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Guide to Troubleshooting the Printer

Introduction

This chapter will guide you through the relevant steps to take when troubleshooting the Printer.

Phone Support

In certain circumstances, a Call Agent can try and troubleshoot the Printer by requesting the Customer to perform a Service Calibration, Test or Utility via the phone. Using this process, it can be determined whether the Printer requires any on-site maintenance.

Which Firmware Version Relates to Which Ink System

A.01.XX - This firmware revision allows the Printers to **only** use Imaging Inks.

A.02.XX - This firmware revision allows the Printers to use **both** the Imaging Inks and the UV Inks.

Troubleshooting System Error Codes

Chapter 2 - *System Error Codes* - contains a list of system error codes and their respective descriptions and recommended corrective actions. Only try one recommended action at a time and check if the error code has disappeared.

If you have an error code which is not documented in this Service Manual or you have an error which you cannot resolve, then report the error to the HP Response Center or the nearest HP Support Office.

NOTE **When reporting the System Error Code, make sure that you supply the full Error Code (including the last 8 numbers where applicable) and the firmware version as well as the status of the Printer when the Error occurred (was it printing, calibrating, processing, etc...). Without this information, HP Support Personnel cannot help you.**

NOTE **When reporting the Error Code, make sure that you supply the full Error Code and the firmware version (displayed during the initialization process when powering ON the Printer or available in the User's Printer Setup ⇒ Utilities ⇒ Statistics menu).**

Performing a Service Test on a Failed Assembly

If possible, always perform a Service Test on the component/ assembly that you are about to replace, just to make sure that is the component/assembly that has failed.

NOTE **If the test on that component/assembly passes, you should NOT replace it.**

For information on the Service Tests and how to use them see Chapter 4, *Service Tests and Utilities*.

Performing the Necessary Service Calibrations

Is the Printer calibrated correctly after replacing a component? Refer to the table on Page *5-2* to determine when a calibration is required.

NOTE **Remember that certain Calibrations are required even if an Assembly has been disassembled to gain access to another Assembly or Component.**

For information on the Service Calibrations and how to use them see 5, *Service Calibrations*.

Troubleshooting Calibration Error Codes

Chapter 5 - *Service Calibrations* - contains a list of Error Codes that are reported when a Calibration fails.

Calibration error codes consist of a four digit number [XXXX].

If you have an error code which is not documented in this Service Manual or you have an error which you cannot resolve, then report the error to the HP Response Center or the nearest HP Support Office.

Troubleshooting Ink Supplies Error Codes

Chapter 3, *HP Ink Supplies Troubleshooting*, contains a list of Error Codes that are reported for Ink Supplies i.e. Ink Cartridges, Printheads and Printhead Cleaners. The error codes are described and recommended corrective actions are provided. Only try one recommended action at a time and check if the error code has disappeared.

Ink Supplies error codes consist of a four digit number [XXXX].

Troubleshooting Initialization - Self Diagnostic Errors

Chapter 4 - *Service Tests and Utilities* - describes the Printer initialization sequence and reports errors that may be reported when Printer initialization is performed.

Self Diagnostic error codes consist of seven alphanumeric characters [XXXXXXX].

If you have an error code which is not documented in this Service Manual or you have an error which you cannot resolve, then report the error to the HP Response Center or the nearest HP Support Office. When reporting the error, have the following information ready:

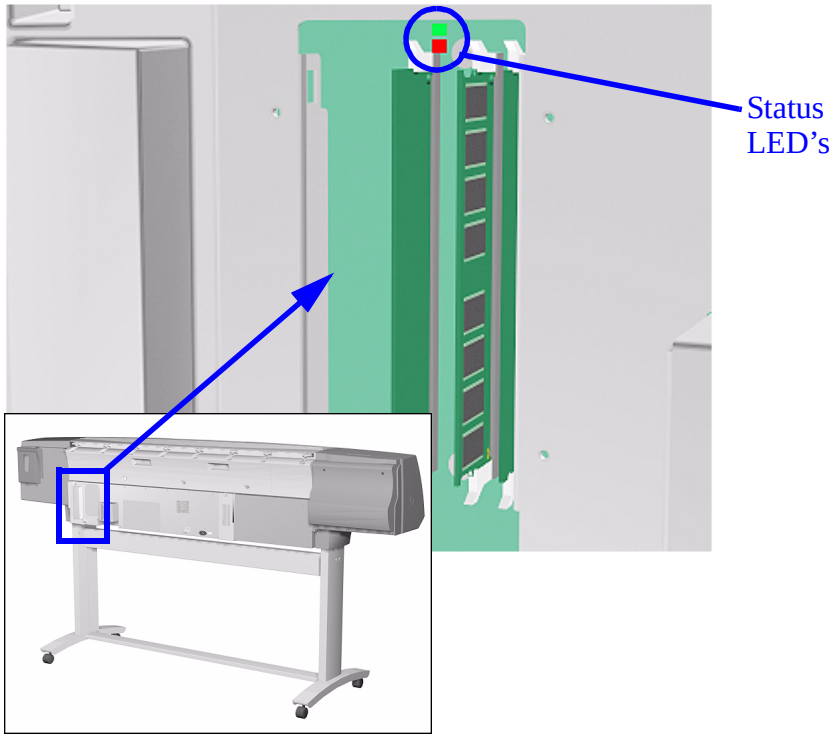
- Which firmware revision the Printer is using.
- The complete error number.

Solving Image Quality Problems

Whenever an Image Quality problem appears, it is advisable to print the Diagnostic Print. This will help you differentiate between possible Printhead errors and other problems such as incorrect front-panel selection, driver or RIP configuration or mechanical problems. For information on solving Image Quality problems see Chapter 6, *Print Quality*.

The Printer does not Power ON

1. Check that the Power Cord is connected correctly to the Printer and to the Power Socket.
2. Check that the Power Switch on the BACK of the Printer is in the ON position.
3. Remove the DIMM's Cover (See ⇒ Page *8-77*) and check the green and red Status LED's on the Main PCA. If they are both NOT lit, replace the Power Supply Unit ⇒ Page *8-88*.



4. Check that the Front-Panel Cable is correctly connected to the Electronics Module. Also make sure that the Front-Panel Cable is not damaged.

ALL the Front-Panel LEDs are Lit but Nothing Else Happens

The BootROM DIMM is NOT correctly installed or is the wrong type.

1. Power OFF the Printer from the back and disconnect the Power Cord. Reseat the BootROM DIMM (looking from the rear of the Printer, the first slot from the left - See ⇒ Page *8-77*) making sure that it is installed correctly.
2. If the problem persists replace the BootROM DIMM ⇒ Page *8-77*.

NOTE **For more information, refer to “Electronics Problems” on page 1-21.**

Troubleshooting Media Jams/Printhead Crashes

NOTE **If using HP Coated Media when problem occurred, please also refer to *Page 1-11*.**

The failure modes “media jam” and “head crash” are grouped together because in many cases a media jam causes the media to lift up into the carriage path and cause a head crash, thus causing many media jam failures to be reported as head crashes.

1. Did the media jam occur when loading media?
   - If the client has had media jams, it is common for pieces of media to get stuck in the media path. Clear the media path.

NOTE **When clearing a media jam, sometimes media is stuck in the paper path. To clear this, you must lift the media lever and insert thicker media into the paper path to push out the media that is still stuck there.**

2. Is the customer using non-HP media?
   - The use of non-HP media can easily be the cause of media jams and head crashes (especially head crashes because HP media is specially formulated to avoid cockle, one of the primary causes of head crashes). If the media is not HP approved, advise the customer to use HP media and check to see if the problem is now solved.
3. The Carriage is at the incorrect height in relation to the Center Platen. Adjust the carriage to the correct height ⇒ Page *5-18* and try to load the media again.
4. Check that the Vacuum Fans work correctly - **Refer to *Page 1-10, Problems with Vacuum* .**

Troubleshooting Shutdowns - User Message "Warning: Switch Power Off"

If a shutdown occurs, you will get the message “Warning: Switch Power Off” followed by:

- Check Printhead Cleaner Path.
- Check Paper Path.
- Check Printhead Path (followed by (1), (2) or (3)).

A shutdown in each path will require different steps to resolve the problem as explained as follows.

WARNING **In each case, make sure that you power OFF the Printer before attempting any procedures to resolve the problem.**

Check Printhead Cleaner Path

This message appears whenever the Service Station Carriage does not move, either because of a bad cable connection, a defective motor or because of some obstacle inside the Service Station.

- If the Printer is **new**, check that the Service Station cable (which is the grey flat cable with the grey connector) is plugged into the Main PCA. Make sure that the clips of the connector are closed completely. Check also that the Service Station cable is not damaged.
- In already used Printers, power OFF the Printer and try to move the Service Station backwards and forwards to see whether it is blocked. Possible causes are: Printhead Cleaners incorrectly positioned, damaged or, even, pieces of paper within the Service Station. Remove the Printhead Cleaners or the pieces of paper and check whether the problem persists.
- If the problem disappears without the Printhead Cleaners, reinsert them into the Service Station and see whether the problem reappears. If the problem reappears, replace the complete set of Printhead Cleaners.
- If the problem persists even without the Printhead Cleaners, then replace the Service Station (⇒ Page *8-69*) and recalibrate the Printer.

Check Paper Path

This warning appears whenever the friction on the Paper-Axis is too high: the electrical current needed by the Paper-Axis Motor to move the paper is too high, so before burning the motor or the Main PCA, this warning appears. The common reason for this error is an internal paper jam or at the end of a roll of media the paper is glued to the media core. It can also be due to a defective motor or Main PCA.

- Check that there are no pieces of paper left inside the Printer, especially if it happens after a paper jam.

NOTE

One way to verify this easily is to take a rigid sheet of paper and move it along the paper path with the media load lever lifted.

- Also, check that the customer has inserted the spindle hubs completely, otherwise they may rub against the side plate and increase the friction.
- If the error still persists, check that the Paper-Axis Motor cables are connected correctly and that they are not damaged.
- If the Printer still fails, replace the Paper-Axis Motor ⇒ Page *8-105*.

NOTE

Turn the Drive Roller by hand once the motor is removed to verify that it turns smoothly. Also, after replacing the Paper-Axis Motor, perform the Media-Axis Test (⇒ Page *4-11*) and check that the values are within the given limits.

- If the Printer still fails, replace the Main PCA ⇒ Page *8-81*.

Check Printhead Path (1)

This warning appears whenever friction on the Scan-Axis is too high: the electrical current needed by the Scan-Axis Motor to move the Carriage is too high, so before burning the motor or the Main PCA, this warning appears. The usual reason for this error is an internal paper jam, an obstacle in the Printhead path, a broken belt, badly installed Ink Supply Tubes, etc.

- Apply Oil along the complete axis of the Slider Rods with the User's Slider Rods Lubrification Kit ⇒ Page *9-8*.
- Also, switch OFF the Printer and move the Carriage from side to side to verify that it moves smoothly.
- If the Printer still fails, check that the Scan-Axis motor is connected correctly to the Main PCA and that the cable is not damaged.
- If the error remains, replace the Belt (⇒ Page *8-46*) or the Scan-Axis Motor ⇒ Page *8-57*.

NOTE

Also, after replacing the Scan-Axis Motor, perform the Scan-Axis Test (⇒ Page *4-9*) and check that the values are within the given limits.

- If the Printer still fails, replace the Main PCA ⇒ Page *8-81*.

Check Printhead Path (2)

This is a safety shutdown and occurs whenever there is a discontinuity in the Printhead path, because of an obstacle, oil drops on the Encoder Strip, the Carriage cover touching the tube guides, etc.

- Switch OFF the Printer and move the Carriage from side to side to verify that it moves smoothly.
- If it still fails, check the Encoder Strip and, if necessary, clean it.

Check Printhead Path (3)

This is always caused by high friction in the Printhead path. Only in very special cases, when it happens inside the Left Hand Cover, incorrect assembly of the tube system causes it.

- Apply Oil along the complete axis of the Slider Rods with the User's Slider Rods Lubrification Kit ⇒ Page *9-8*.

Replace Message "xx15 Replace" and "xx16 Replace"

In certain circumstances (e.g. Printhead crash without Printer shutdown), the message "xx15 Replace" or "xx16 Replace" may appear on the front panel. This is due to a temporal disconnection between the Printhead and the flex circuit in the Carriage Assembly.

- Clean the Printheads and the Carriage interconnects (refer to page 9-6, *Carriage Interconnect Wiper*) and reseat the failing Printheads.

Problems with Vacuum

If you have problems loading either Roll or Sheet Media, then there could be a problem with the Vacuum Fan or Booster Fan. To verify if there really is a problem with Vacuum, try the following:

1. With the Printer ON, open the Window of the Printer and place a sheet of HP High Gloss Photo Paper (must be D-Size), aligned with the blue lines on the Center Platen. If the Vacuum holds the sheet in place, and then loads it correctly, then the Fans function correctly. If the Vacuum does not hold the sheet in place (no suction), then try the following:
   - Check that the holes in the Center Platen are NOT blocked.
   - Clean the Overdrive using the Platen Cleaning Utility ⇒ Page *9-9*.
   - Check that the Vacuum and Booster Fans are installed correctly.
   - Replace the Vacuum Fan ⇒ Page *8-103*.
   - Replace the Booster Fan ⇒ Page *8-108*.
2. If the Vacuum held the sheet in place, but couldn't correctly load it, then there could be a problem with the Overdrive. In this case, replace the Center Platen Assembly ⇒ Page *8-117*.

Vacuum suction much lower at high altitudes

At altitudes above 2,000 meters, the vacuum force holding down the media will be lower, therefore the media will not be held in place properly causing:

- Ink Smearing on the Media.
- Printhead crashes against the Media.
- Cut Sheet loading problems (high probability).
- Roll Media loading problems (low probability).

To solve the problem, try the following:

- Using the "1.3 Altitude Setup" in the Service Utilities, set the altitude to "1.3.2 2000 m or more" (see Altitude Setup 4-22).

Printhead Crashes/Smears on High Density Prints Using Coated Media

High density prints can cause cockle mainly on HP Coated Media. This causes two main problems:

1. Cockling in the borders - Because the Printer places too much ink on the Coated Media, the borders of the print become raised, causing the Printhead to crash against the media. To solve the problem, try the following:
   - Try using Heavy Weight Coated Media instead of Coated Media.
   - Change the paper margins to “Extended” in the Printer Setup menu/Page Format/Margins or in the Driver. If the customer is printing PostScript images, send them a PPD file containing the extended margins.
   - Use the Deflectors.
   - Upgrade the Firmware ⇒ Page *9-11*.
2. Cockling within the print - If the Printer places too much ink within the print, the media starts to ripple, causing the Printhead to smear against the media. To solve the problem, try the following:
   - Never use HP Coated Media for High Density prints. As a substitute use HP Heavy Weight Coated or Heavy Weight Coated (Economy) Media.

Color differences in different HP DesignJet Printers

Color differences between one image printed on the HP DesignJet 5000 Series and the rest of the DesignJet platforms are due to the different chemistry of the 5000 series inks compared with the rest of the inks for other printers. This color variability among different HP DesignJet Series Printers has been always present. You can try to achieve consistent colors with the following:

- Select the same color emulation settings in your Postscript Driver as the one used by the printer you want to emulate.
- Select the correct Ink Emulation from the Printer Setup Menu/ Internal RIP Settings.

Banding at variable extreme environmental conditions

The Accuracy Calibration has been done at normal environmental conditions, therefore printing in extreme environmental conditions will cause banding because the advance of the Drive Roller does not correspond to the same conditions that the calibration was done in. To solve the problem, try the following:

- Perform the Accuracy Calibration in the new environmental conditions (Refer to the User's Guide - Media Solutions).

Banding with unsupported Media

The Accuracy Calibration has not been done for the Media now loaded. Banding may occur because the advance of the Drive Roller does not correspond to the same conditions that the calibration was done in. To solve the problem, try the following:

- Select the Media loaded in the "Media Options" menu and perform the Accuracy Calibration (Refer to the User's Guide - Media Solutions).

Banding due to Ink Cartridge replacement while printing

A user has removed the Ink Cartridge while the Printer was printing, which has caused the Printer to stop. If the user does not replace the Ink Cartridge immediately, when the Printer starts to print again, a band will appear in the position where the printing restarted. This is because the wet ink interacts with the dried ink on the media causing the band to appear. To solve the problem, try the following:

- Do NOT remove the Ink Cartridge while the Printer is Printing. Only replace/remove Ink Cartridges in between Prints.
- If the Ink Cartridge was replaced due to the "Empty" status on the Front Panel, then advise the customer to replace the Ink Cartridge when the "Very Low" status is showing on the Front Panel.

Hue shift on HP Colorfast Adhesive Vinyl media

Under high humidity conditions (approx. >65%) the colors tend to fade over time, particularly colors that require Magenta. To solve the problem, try the following:

- Reduce the level of humidity (<65%) that the Printer is working in. To find the humidity level, print the Service Configuration Print (*Printer Setup Menu* / *Utilities* / *Test prints* / *Service config*).
- Laminate the prints.

Black Smearing on HP Photo Imaging Gloss

Narrow black lines can smear on this type of media, particularly if the lines are narrow and have white gaps in between them. Try the following:

- Increase the Dry Time using the Front Panel (Refer to the User's Guide).
- Laminate the prints.

Magenta Bleeding on HP Photo Imaging Gloss when using the Take-Up Reel

Under high humidity conditions (approx. >70%) this media reduces its capacity to absorb Magenta because of this color's particular characteristics. When an area fill with magenta is printed and then rolled onto the Take-Up Reel the ink that is not completely dry moves laterally on the media. To solve the problem, try the following:

- Reduce the level of humidity (<70%) that the Printer is working in. To find the humidity level, print the Service Configuration Print (*Printer Setup Menu* / *Utilities* / *Test prints* / *Service config*).
- Increase the Dry Time using the Front Panel (Refer to the User's Guide).
- Do not use the Take-Up Reel or Bin for this media when humidity levels are high.

Loss of Gloss on HP Photo Imaging Gloss when using the Take-Up Reel

Under high humidity conditions (approx. >70%) the polymer chain in the coating of this media relaxes and the drying rate decreases. If the printed media is rolled onto a Take-Up Reel or is covered by another print, the contact between the two surfaces could cause blotches in the gloss. Try the following:

- Reduce the level of humidity (<70%) that the Printer is working in. To find the humidity level, print the Service Configuration Print (*Printer Setup Menu* / *Utilities* / *Test prints* / *Service config*).
- Increase the Dry Time using the Front Panel (Refer to the User's Guide).
- Do not use the Take-Up Reel or Bin for this media when humidity levels are high.

Dry Cockle on High Density Prints Using Paper Based Media

High density prints can cause dry cockle mainly on Paper Based Media.

To solve the problem do the following:

- Use the Take-Up Reel and Take-Up Reel deflectors.
- Set the Printer to **Productivity** mode to reduce the ink density.
- Select Coated media modes

If the problem persists, try the following:

- Laminate the prints.
- Use a heavier media that is more suitable to high ink density, such as HP Paper based Semi-Gloss or HP Poster Paper.

Wrinkles and scratches (cockle) on HP Coated and Heavyweight Coated Media.

Images may be damaged if prints are not handled with care, particularly when handling wide plots. This can happen when images are placed on top of one another and there is movement between them, causing friction and loss of ink from the surface if it is not completely attached. Also, if plots are rolled up, wrinkles can occur. To avoid this problem try the following:

- Always handle plots with care.
- Use of the Take-Up Reel eliminates handling and avoids wrinkles.
- Use heavier media.
- For Heavyweight Coated media, select faster print modes such as Heavyweight Coated (Economy) for Media selection, and/or **Productivity** Print mode.
- If damage is slight, Lamination will help towhead' defects.
- Use of Fixative Sprays immediately after printing may protect the image.

Worm marks (cockle) on part of plots on paper based media

At high temperatures and under dry conditions, worm marks may occur on initial parts of plots when printing solid fill areas in medium tone colors. Try the following:

- Advance the media manually by 15 mm.
- Select Heavy Coated for Media setting.
- Select **Productivity** mode to reduce ink density.

Drying Time Too Long for HP Studio Canvas

Under conditions of high humidity (> 70%) HP Studio Canvas retains a high amount of water and takes too long to dry, also creating problems in using the Take-Up Reel and Bin. To solve the problem try the following:

- Reduce the level of humidity (<70%) that the Printer is working in. To find the humidity level, print the Service Configuration Print (*Printer Setup Menu* / *Utilities* / *Test prints* / *Service config*).
- Increase the drying time using the Front Panel settings (Refer to the User's Guide).
- Do not use the Take-Up Reel or Bin under conditions of high humidity.

Media Skew when Printing a Banner Plot

When printing banners, media skew occurs. This is particularly noticeable in the first plot when media is not perfectly aligned. To solve this problem do the following:

- Use extended margins for banner plots (Refer to the User's Guide).

User message "Media loaded incorrectly. Remove media"

This message appears when the media sensor has detected media, but the line sensor has not detected the leading edge of the media at all or has found it in an incorrect position.

There are three possible situations when this message comes up:

1. The paper is in the incorrect position because the Printer was turned OFF in the middle of a print. It should only happen in printers without the Take-Up Reel (42" model), because with the Take-Up Reel installed the Printer will not search for the leading edge after the Printer has been powered-up or after activating the media load lever. The Printer simply continues to print wherever it stopped.
   - To verify this setting, check in "Printer Setup Menu > Device setup > TUR installed". It should be set as **No** for the 42" model Printers and **Yes** for the 60" model Printers.

2. The media sensor is defective. To verify this, remove the media and re-boot the Printer. If the message comes up during initialization, the media sensor is defective. To solve this, try the following:
   - Check that the media sensor cable is connected correctly
   - Check that the media sensor cable is **not** damaged and that the media sensor is clipped correctly.
   - Replace the Media Sensor ⇒ Page *8-109*.
3. The Line Sensor does not detect the leading edge of the media. To verify this, load media (ideally white media such as Coated or Photo-Gloss) into the Printer. If the message comes up during the loading process, the Lens Cover Assembly is either not installed correctly or it is dirty. In this case, replace the Lens Cover Assembly ⇒ Page *9-5*. If this fails, replace the Carriage Assembly ⇒ Page *8-46*.

User message "Warning: Incorrect type of tubes system"

This error message appears if the electrical connector of the Ink Tubes System is not connected correctly (especially after the Tubes have been replaced). Other causes are defective EEROM in the Ink Tubes System or ISS PCA.

- Switch OFF the printer, open the rear left cover and connect or re-connect the Electrical Cable (the colored flat cable) that is connected to the rear of the Ink cartridge Tube Connector.
- If the problem persists, check that the Electrical Cable is connected correctly to the ISS PCA.
- Replace the ISS PCA (⇒ Page *8-91*) or the Ink Tubes system (⇒ Page *8-25*).

User message "Power Supply Error #1"

This error indicates a short in the 24V electronics circuits. Do not replace the Power Supply; This message only indicates the failure, and is not the cause. Usually this message appears after the insertion of a Trailing Cable into the connectors. This message means that the Trailing cable is incorrectly connected, and it is creating a short on the 24V circuit.

- To isolate the problem, remove the Trailing Cable from the back of the Printer and check whether the Printers powers up correctly.
- If the Printer powers up correctly, the problem could have been a bad

Trailing Cable connection, so just reconnect the Trailing Cable again to double-check that the Printer now works. If, after reconnecting the cable, the error appears again, either the Carriage PCA or the Trailing Cable is defective. In this case, first try replacing the Trailing Cable and then the Carriage Assembly.

- If the Printer did not initialize correctly, even after removing the Trailing Cable, the problem is either in the Main PCA or the ISS PCA. So, once again, to isolate the failure, disconnect first the ISS cable and check whether the Printer works. If it does, reconnect the cable again to verify the failure and then, if necessary, replace either the ISS cable or the ISS PCA.
- If the Printer still does not initialize, even after removing the Trailing Cable and the ISS cable, replace the Main PCA.

Cutter Assembly Problems

1. The Printer does not cut (even when using the Form Feed & Cut option in the Front Panel).

   In this case it is very likely that the cutter is disabled in the EEROM. This can happen whenever the Diagnostic Print is cancelled in the middle of the print, or if the Printer was turned OFF in the middle of the Diagnostic Print.

   - To re-activate the Cutter, print the Diagnostic Print again and this time letting it finish to the end without any interruptions.
   - If the Cutter still doesn't cut after re-printing the Diagnostic Print, replace the Cutter Assembly ⇒ Page *8-60*.

NOTE **This problem is solved in any A.02.xx firmware release.**

2. The Cutter does not cut thick paper (Canvas & Non-HP Media).

   As in all DesignJets, the Cutter can only cut media up to a certain thickness (such as Heavy Coated or Photo paper). Thicker media or special media (such as Canvas) cannot be cut.

   - Taking this into consideration, when Canvas is selected on the front panel, the cutter is automatically disabled, but there is nothing wrong with the cutter.

3. The Printer hangs while cutting.

   The Printer hangs and the Carriage stops if the window is opened during the cutting operation. In addition, when pressing any key, the Error Code ffff ffff 03450097 may appear on the front panel.

   - Re-boot the Printer and make sure the customer does not open the window while the Printer is cutting.

NOTE **This problem is solved in any A.02.xx firmware release.**

Carriage and Scan-Axis Problems

1. Printhead continuity problems.

   When installing the Ink Tubes System, it is possible that the crane (the part of the Tubes System that is connected to the front of the Carriage) is not clipped properly. This can cause Printhead continuity problems afterwards, especially in the light cyan and light magenta Printheads (XX16 REPLACE message appears for these Printheads).

   - Whenever there is a Printhead continuity problem, always check that the crane is completely clipped to the front of the carriage.

2. Unknown Line Sensor ID.

   When performing the Scan-Axis Calibration, the Printer asks for the Line Sensor ID. But there is no label on the Line Sensor indicating it.

   - If the Line Sensor ID is not indicated on the Line Sensor, use the default value which is "0". In the future, if the LED's are modified, a sticker will be included with the new Line Sensor ID.

3. Line Sensor is shown as "Not calibrated" in the Service Configuration Print.

   This is a firmware bug. It is possible that the Line Sensor **is calibrated** even though the Service Configuration Print indicates that the Calibration has not been performed.

   - Just ignore this information about the Line Sensor calibration.
   - If there are any errors related to the Line Sensor, perform the Scan-Axis calibration to make sure that the Line Sensor calibration is completed.

Media-Axis Problems

1. Printer unloads media (it suddenly starts to rewind and unloads the media)

   If the window was raised at exactly the same moment when the Printer moved the media (e.g. during media loading) from that moment onwards the Printer will always reject the media unless the Printer is turned OFF and then back ON again.

   - Problem disappears after re-booting the Printer.

NOTE **This problem is solved in any A.02.xx firmware release.**

Electronics Problems

1. The Printer hangs with the front panel completely blank and the three Image Quality LED's lit.

   The firmware has a bug that creates this situation whenever the Printer is receiving data from an external RIP.

   - The customer should print using the HP Driver to check that the Printer is printing without any problems.
   - The only solution to this problem will be to upgrade to the firmware for the UV inks (A.02.XX) when it is available.

NOTE **This problem is solved in any A.02.xx firmware release.**

2. The Printer hangs at "Initializing Please Wait".

   The Printer hangs showing the following front panel message for more than 5 minutes: "Initializing Please Wait, Code Rev. xxxx, Boot ROM. xxx, etc".

   The cause for this failure could be either a print sent through the Parallel or LAN port during initialization, or a defective I/O card.

   - Power OFF the Printer, disconnect the Parallel and/or the Network cable and power ON the Printer again to see if the Printer hangs again.
   - If the Printer **did not** hang again, then the problem was due to the Printer receiving data through the ports while the Printer was initializing. Before connecting the cables again, make sure that all the pending print jobs are purged.
   - If the Printer **did** hang again, then power OFF the Printer, remove the I/O card and power ON the Printer again to see if the Printer still hangs.
     – If the Printer **did not** hang again, install the I/O card in the second slot and check whether it works there. If the I/O card causes the Printer to hang again, replace the I/O card. If the Printer continues to hang, even with a new I/O card, then replace the Main PCA ⇒ Page *8-81*.

3. The Printer is printing slower compared to another HP DesignJet 5000.

   It is important first to determine whether the differences are during receiving/processing, during printing or once the print is finished.

1. **The time the printer takes to start printing is longer**.
   - Check that the "Start printing option" is set the same for all Printers.

NOTE **For troubleshooting purposes, set this option to "After Processing". In this way the time reported is the time needed to receive the data and to process it and the printing time is not taken into account.**

   - If there are differences still, it is probably due to the customer's network configuration.

NOTE **Make sure that the Printer is not processing or printing another job while doing this test, because this might have affect the outcome.**

   - Once finished, return the Printer to the recommended setting, which is "Optimized".

2. **The actual printing time is slower**.

   This may be due to the Carriage stopping at the end of each swath, one Printer making more passes or the Carriage moving slower.
   - Check that the dry time is turned off.

NOTE **If the dry time is turned ON, the Carriage might stop at the end of each swath, because the Printer uses the dry time (i.e. the humidity and temperature reading) to adjust the printing speed. This is necessary to ensure that the print is completely dry before it can either touch the Media Bin or is rolled up with the Take-Up Reel.**

   - Check that the Image Quality setting on the front panel (while the Printer is printing) is the same for all Printers.

NOTE **The setting while the Printer is in the stand-by mode might be different to the actual LED that lights up during printing.**

   - Check that the Image Quality setting in the Driver is the same for all the Printers.
   - Check that the memory size, shown on the front panel, is the same for the Printers that are being compared. (Standard configuration: 192Mbyte for C6096A and 128Mbytes for C6090A/C6091A/C6095A).

3. **The dry time at the end of the print is longer**.

   Normally the Printer uses the temperature and the humidity reading from the ISS PCA to calculate the dry time, which is required for the print to dry before being cut. The specification of these readings is +/- 15%, so a variation in the calculated dry time of up to 30% is within specification.

   - To check the correct functioning of the sensor, print the "Service Configuration Print" and check that both the temperature and humidity readings are correct (i.e. within the specification). If not, replace the ISS PCA ⇒ Page *8-91*.
   - As an alternative solution, turn OFF the dry time, and then all the Printers should finish the print at the same time.
   - Another alternative is to set the dry time manually on all the Printers.

NOTE **This dry time will be applied to all the prints.**

Language Selection is blocked in a brand new printer

Normally the user has about 2 minutes (initialization time) to select the language in the Front Panel. If the language is not selected within this time period, the Front Panel is locked.

- To recover from this problem, just re-boot the Printer and select the language within the specified time (2 minutes).

Firmware Upgrade Does Not Work Through the Parallel Port

With firmware revisions A.01.10, 11 & 12, the Printer will remain at 90% when doing a Firmware upgrade via the parallel port.

- For the customer, recommend using the network to print and to perform the Firmware upgrade.
- For Service Engineers:
  - Keep the "Top Arrow" key on the Front panel pressed down when turning the Printer ON, and release it once the "Boot Menu" appears.
  - Select "Upgrade Firmware" in the Boot Menu.
  - Send the firmware through the parallel port.

NOTE **This problem is solved in any A.02.xx firmware release.**

Typical Failures After Exchanging the Ink Tubes

The following table contains typical failures that could appear after changing the Ink Tubes:

Failure	Description	Solution
After completing the initialization process, the Front Panel displays: **WARNING** **Incorrect type of Tubes** **System** **Switch power off**	The electrical connector has **not been** correctly connected to the Ink Cartridge connector.	**1** Switch OFF the Printer. **2** Connect the electrical connector into the Ink Cartridge tube connector. **3** Switch ON the Printer.
When you try to print, the Front Panel displays: **System Error** **0a0000 00000002** **Contact HP Representative**	The air tube has **not been** correctly connected to the Ink Cartridge connector.	**1** Switch OFF the Printer. **2** Connect the air tube into the Ink Cartridge tube connector. **3** Switch ON the Printer.
When you try to insert an Ink Cartridge, you keep getting the following message for one or more Ink Cartridge: **XX02 Reseat**	The three latches at the rear of the Ink Cartridge tube connector have **not been** locked correctly.	**1** Remove the Ink Cartridges. **2** Open the door at the back of the Left Hand Cover. **3** Correctly lock the 3 latches. **4** Close the door and insert the Ink Cartridges.
When you try to insert a Printhead, you keep getting the following message for one or more Printhead: **XX02 Reseat**	The Printhead tube connector has **not been** correctly connected to the Carriage Assembly.	**1** Remove any Printhead(s). **2** Make sure the Printhead tube connector is fully connected to the Carriage Assembly. **3** Insert the Printheads.
When you try to insert a Printhead, you keep getting the following message for one or more Printhead: **XX11 Reseat**	Normal Printheads are being inserted **BUT** the Printer requires Setup Printheads to prime the Ink Tubes.	**1** Insert the Setup Printheads provided with the HP Upgrade Kit that allows automatic printing.
After you have inserted the Printhead Cleaners, the Front Panel displays the following message: **XX05 Replace**	The wrong type of Printhead Cleaners have been inserted for the type of Ink System installed in the Printer.	**1** Remove the Printhead Cleaners. **2** Make sure that they are of the same type as the rest of the consumables (No.81 or No.83). **3** Replace the incorrect ones.

Solving Media-Handling Problems

NOTE **HP Designjet Printers minimum media size is A3 in portrait mode.**

The Front Panel Keeps Indicating that Media Is Misaligned or Incorrectly Positioned

Roll media

- The roll may be loaded the wrong way. The paper should load over the roll toward you.
- The media may be crumpled or warped or have irregular edges.
- The paper may be loaded at an angle. The right-hand edge must be parallel to the blue line on the paper entry roller.

WARNING **Ensure that the paper is wrapped tightly on the roll. This is a very important step to remember because if this is not done, the media may be loaded at an angle, causing the media to be rejected.**

- Perform the manual alignment procedure (Refer to the User's Guide).
- Check that the paper is correctly loaded onto the spindle.

Sheet media

- It must be loaded with the right-hand edge against the blue perforated line on the Printer.
- Align the media against the trailing edge coming out of the Printer.
- The media may be crumpled or warped or may have irregular edges.
- If you are using hand-cut media, the edges may not form a right-angle or they may be rough. Do not use hand-cut media. Use only purchased sheet media.
- If the media you are trying to load is very slippery, hold the media with both hands, and gently push the media into the Printer until it buckles upwards in the middle, this will help the Printer to load it.
- If the Overdrive is covered in dust, it will have problems picking up the sheet media during the load process. Clean the Overdrive using the Platen Cleaning Utility ⇒ Page *9-7*.

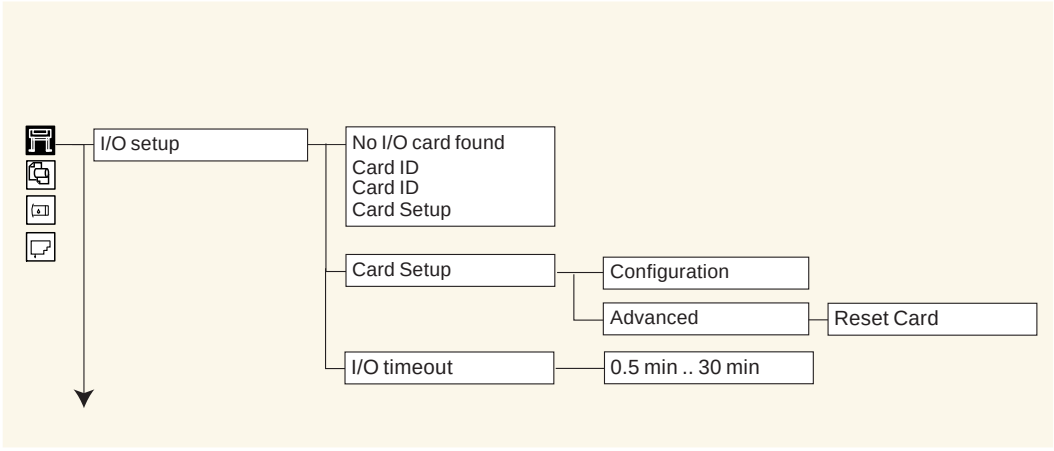
Prints Do Not Stack Properly in the Media Bin

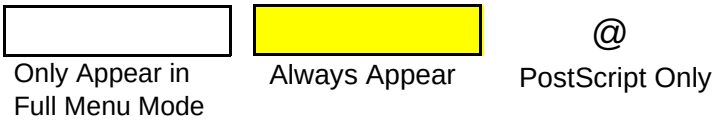
- The Printer may be too close to the end of the roll. The natural curl near the end of the roll can cause stacking problems. Load a new roll or remove prints manually as they are completed.
- If you are mixing prints or nesting sets of several different sizes, you may have stacking problems because of the different sizes of media in the bin.

How to Navigate through the Front Panel Menus

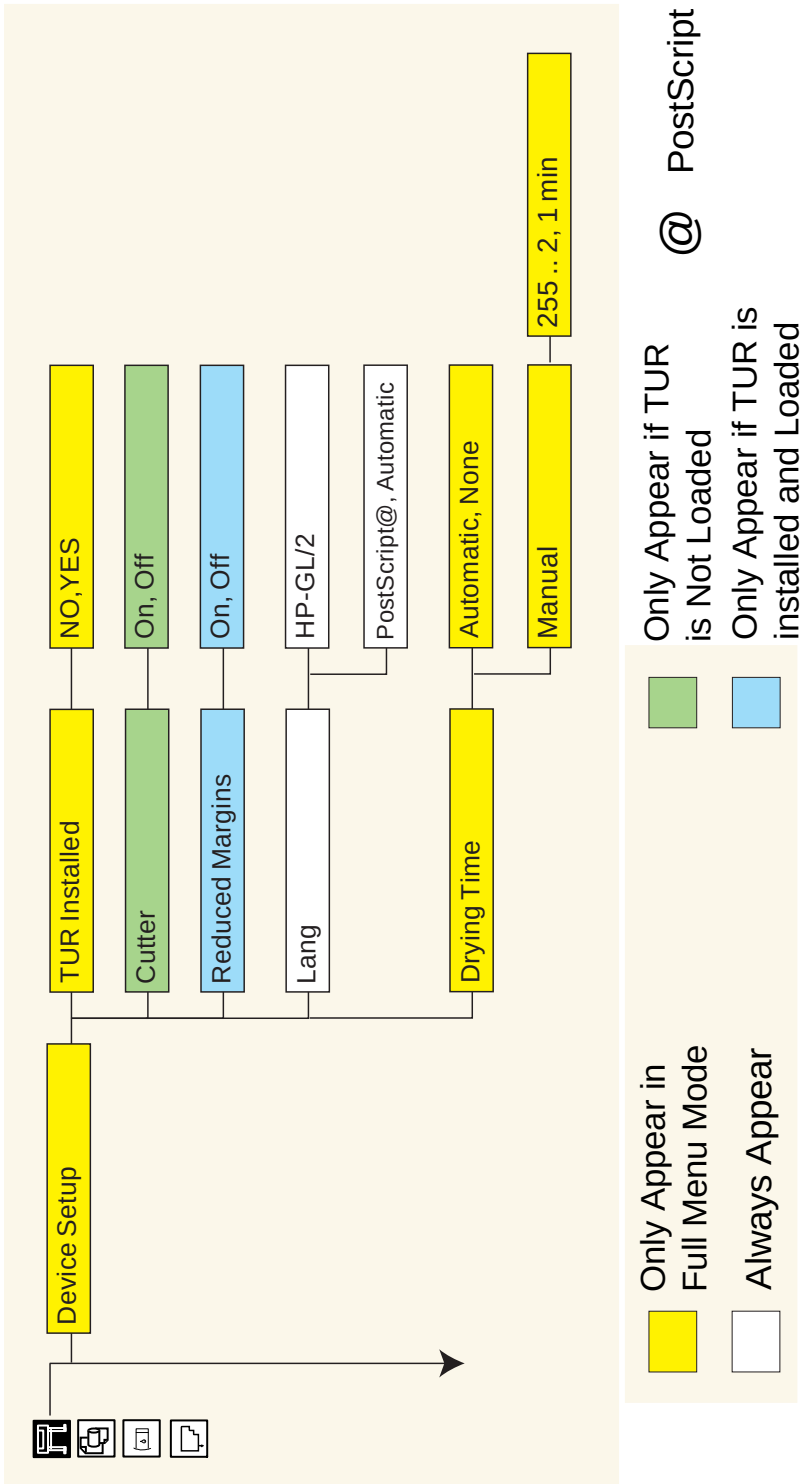
Shaded boxes always appear in the front panel. White boxes appear only in **Full** menu mode.

I/O Setup Menu

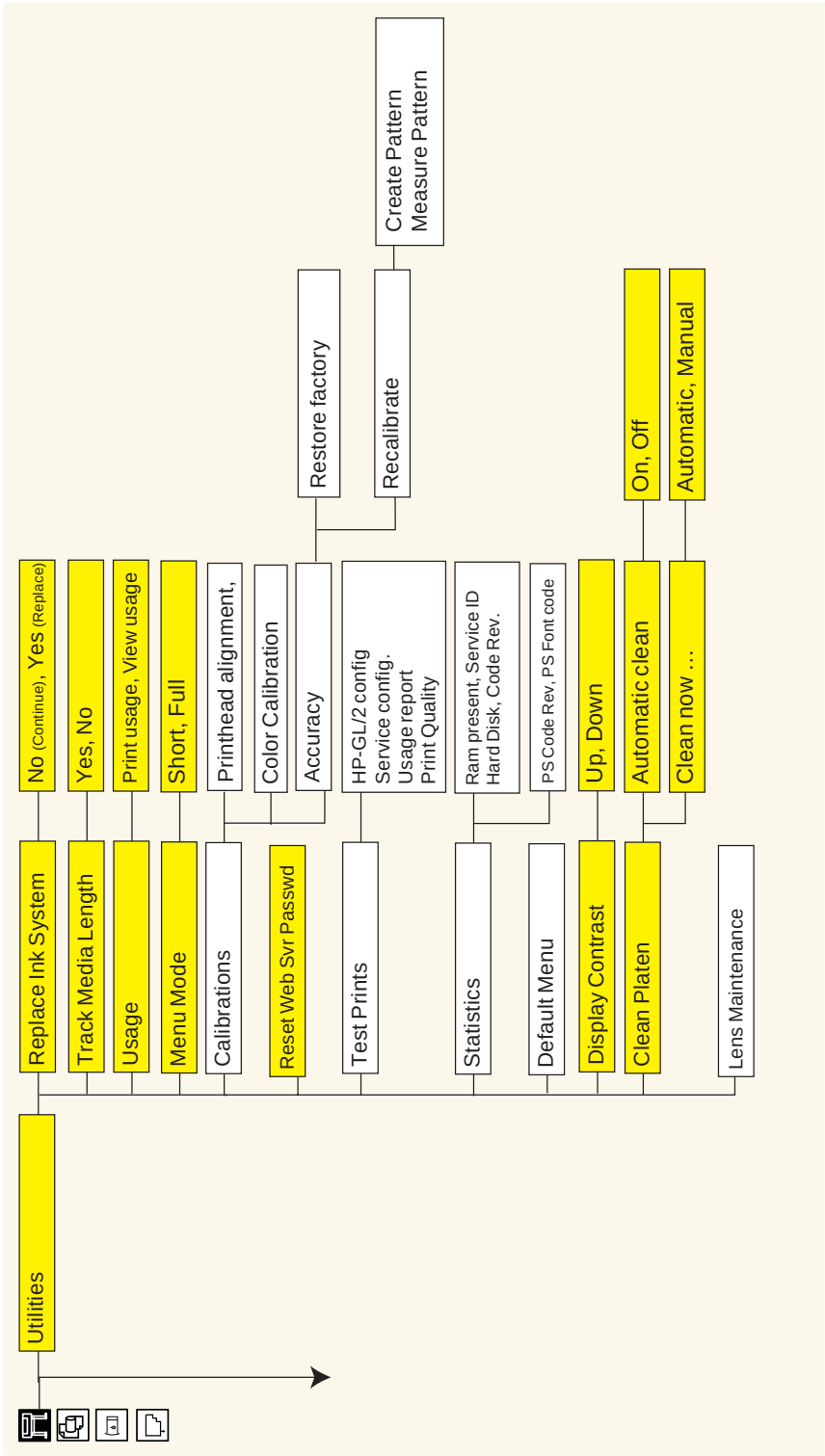




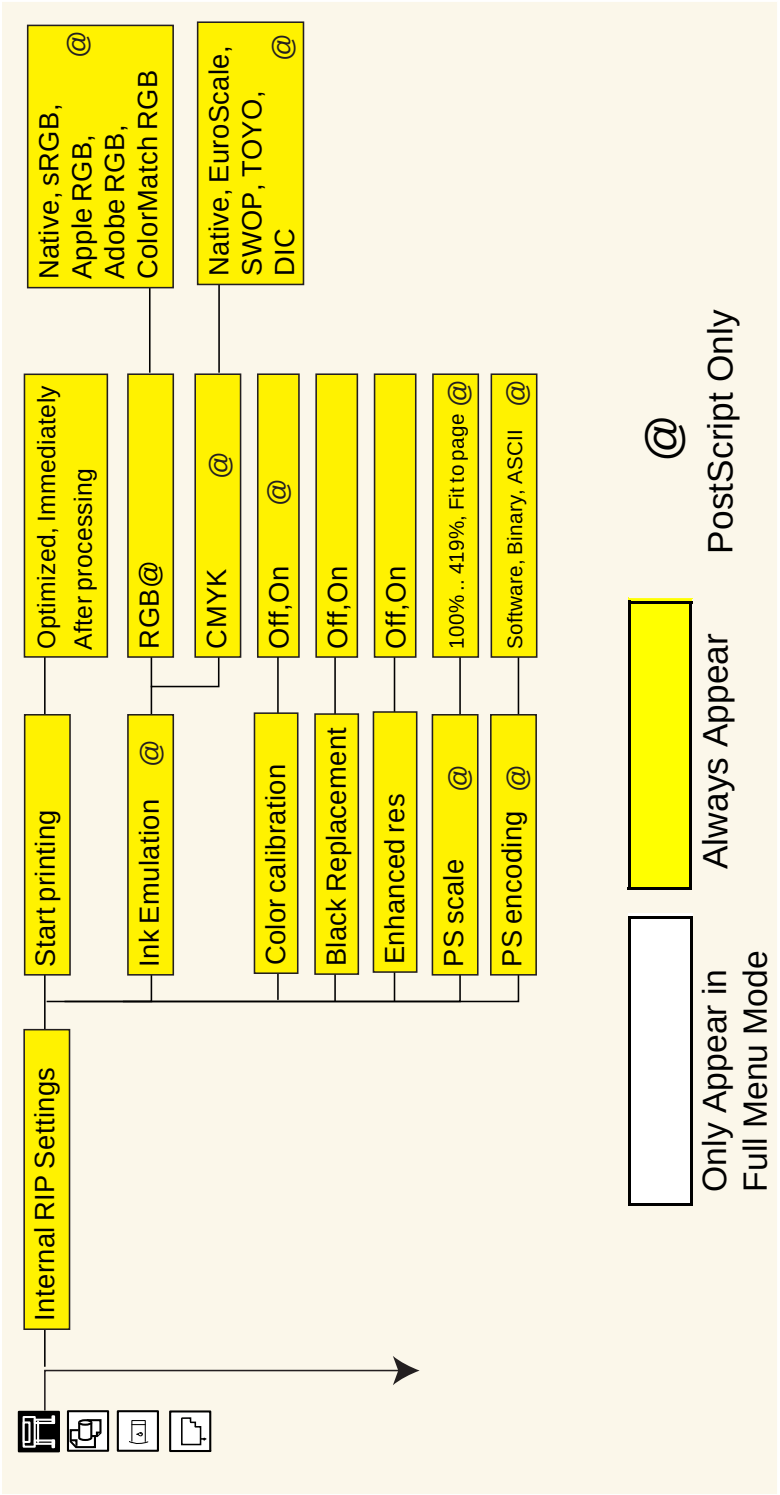
Device Setup Menu



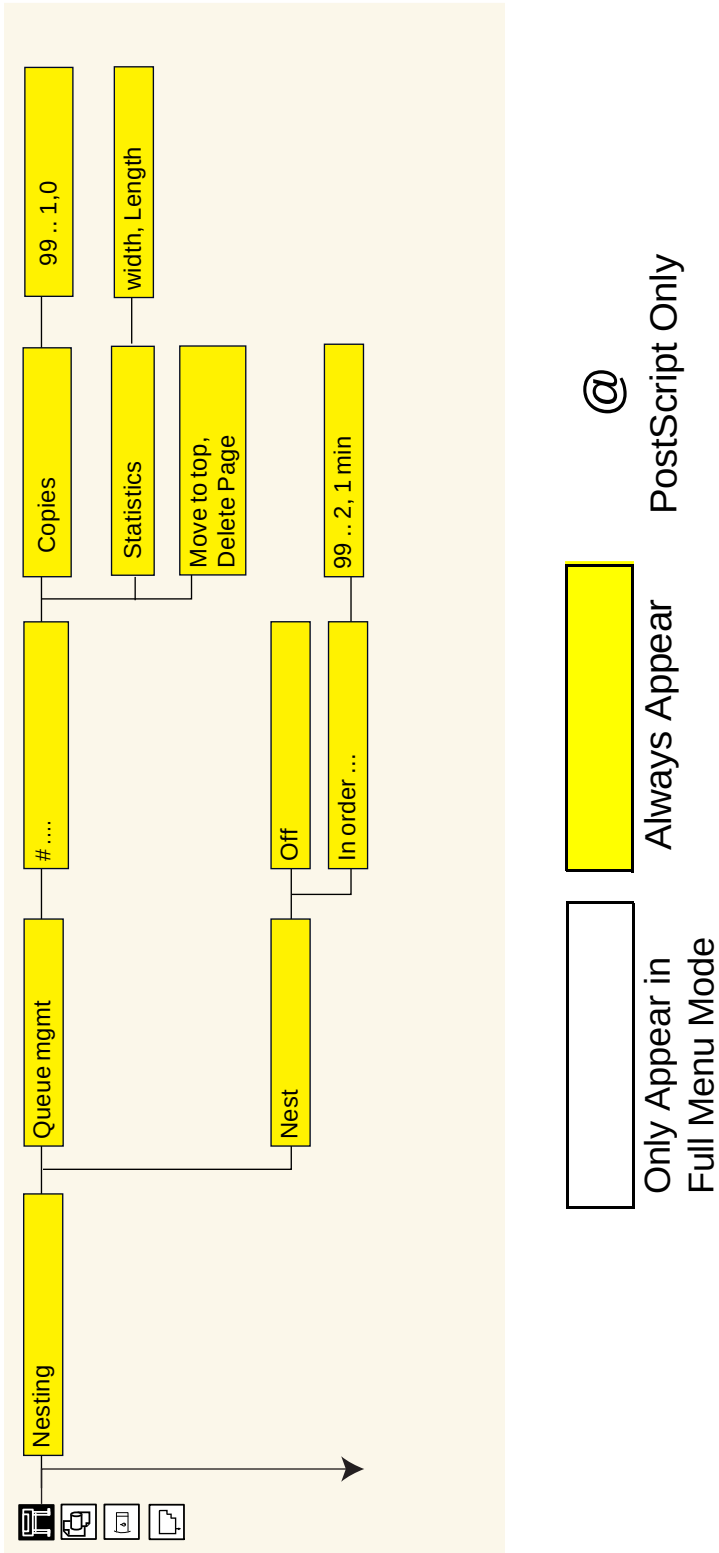
Utilities Menu



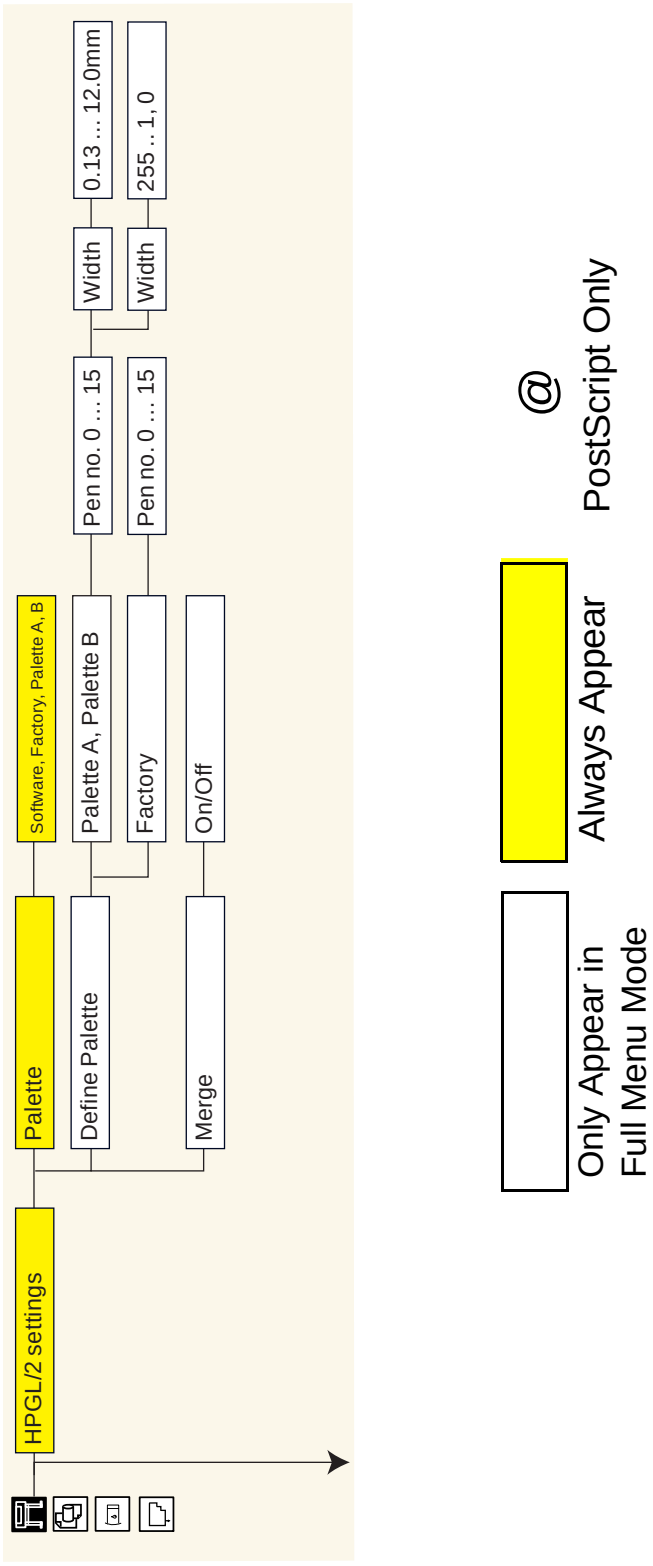
Internal RIP Settings Menu



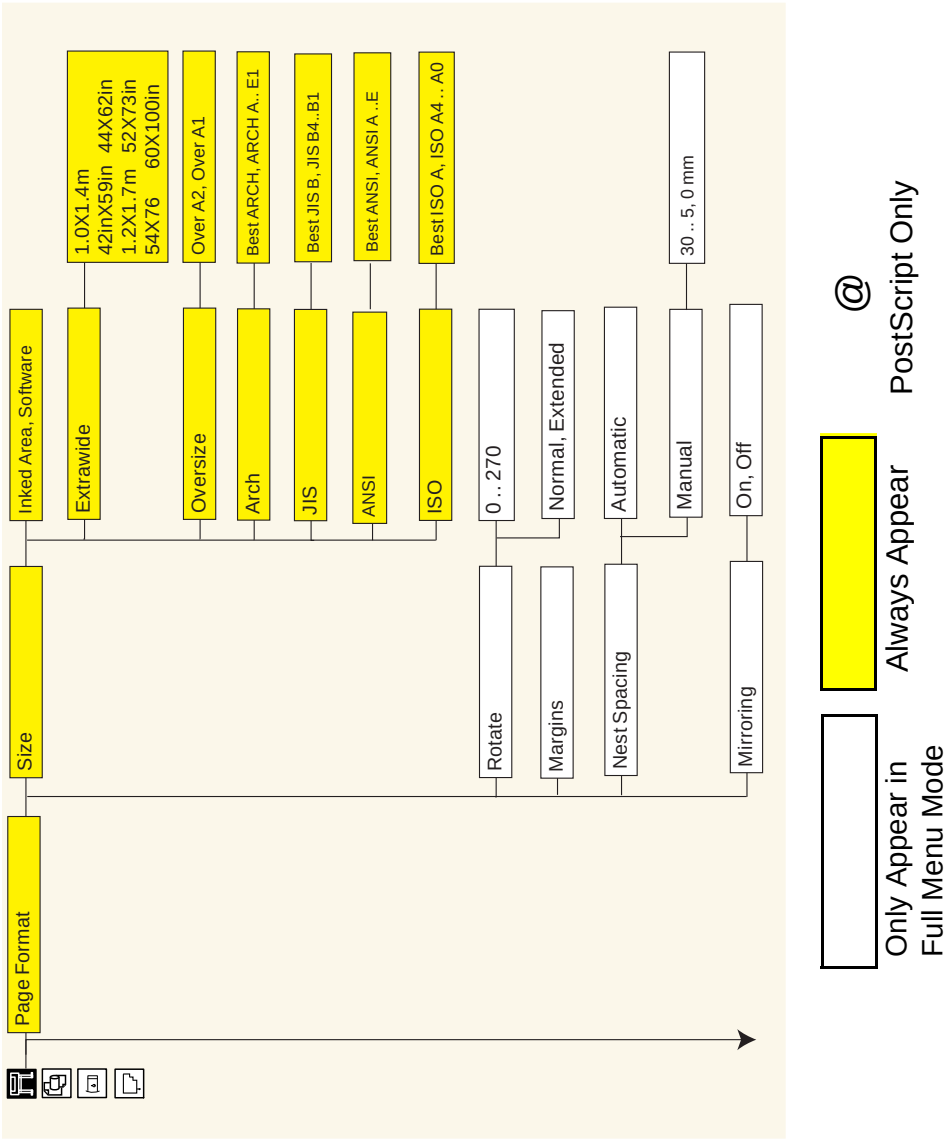
Queuing and Nesting Menu



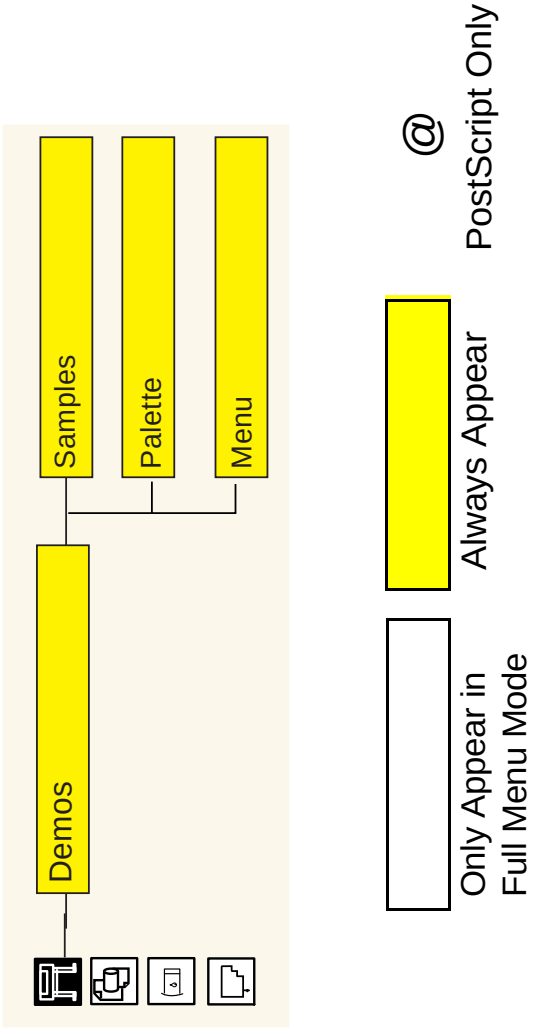
HP-GL/2 Settings Menu



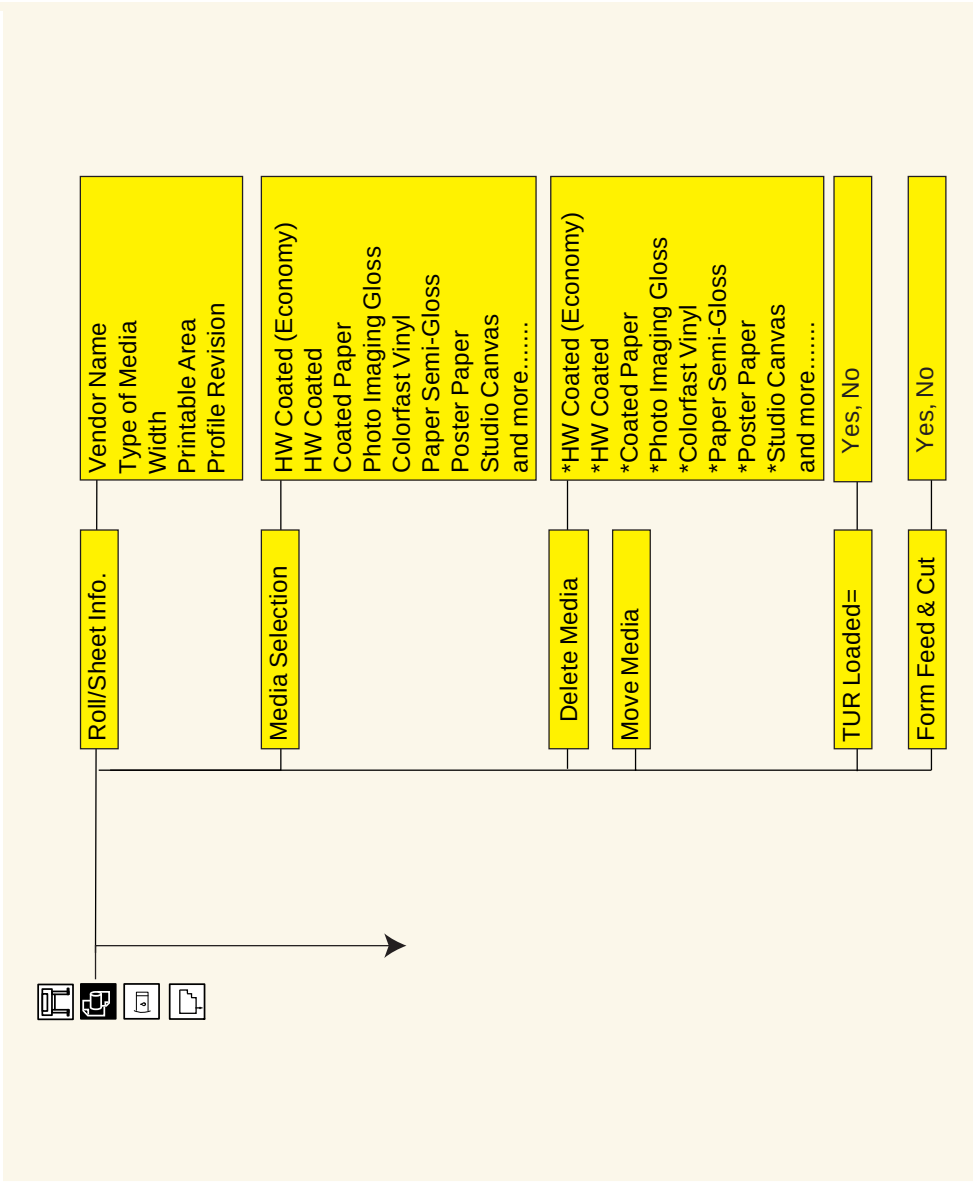
Page Format Menu



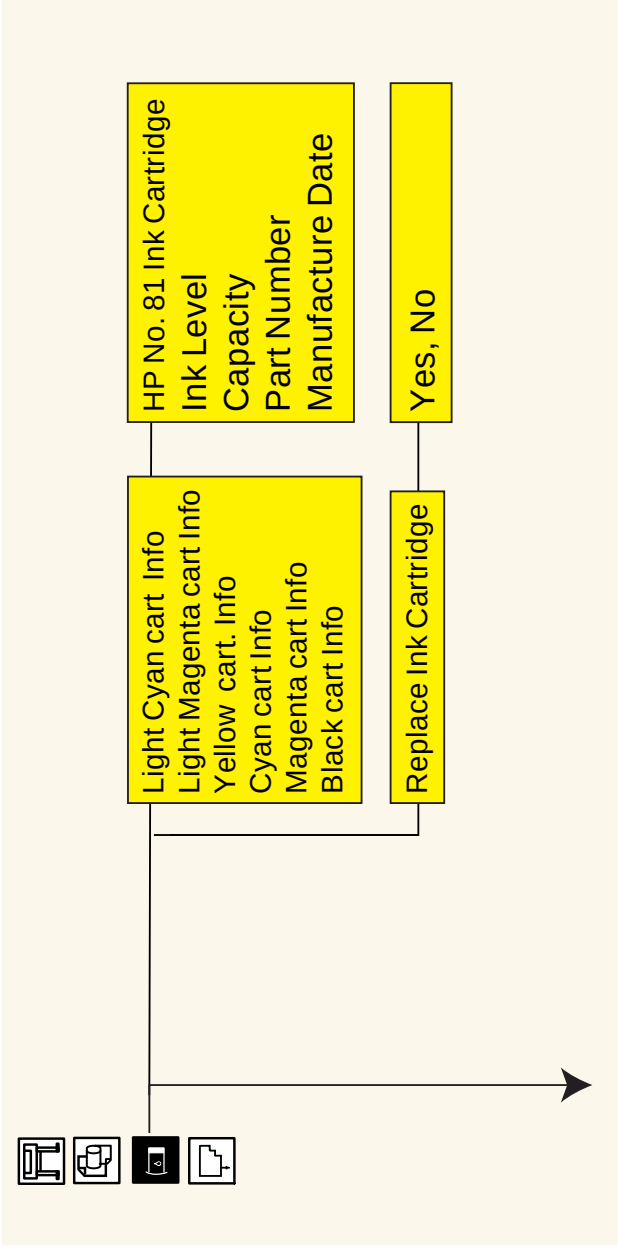
Demos Menu


Samples
Palette
Menu
Demos
@ PostScript Only
Always Appear
Only Appear in Full Menu Mode

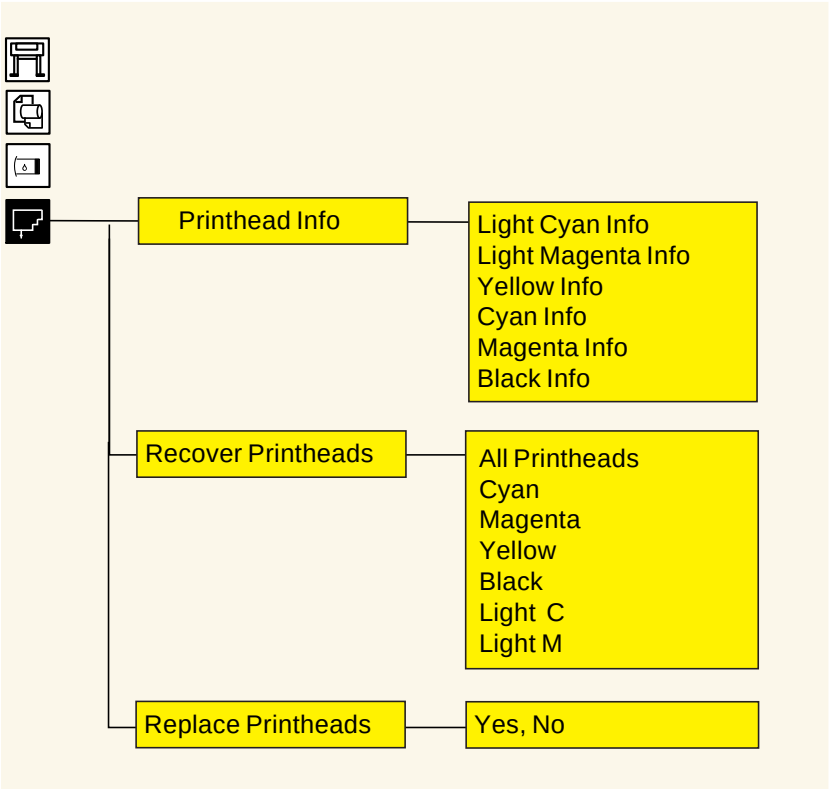
Media Menu


Roll/Sheet Info.
Vendor Name
Type of Media
Width
Printable Area
Profile Revision
Media Selection
HW Coated (Economy)
HW Coated
Coated Paper
Photo Imaging Gloss
Colorfast Vinyl
Paper Semi-Gloss
Poster Paper
Studio Canvas
and more.....
Delete Media
*HW Coated (Economy)
*HW Coated
*Coated Paper
*Photo Imaging Gloss
*Colorfast Vinyl
*Paper Semi-Gloss
*Poster Paper
*Studio Canvas
and more.....
Move Media
TUR Loaded=
Yes, No
Form Feed & Cut
Yes, No

Ink Cartridge Menu



Printhead Menu



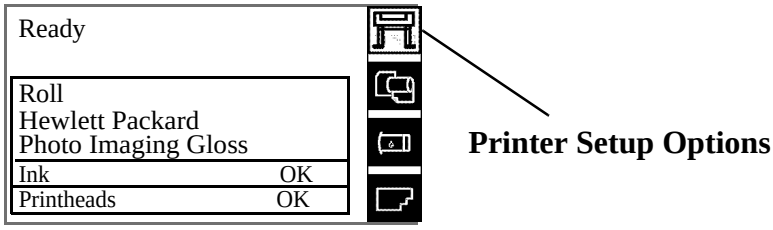
Service Configuration Print

The Service Configuration Print is a useful tool for troubleshooting the Printer. The Service Configuration Print contains the following information about the Printer:

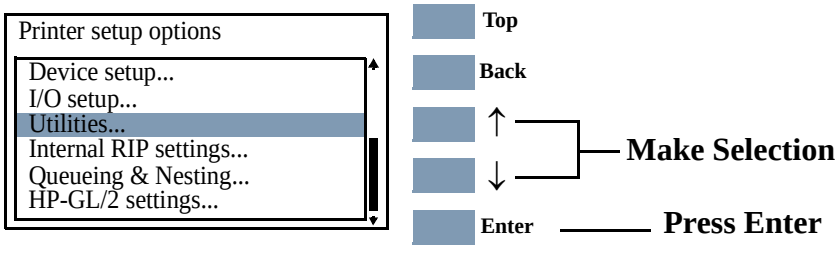
- General Configuration
- Printhead Info.
- Ink Cartridge Info.
- Operating Conditions.
- Calibrations.
- Maintenance.
- I/O Configuration.

How to Print the Service Configuration Print

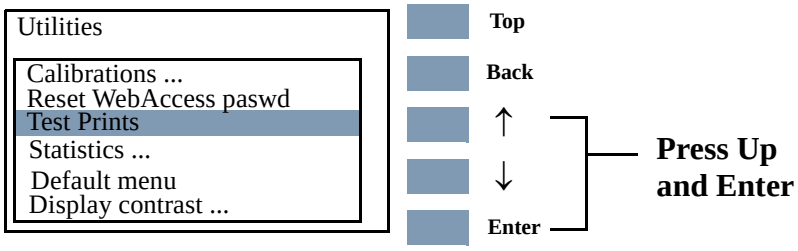
1. Load media (Roll media or at least an A0 Sheet) into the Printer.
2. Once the message “Ready” is displayed on the front-panel, scroll to the “Printer Setup Options” icon and press the **Enter** key.



3. Once inside the “Printer Setup Options” menu, use the **Arrow** keys to scroll to the “Utilities” menu display and press the **Enter** key.



4. Once inside the “Utilities” menu, use the **Arrow** keys to scroll to the “Test prints” menu display and press the **Enter** key.



5. Use the **Arrow** keys to scroll to “Service Config.” and press the **Enter** key to print the Service Configuration Print.

How to Use the Service Configuration Print

The Service Configuration Print is divided into 7 different areas where you can find information to troubleshoot the Printer.

- **General Configuration** - In this area you can find information regarding the general configuration of the Printer, for example, the firmware version, amount of memory installed or the capacity of the Hard Disk Drive.
- **Printhead Info** - In this area you can find all the information regarding the Printheads, for example, the part number, the manufacturing date or the number of times a certain Printhead has been inserted in the carriage. This information is useful for troubleshooting Printhead problems and even knowing if the Printheads have been used with Non-HP Ink Cartridges.
- **Cartridge Info** - In this area you can find all the information regarding the Ink Cartridges, for example, the part number, the manufacturing date or the ink level. This area also shows you if the customer is using Non-HP Ink Cartridges.
- **Operating Conditions** - In this area you can find the level of humidity and the temperature that the Printer is working in.
- **Calibrations** - In this area you can find information on certain calibrations that have been performed on the Printer. It will also tell you if a required calibration was performed or not.
- **Maintenance** - In this area you can find information relating to maintenance, for example, the number times the Printer has been powered ON, the number of Carriage cycles or the last System Error Code that was triggered.
- **I/O Configuration** - In this area you can find information on the configuration of the JetDirect Card.

General Printer Information

1. Interaction between start printing and nesting.

   Of the four possible combinations between "Start Printing = Optimized or After processing" and "Nesting = In order or OFF" only two are possible. For example, if you have nesting set to "In order" and you change start printing to "Optimized" the Printer will automatically change nesting to "Off". Likewise, if you have start printing set to "Optimized" and you change nesting to "In order" the Printer will automatically set start printing to "After Processing".

   - There is no problem. This is the way the Printer operates.

2. Printhead crashes and ink smearing with Coated Paper.

   HP Coated Paper is very prone to Printhead crashes especially in high humidity conditions and high-density prints. The HP recommendation is as follows:

   - **HP Coated Paper** - For presentation-quality images: For a variety of everyday uses. Produces excellent line and color quality for medium ink-density illustrations and graphics, working comps, proofs and renderings.
   - **HP Heavyweight Coated Paper** - For durable, presentation-quality images; Designed for high ink-density and rugged use, and for final presentations and signs that are mounted and laminated.

3. Throughput

   Maximum Throughput given in the Technical Data Sheet for HP Coated Paper is:

   - Print Mode Max Speed (60 inch model): 569 sqft/hour*
   - Print Mode Max Speed (42 inch model): 499 sqft/hour*

NOTE **These are maximum mechanical printing speeds and do not include, for example, printhead servicing at the beginning/end of the print, dry time at the end of the print, etc. So, the average throughput when you are printing a run of several plots will be lower.**

- If you only want to maximize throughput, the following settings are recommended:
  - Dry time: NONE
  - Internal RIP settings > Start printing > Immediately
  - Print orientation: if possible use Landscape instead of Portrait to reduce Carriage stops.
  - Printhead status: OK to reduce servicing at the beginning/end

of the print. Perform a manual recovery if the Printhead status is (XX20) RECOVER/ (XX21) REPLACE.

- With longer plots, average productivity will increase (i.e. same area is printed in less prints > reduction of servicing at the beginning/end of the print).

Troubleshooting Take-Up-Reel Problems

Issue	Main Reason	Action/Check
Right Hand (RH) Module LED is OFF	The Printer is not connected or switched ON	Check that the TUR power cord is connected
		Check that the switch located at the rear side of the RH Module is ON
RH Module LED is RED	The Spindle LOCK Lever is not closed	Check that the TUR Spindle is inserted on the TUR and the automatic lock is closed
		Check that the LED turns from RED to GREEN when manually closing the Spindle Lock Lever
RH Module LED is blinking RED-GREEN	Problem with the RH Module Sensor connection	Check that the sensor cable is well connected to the Sensor Assembly
		If the problem persists, call an HP representative
Media is not being rolled	TUR is ON but is not set-up correctly	Check that the RH Module LED is ON (and GREEN)
		Check that the TUR Spindle is inserted and the Spindle Lock Lever is closed
	Media is not supported or it is not set-up correctly in the TUR and the Media skew is causing problems	Check that the media weights are being used, set to the media size used and the blue flanges are inserted on the media weight
		Check that the media is stuck to the Spindle as parallel as possible to prevent skew
		Check that the Deflector Bar is correctly installed and that the Media routing is OK
		Check that the media is HP supported. Transparent media are not supported for being used with the TUR
Media is being cut after each print	The TUR is not set-up in the Front Panel Menu	Check that the TUR ON option is activated on the Front Panel (Devices Menu)