Select the correct media type through the front-panel when loading it.
- 6 Driver print quality configuration:
 - To clarify if the reason of the problem is related with the print mode defined with the Non-HP Driver try the following:
 - Print the same sample using the Non-HP driver and their normal media.
 - Print one of the internal demos using HP Media and configuring

the Printer as indicated previously.

- If the output obtained using the HP Solution is good and the one obtained through the 3rd party solution is bad, HP support organization should communicate to the customer that the problem is not in the Printer and that he should address it through the 3rd party vendor support structure.

7 Service Accuracy Calibration

- Perform "Service Accuracy calibration" using HP High-Gloss Photo Paper.

WARNING

Do NOT use any other type of media apart from HP High Gloss Photo Paper or Bright White InkJet Paper when performing the Accuracy Calibration.

How to Use the Troubleshooting Procedure

What is the Troubleshooting Procedure?

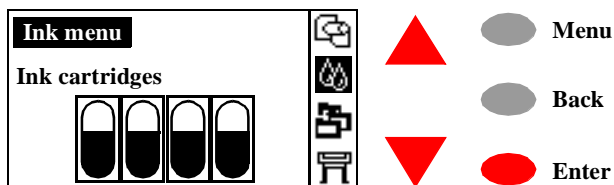
The Printer contains an internal **Troubleshooting** procedure which helps you to diagnose and resolve the possible source of any Image Quality or Line Quality defects. If Print Quality is poor **at anytime**, the **Troubleshooting** procedure should be performed which will determine whether the Printhead needs replacing (by marking it with an exclamation mark) or not after performing various levels of recovery actions.

Considerations for Using the Troubleshooting Procedure.

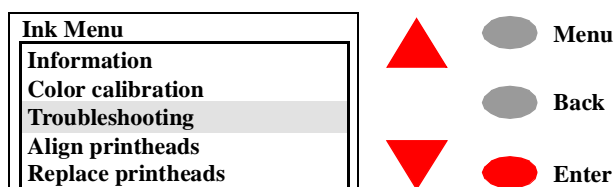
- 1 It is important that the media that you use for the **Troubleshooting** procedure is exactly the same as the one that the customer used when they experienced the print quality problem. If the customer used HP Glossy Paper size A0, then you must use HP Glossy Paper size A0. If you use a different type of media or a different size, then there is a possibility that the print quality problem will not be resolved.
- 2 If the customer is using non-HP media and after the **Troubleshooting** procedure you still have the same print quality problems, change to genuine HP media and repeat the **Troubleshooting** procedure. Using this process you can determine if the problem is with the Printer or with the non-HP media.
- 3 If you do not see any problems with the **Troubleshooting** procedure but still experience print quality problems, then the problem may not be with the Printer itself. The problem may be with the RIP or the driver for example.

Performing the Troubleshooting Procedure

- 1 To perform the **Troubleshooting** procedure press the ↑ or ↓ key until the front panel displays the **Ink Menu** and then press **Enter**.



- 2 Press the \uparrow or \downarrow key until the front panel highlights **Troubleshooting** and then press the **Enter** key.

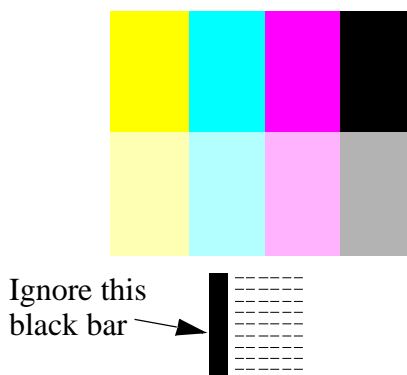


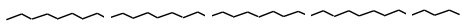
- 3 The Printer first checks to see whether the Printheads have been aligned recently. Misalignment of the Printheads is a common cause of Print Quality problems, so if the Printheads haven't been aligned recently, you are prompted to accept the alignment now.

NOTE

The Printhead Alignment requires a few centimeters of Paper loaded and takes several minutes to perform.

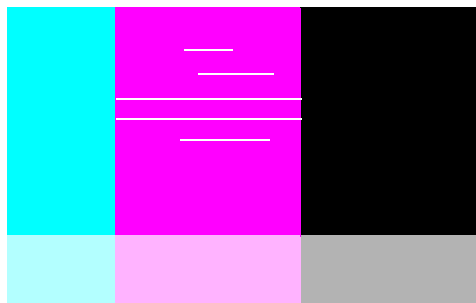
- 4 If the Printheads do not seem to require alignment, the Printer prints the **Diagnostic Print A**, which contains several blocks of color and a block of thin black broken lines.



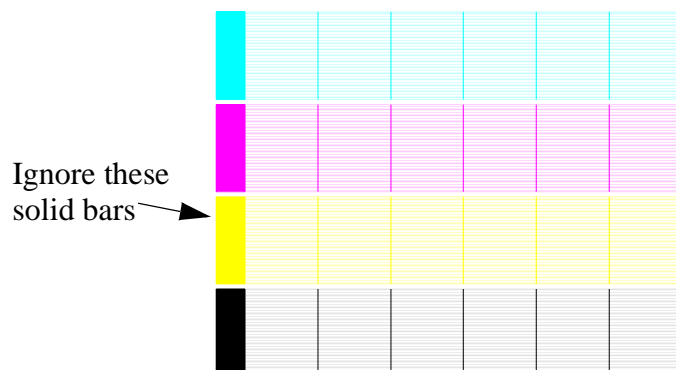
- 5 Examine the broken lines carefully and when prompted by the front panel, indicate whether there are problems with them. The sorts of problems to look for are:
 - Jaggedness or serrations in the thin lines, like this:
  The lines should be straight, though not necessarily perfectly aligned. The irregularities that are significant extend along the whole of the length of the lines. Shorter irregularities, arranged in columns, can be ignored at this stage.
- 6 If you indicate that there is a problem with the dashed lines, you are prompted to perform the **Advance Calibration** procedure.
- 7 If you indicate that the broken lines in **Diagnostic Print A** are OK, then examine the blocks of color carefully and when prompted by

the front panel, indicate whether there are problems with them. The sorts of problems to look for are:

- White streaks or bands in the solid blocks.

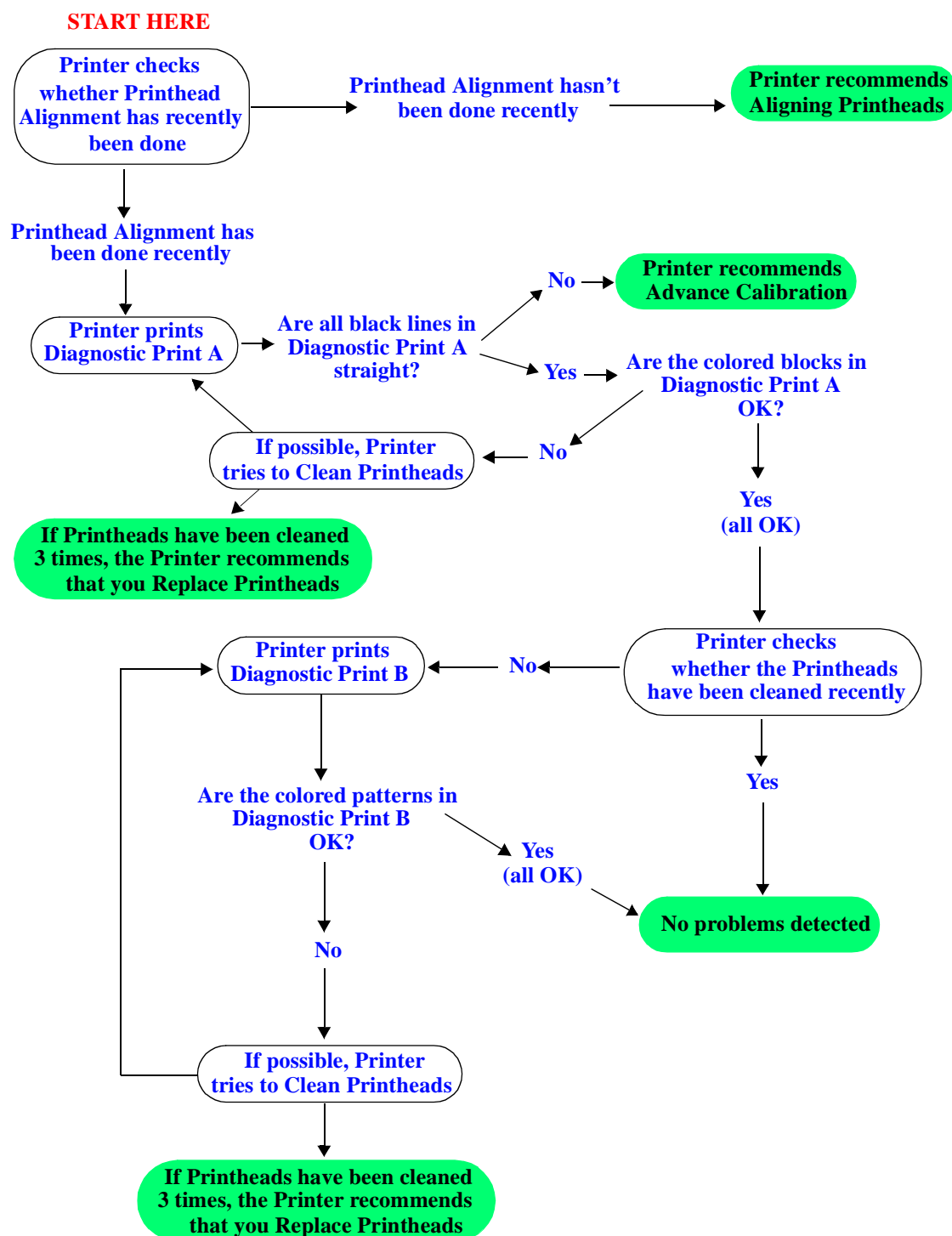


- 8 If you indicate that there are problems in the blocks of color, the Printer will try and clean the Printheads that have the problem. A Printhead can be cleaned up to 3 times in this way after which it will need to be replaced (you will be informed via the front panel).
- 9 After cleaning the Printheads, the Printer reprints the **Diagnostic Print A**, and you need to repeat the previous steps.
- 10 If you indicate that the blocks of color in **Diagnostic Print A** are OK, the Printer will print **Diagnostic Print B**.



- 11 For each color in the pattern in **Diagnostic Print B**, you are asked about the quality - look especially for missing lines. If you indicate that a color is defective, the Printer tries to clean that printhead.
- 12 After cleaning the Printheads, the Printer reprints the **Diagnostic Print B**, and you need to repeat the previous steps.
- 13 If none of the patterns or blocks in the 2 **Diagnostic Prints** show any problems, it could be that the Print Quality problem is caused by a wrong setting in the software, or maybe the print job should have been printed with **Print Quality** set to **Best** instead of **Normal** or **Draft**.

Troubleshooting Procedure Flowchart



No Printing Defects Found Using the Troubleshooting Procedure

If all the test patterns from the **Troubleshooting** procedure are correct and you still experience print quality problems, here are some of the more likely causes to check:

- The print mode used in the Printer is not right for the image that is being printed (this is defined by the printer's front-panel menu selections).
- Non-HP driver.
- The RIP (if it is being used).
- The software application the client is using.

Use the following table to configure the system correctly.

| What to Configure | Configuration Setting | Optimal Setting |
|-------------------------------------|---|--|
| Printer Front-Panel Menu | Media | Make sure you have selected the correct media type in the front panel. |
| | Dry time | Set to Automatic. |
| HP driver (Windows, AutoCAD or Mac) | Print mode setting | Set to Best. |
| Non-HP drivers (Software RIPs) | <p>The settings available depend on the driver. The most typical settings are:</p> <ul style="list-style-type: none"> ■ Print Quality Settings ■ Half Tone ■ Media selection <p>See the user's guide for your application for more information about its print quality settings.</p> | <p>In the software application:</p> <ul style="list-style-type: none"> ■ Set Print Quality to Best ■ Use no Half Tone (or printer default.) ■ Make sure that the media setting matches the media loaded in the printer. |

Solving Color Accuracy problems

These are two areas you should review when troubleshooting a color accuracy problem:

Configuration (PostScript option only)

Check that you are using the correct driver setting and CRD information for the software. Check which ink emulation mode has been selected in the front panel.

Media

Make sure that the media loaded is genuine HP media and that the correct media type has been selected on the front panel and in the driver.

Color Consistency problems

- If color consistency is important for the customer, it is recommended that they do not use HP-GL/2 to print with.
- Some media may discolor or change with age. Check that the media is fresh and has been stored correctly.
- If the environmental conditions that the customer is printing in change rapidly, you may see changes in the color consistency. By reducing the time the print stays in extreme environmental conditions after being printed (especially very high humidity) you can reduce the color consistency problems.
- If you notice that there are color changes between different printers i.e. between the 750C and this printer, it is normal. There will be color differences between HP DesignJet Printers because the other Printers use a different type of ink.

Long Term Color Bleeding (Glossy Papers)

If you see the colors are bleeding into the paper i.e. the color is soaking into the paper making the lines fuzzy and bleary. This will be because of the humidity conditions that the printer is working under:

- Ask the customer to change the paper that they are printing with.
or
- Remove the printer from the high humidity conditions.

Media

Always make sure that the customer is using the appropriate media for the required image and that it is consistent with the software application being used. To ensure color accuracy and print quality performance of the Printer, only media types that have been certified for the Printer should be used. Use of non-HP media or HP media not certified for the printer may significantly reduce the color and print quality of the required images. For details of HP media, refer to the **User's Guide** or the **Media Guide for the HP Designjet Printers**.

NOTE

To have accurate colors, the media settings must match the type of media loaded in the printer.

If the customer is using non-HP media with HP drivers, the colors in the required print may not be accurate. Advise the customer to use HP media if they want to improve the accuracy of the colors.

There are Smears or Scratching on the Printed Media

This problem can appear on paper-based coated media if a lot of ink is printed quickly. The media cannot absorb the ink quickly enough and becomes distorted. As the printheads move over the media, the Printheads and the media come into contact with each other and the printed image is smeared.

- 1 Press the **Cancel** key on the front panel; if you continue to print, the paper may damage the printheads.
- 2 Cancel the print job from your computer application.

In order to obtain better results perform the following:

- Use HP recommended media. If the image you are printing has intense color, use HP Heavy Coated Paper
- Try to increase the print margins by relocating the image on the page from the software application.
- If the customer is using 'Media Saving Options' from the advanced section of the HP- GL/2 Driver, try disabling one or both of the options 'auto rotate' and 'inked area'.

If the above fails to solve the problem of smears and scratching, change the media that the customer is using to a non-paper based media such as HP High Gloss Photo Paper.