Troubleshooting 7

Guide to Troubleshooting the Multi-Roll Feeder

Is the Problem with the Printer or Multi-Roll Feeder

If you encounter the following symptoms, the problem could be related to the multi-roll feeder:

- System Error ⇒ **only** 0D00XX error codes.
- Multi-Roll Feeder red LED ON **or** blinking.

If you encounter the following symptoms, disable the multi-roll feeder and check the printer:

- **Only** Image Quality problems related to banding/paper advance and scratches on Glossy Media.
- Media load problems (misalignment, media jams).
- Paper Jams.

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.

The Media Does Not Feed In

If the media does not feed into the infeed slot in the media cabinet, try the following:

1. Make sure **both** Roller Levers are lowered to open the infeed slot.
2. Trim the leading edge of the media so it does not get caught in the slot.
3. Insert the media evenly to avoid angles - do not insert one corner and then the other.

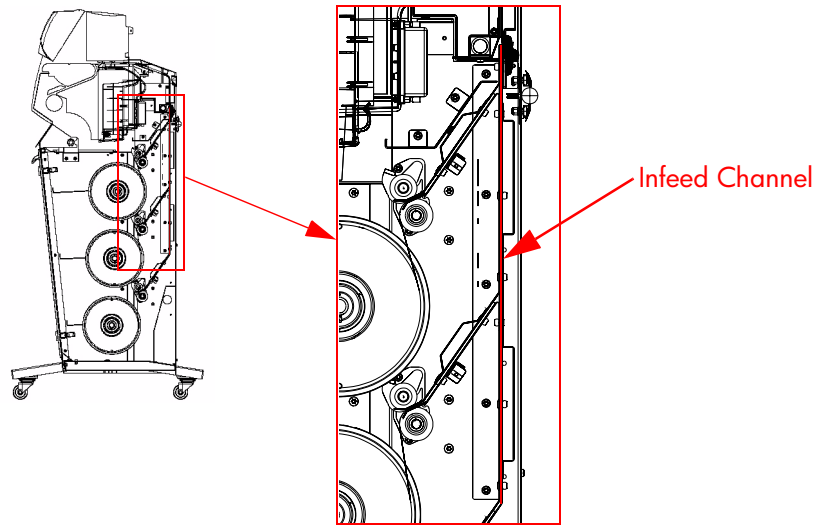
If you hear a 'beep' this means that the printer has detected the media in the infeed slot.

Media Does Not Advance Correctly

If the media does not advance far enough into the infeed channel in the media cabinet, the problem could be that the media is slipping and the rollers are not "gripping" the media correctly. In this case, try the following:

1. Maybe the pre-tension was not applied correctly - pre-tension always needs to be applied by turning the star screw on the left hand side of the Spindle. Tension should **never** be applied by turning the media roll or the spindle disks.
2. Clean the rollers using the cleaning procedure.
3. Maybe the media spindle was installed incorrectly - make sure the removable media disks are on the left hand side of the spindle.

Media Jam in the Infeed Channel of the Multi-Roll



If there is a media jam in the infeed channel, try the following:

1. Turn OFF the multi-roll feeder from the power isolator switch on the connector panel at the back.
2. Open the media cabinet doors and lower the roller lever on both sides.
3. Turn the spindle away from you to pull the media out of the infeed channel and to collect it back on to the media roll.
4. If the media is blocked, you can place the spindle in the park position for better access to the infeed channel, and then pull the media edges in a downwards direction on both sides.
5. If you cannot reach the media because the roll has finished and it has not been ejected from the front of the printer, open the Rear Top-Cover and try to remove the media from the Motion Control Unit.

Do not insert media with crumpled or damaged edges - trim it first.

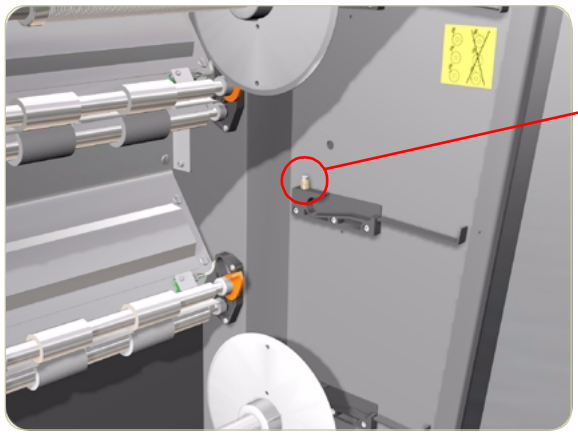
The Multi-Roll Feeder does not Power ON

1. Check that the power cord is connected correctly to the multi-roll feeder and to the Power Socket.
2. Check that the Power Switch on the BACK of the multi-roll is in the ON position.
3. Check if either the green or red LED on the rear side, near the multi-roll serial and parallel connectors, is ON. If one or both of them are ON, replace the Main PCA ⇒ Page *4-15*.
4. If both the red and green LEDs are OFF then:
   - Replace the Power Supply Unit ⇒ Page *4-13*.
   - If the problem still continues, replace the Main PCA ⇒ Page *4-15*.

The Media Does Not Unload Correctly

If the media does not fully unload from the infeed channel in the media cabinet, try the following:

1. Maybe the pre-tension was not applied correctly - pre-tension always needs to be applied by turning the star screw on the left hand side of the spindle three or four times, or more if the spindle is on a low retainer bracket - tension should **never** be applied by turning the media roll or the spindle disks.
2. The spring applying pressure on the retainer bracket is loose and the spindle is slipping in the retainer bracket. Power off the multi-roll feeder and turn the retainer bracket screw 1 turn in a clockwise direction.



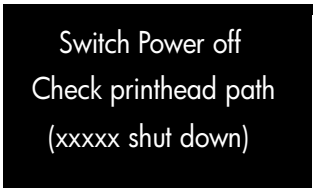
Communication Problem Between the Printer and the Multi-Roll Feeder

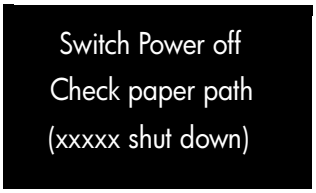
Communication Failure Power off printer and Multi-roll Check multi-roll Check connections	Communication Failure Check multi-roll Check connections Try again ----------> Uninstall Multi-roll -------->
Needs Rebooting	Continuable Message

If the front panel displays either of the above messages, try the following:

1. For the message that can appear during normal operation, follow the instructions in the message.
2. If the message appears during multi-roll feeder installation or while powering ON, try the following:
   - Check that the multi-roll feeder power isolator switch at the rear is ON.
   - Open the media cabinet doors and check that the parallel cable (and serial cable for certain models) is correctly connected to the rear of the printer.

Media Jam in the Printer





If the front panel displays either of the above messages, try the following:

1. Turn the printer OFF at the front panel, and open the printer window.
2. Turn OFF the multi-roll feeder from the power isolator switch on the connector panel at the back.
3. Carefully move the printhead carriage out of the way - if possible, all the way to the enclosed area on the left or the right. Which way you are able to move it depends on where the media is jammed.

When moving the printhead carriage, touch only the black plastic parts.

4. Carefully remove any of the jammed media which you can easily lift up and out from the top of the printer.
5. Open the media cabinet doors and lower the roller lever on both sides.
6. Carefully pull the media down and out of the infeed channel. If this is not possible:
   - Go to the back of the multi-roll feeder and open the rear cover.
   - From the back, carefully pull the media out of the infeed assembly.
   - Now pull the media down and out of the infeed channel in the media cabinet.
7. Lower the window and switch on the printer and the multi-roll feeder. Press the Form Feed and Cut key to eject any pieces of media that are still in the media path.
8. Reload the media as normal.

Marks on Glossy Media

When using Glossy Media, it is possible that the media could be marked while passing through the infeed channel on it its way to the Printer. It is recommended to:

1. Use Roll 1 (top roll) for Glossy Media.
2. Prevent anything from blocking the infeed channel.

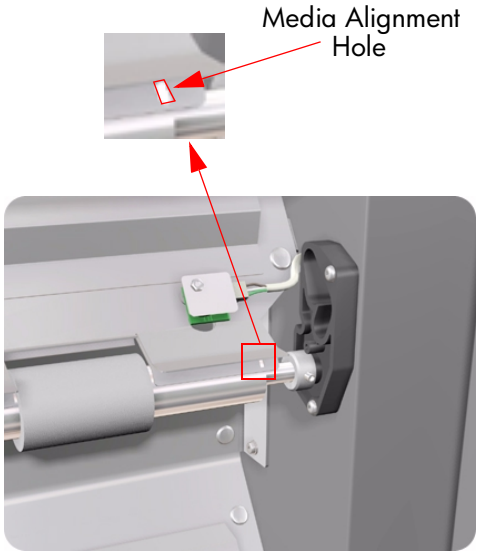
Problem with the Media Loading Procedure

When this message is displayed, the printer unloads the media. Press Enter to continue and the printer will display the **Ready for paper** status message. Do the following:

1. Check for even tension across the width of the media. If there is less tension on one side than the other then the media is not straight in the infeed slot.
2. Lower the roller levers on both sides and adjust the media so that tension is even across the whole width. You can turn the spindle disk quickly two or three times away from you and then two or three times in the opposite direction. This will help to create an even tension.
3. Lift the roller levers on both sides and try to load the media again.

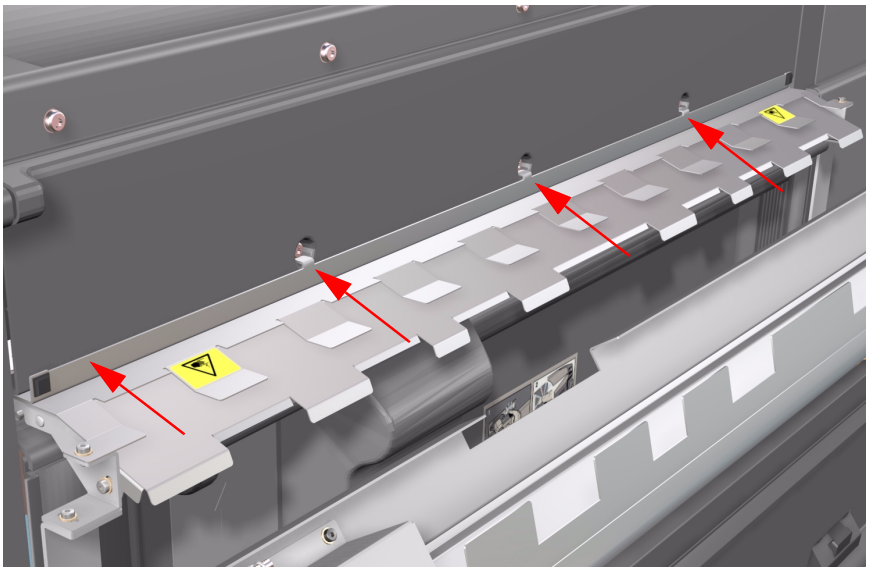
   If this is does not solve the problem, remove the media from the infeed slot and repeat the loading procedure.

   - Make sure the roll is fully against the right hand spindle disk (fully inside the roll core) and do the same for the left hand spindle disk. The printer verifies correct alignment using the blue line on the right hand side of the printing area as a reference.
4. When loading different media widths (as shown below), make sure that you **always** load the shortest width on the top roll (roll 1), the medium width on middle roll (roll2) and longest width on the bottom (roll 3). If one of the media loaded is glossy, make sure that you **always** load it on the top roll (roll 1) even if it is not the shortest width.
5. When loading media, make sure you align the media against the hole on the right hand side (as shown below).



6 If the media loading procedure fails frequently, it is advisable to clean the the corresponding roll.

7 Make sure that there is no skew between the infeed unit and the printer paper entry. Check that the complete length of the infeed unit is pushed up against the printer.



Make sure the Infeed Unit is firmly pushed up against the Printer

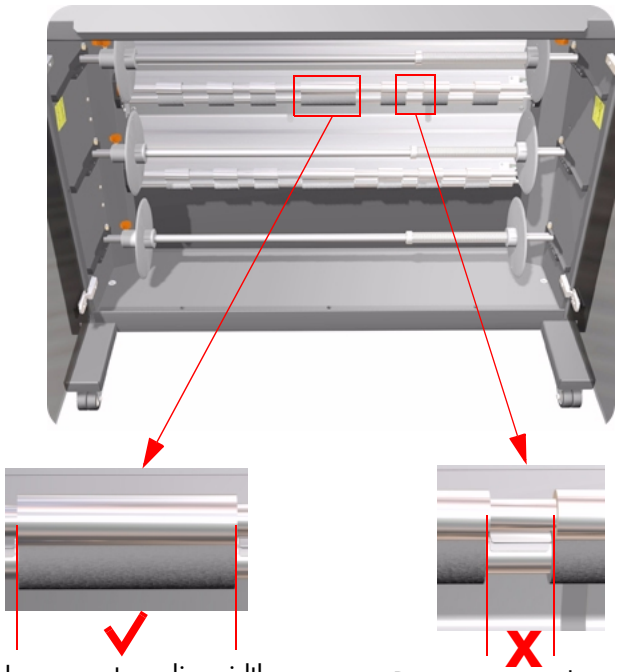
How to Prevent Media Jams

There are a few simple steps to prevent media jamming in the multi-roll feeder. When loading media:

1. Make sure the Rear Top-Cover of the multi-roll feeder is fully closed.
2. Use rolls of media that are not glued to the core.
3. Make sure the leading edge of the media is trimmed straight.
4. Make sure there is even tension across the width of the media.
5. Make sure media is aligned - the same amount of media is fed across the width.
6. Pre-tension the media after loading.

When you intend to use your printer unattended for a long period of time, it is a good idea to load and unload each roll using the Load/Unload commands from the front panel (if you did not complete the media loading procedure when prompted by the printer). This will ensure that each roll of media loaded is correctly aligned and that the printer is capable of loading/unloading each roll when requested by the print jobs in the queue.

7. The multi-roll feeder has some limitations on the widths that it can handle, so always try and use media widths that will allow the edges of the media to be gripped well between the rubber grips on the Transport Roller and the Riding Roller (see below).



Use correct media widths so that the edges are gripped by the rubber grips

Do not use media widths where the edges are in between the rubber grips

The Printer Doesn't Print or the Prints are Partially Printed

If the printer doesn't print or the prints are clipped or cropped, try the following:

1. Check the multi-roll configuration in your printer driver: Check that the **Has multi-roll feeder** check box is ticked.
2. Check default roll configuration: Check that a roll is installed for the roll configured as default. If you do not select a roll from the printer driver, the printer will try to print to the default roll and if no identical roll is available, it will not print the job.
3. Check Productivity mode settings: If the mode is set to off/not optimized and the requested roll has finished, the job cannot be printed.
4. Check cable connections: Check that the printer and any network cables are securely connected to the printer. Make sure the parallel cable (and serial cable for certain models) is connected between the multi-roll feeder and the printer and ensure that it is also firmly connected between the computer and the multi-roll feeder.
5. Check media configuration: Make sure the media rolls are configured correctly.
6. Check document file: If you are printing files generated with versions of printer drivers for printers without multi-roll feeders, the header section of some file formats already contain information on the media: in these files, roll information corresponds to roll 1 and sheet information corresponds to the default roll in the multi-roll feeder. It is advisable to use the top roll, that is roll 1, as the default.
7. Also note that the header section may also include print mode information, so if different media is used the quality of your prints may be affected. It is recommended that the print file is regenerated from the original document to avoid unexpected results.

Selecting Media Width Which is Not 24" or 36"

If the width of the media that is being loaded is not 24" or 36", you must still select the width as 24" or 36" through the front panel. The way to decide whether to choose 24" or 36" is by measuring the width of the media and if it's 24" or smaller, then select 24" through the front panel and if it's bigger than 24", then select 36". The reason for only having these 2 options is so that when media finishes on one roll, the printer can automatically load a new roll of media which is of a similar size (when optimized mode is selected in the productivity mode settings).

The printer will actually measure the width of the media loaded and will never print on the print platen by mistake.

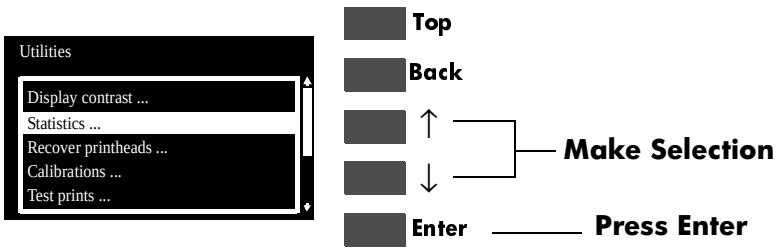
Multi-Roll Feeder Information Utility

The purpose of the multi-roll feeder information utility is to:

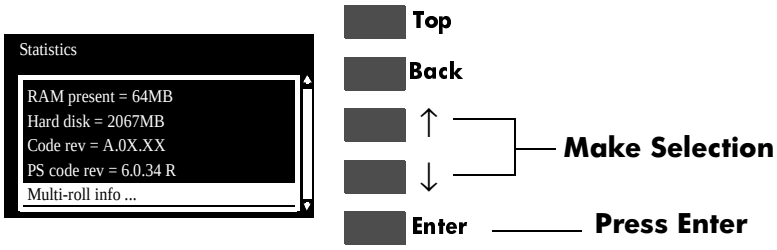
- Report basic parameters for call qualification.
- Provide information integrated within the printer user interface.

Check the multi-roll feeder information as follows:

1 In the Utilities submenu, scroll to "Statistics" and press **Enter**.

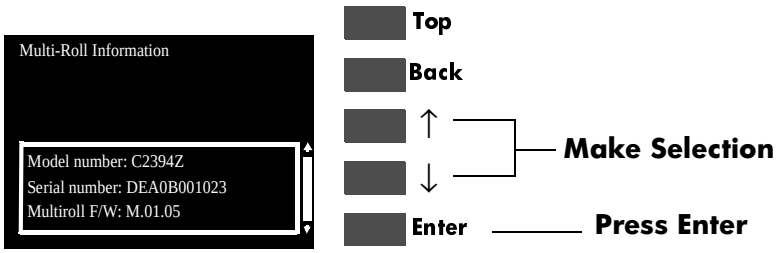


2 In the Statistics submenu, scroll to "Multi-roll info" and press **Enter**.



If the multi-roll feeder is NOT installed, you will not be able to view the multi-roll information utility.

3 The Printer will display the following information on the front panel. You will need to use the arrow keys to scroll through the complete list because the front panel only allows 6 lines to be displayed at one time.



If no serial number is available, the front panel will show "Serial number: None"

Each parameter of the multi-roll information utility is explained as follows:

- **Model Number** - This identifies the model type of the multi-roll feeder and should be the same number as printed on the Product Label (located at the back of the multi-roll feeder).
- **Serial Number** - The Serial Number should be the same number as printed on the Product Label (located at the back of the multi-roll feeder).
- **Multi-roll F/W** - The current version of the Firmware being used by the multi-roll feeder.

If for some reason the multi-roll information is NOT displayed even though the multi-roll feeder IS installed, try the following:

1. Check cable connections: Check that the printer and any network cables are securely connected to the printer. Make sure the parallel cable is connected between the multi-roll feeder and the printer and ensure that it is also firmly connected between the computer and the multi-roll feeder.
2. The multi-roll feeder is not enabled in the Device Setup menu. In order to enable the multi-roll feeder, go to Device setup ⇒ Multiroll ⇒ YES, NO).

Service Print

When the Multi-Roll feeder is enabled, the Service Print will be modified and will include additional information on the Multi-Roll Feeder. A few details to remember about the Service Print when the Multi-Roll Feeder is enabled:

- The information for the Service Print will be printed on 2 pages.
- If Nesting is turned ON, the Service Print will be printed side by side (in order to save paper).
- If Nesting is turned OFF, the Service Print will be printed on 2 pages.

Valid Product/Model Numbers

	C2394A	C2394B	C2394C	C2394Z
Includes	multi-roll feeder	multi-roll feeder **and** printer with RTL firmware	multi-roll feeder **and** printer with PS firmware	multi-roll feeder from the Factory
For Which Printer	**hp** designjet 1000 plus series **and** in all of Latin America Region	**hp** designjet 1000 series **without** PS upgrade	**hp** designjet 1000 series **with** PS	ALL printers
Shown On	Label on product box **and** proof of purchase	Label on product box **and** proof of purchase	Label on product box **and** proof of purchase	Printer's front panel, service config print and product label (at the back of the multi-roll feeder)

Media Basket Capacity Limitations

The media basket is the output solution that can be used with the multi-roll feeder. The capacity limitations of the media bask are as follows:

- **Plain Paper** - the media basket can handle upto **30 m** of rolled prints. If the prints are folded and flattened (if this is acceptable) the capacity of the media basket is increased to **90 m**.
- **Coated Paper** - the media basket can handle upto **30 m** of rolled prints. If the prints are folded and flattened (if this is acceptable) the capacity of the media basket is increased to **90 ms**.
- **Heavy Coated Paper** - the media basket can handle upto **35 m** of rolled prints.
- **Glossy Paper** - the media basket can handle upto **35 m** of rolled prints.

It is possible that the black ink could transfer from one print to another in certain circumstances.

Media Basket features

	Drawings & low ink content images	High ink content images	COMMENTS
Plain, Coated, Translucent Bond and Vellum paper	A0/A1/A2/A3	A0/A1/A2/A3	When there are lots of plots, the bottom ones are flattened. High ink content plots are not rolled.
Heavy coated paper	A0/A1/A2/A3	A0/A1/A2/A3	Capacity of 30 m, with plots being rolled.
Glossy paper	A0/A1/A2/A3	A0/A1/A2/A3	Plots well rolled and stocked in Basket. Black ink transfers from 1 plot to another.

Media Basket - Climatic Conditions

	15C, 20%	35C, 80%
Plain Paper	OK. Behavior similar to normal conditions.	All plots are folded, some in a very bad way.
Coated Paper	OK. Behavior similar to normal conditions. Electrostatic behavior of some plots which are stuck to the front of the Mult-Roll Feeder, but this does not create any problems.	All plots are folded, some in a very bad way.
Heavy Coated	High ink content plots are not rolled as in normal conditions. Other plots are rolled normally.	All plots are folded, some in a very bad way.
Glossy Paper	High ink content plots are not rolled as in normal conditions. Other plots are rolled normally. Problem with the transfer of black ink from plot to plot.	All plots are folded, some in a very bad way. Some plots are stuck together, and inks are transferred from plot to plot.

Multi-Roll Feeder Capacity Limitations

The **maximum width** that the multi-roll feeder can handle is 914 mm (36").

The **minimum width** that the multi-roll feeder can handle is 610 mm (24") for hp supported media and 297 mm (11.7") for non-hp media.

The **maximum length** that the multi-roll feeder can handle is 91 m (300 feet) for hp supported media and 250 m (824 feet) for non-hp media (90g/m^2).

The **minimum length** that the multi-roll feeder can handle is 297 mm (11.7").

The multi-roll feeder DOES NOT support hp canvas or hp vinyl media types.

Warranty Information

The multi-roll feeder comes with a one year warranty which is independent from the warranty status of the printer. The following information is stated in the warranty for the multi-roll feeder:

- Cleaning and preventive maintenance is excluded.
- Some parts are customer replaceable at the discretion of hp.
- The warranty is global.

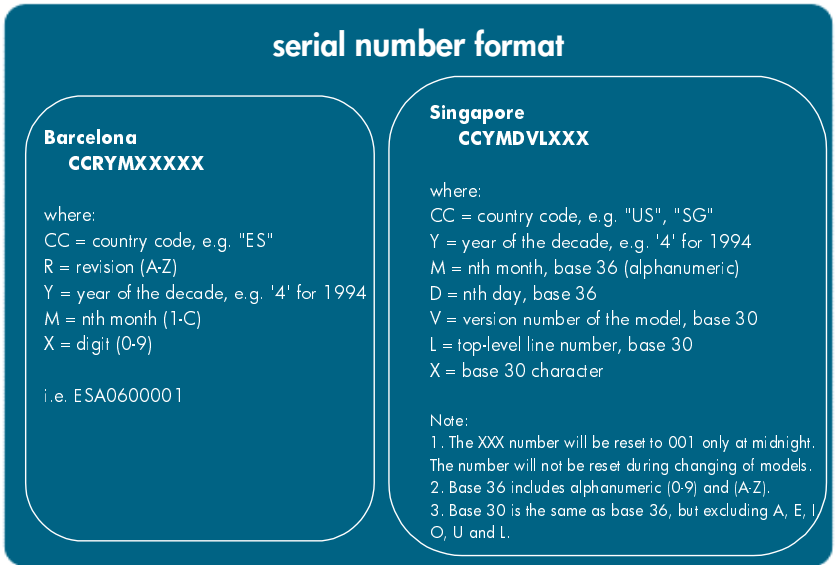
Refer to the Warranty Statement in the Legal Information Document for the official Information.

Logging a Call Related to the Multi-Roll Feeder

The multi-roll feeder has it's own product number and warranty so if a customer calls with a problem related to the multi-roll feeder, the case should be logged against the multi-roll feeder and NOT the printer that the customer is using.

Check Warranty Status

The serial number of the multi-roll feeder uses the hp format which codifies the manufacturing date.



The Serial Number can be found in the following locations:

- On the Product Label located at the back of the multi-roll feeder.
- On the 2nd page of the Service Configuration Print (Printer Setup Option ⇒ Utilities ⇒ Test Prints ⇒ Service Config).
- Through the printer's front panel (Printer Setup Option ⇒ Utilities ⇒ Statistics ⇒ multiroll info).

The model number of the multi-roll feeder will always be reported or marked as C2394Z

Multi-Roll Feeder Calibration

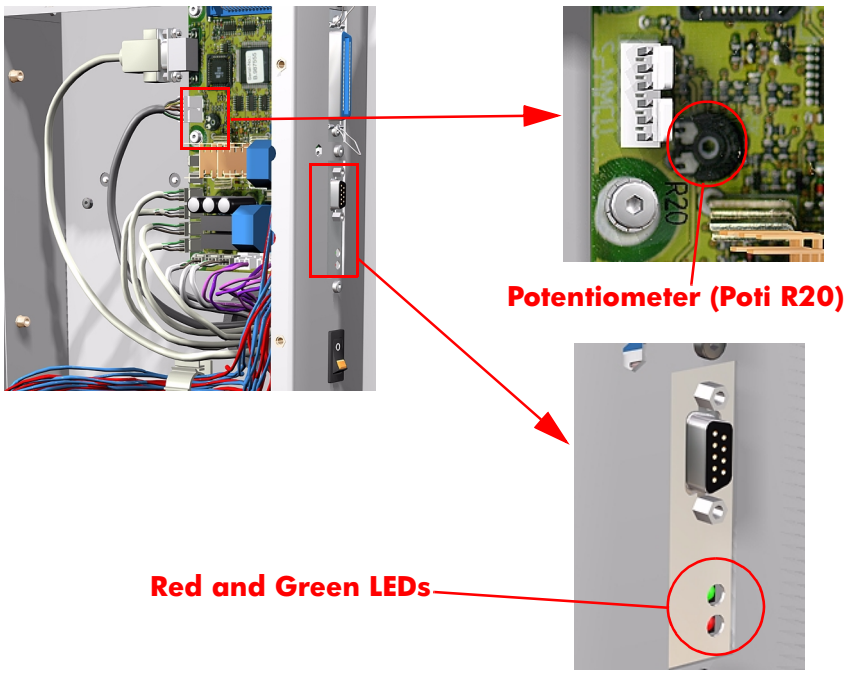
To control the load and paper movement, an analog sensor is mounted in the motion control unit of the multi-roll feeder. The voltages to be measured when this analog sensor is in: maximum position, reference position and idle position, are stored in the Non-Volatile Memory of the main electronics in the manufacturing line and then, used during normal operation. These values are dependent on the specific analog sensor mounted in the multi-roll feeder and they have to be measured and stored under controlled conditions.

To increase capacity in the manufacturing process and due to the variability in the output between different analog sensors, a potentiometer is mounted on the Main PCA that allows adjusting the gain for that specific sensor and then, linearize its output range.

ALWAYS PERFORM THIS CALIBRATION AFTER REPLACING THE MAIN PCA, MOTION CONTROL UNIT OR THE MOTION CONTROL SENSOR.

Perform the multi-roll feeder calibration as follows:

Make sure that you unload the media from the Printer before performing this calibration.



1. Switch on the printer and the multi-roll feeder. Make sure the multi-roll feeder is enabled and detected by the printer (Device Setup ⇒ Multi-roll ⇒ YES).
2. Load bright white paper, coated media or other media available which is not too thick (between 80 and 120g/m^2) onto roll 1, but **do not** load it into the printer (printer may ask to load it when detected as new roll).

3 Through the front panel, launch the multi-roll calibration (Service Menu ⇒ Service Utilities ⇒ Multi-roll Calib). The multi-roll feeder automatically loads roll 1 into the printer, so that the idle level and the reference level are measured, then the media is pulled out of the printer so that the maximum position level is measured. The multi-roll feeder checks these 3 measured values and reports to the printer whether the calibration was performed correctly or not. If the printer reports the calibration has failed, a potentiometer placed in the main electronics, Poti R20, has to be adjusted.

4 Check if the green LED on the rear side, near the multi-roll serial and parallel connectors, is ON. If the calibration in **step 3** was successful and the green LED is ON, then the calibration was performed correctly and you must go directly to **step 17**.

5 If the red LED is ON or both the red and the green are flashing, the Poti R20 must be adjusted. In this case, it is very likely that **step 3** failed with a calibration error, but this does not matter.

6 Power OFF both the printer and the multi-roll feeder.

7 Unload the media from the printer as follows:
- Remove the front top-cover of the multi-roll feeder
- Raise the printer handles.
- Turn roll 1 away from you to collect part of the media back onto the roll.
- Lower the printer handles.

8 Remove the electronics access cover (⇒ Page *4-12*), turn it over and re-install it so that it covers **only** the power supply unit. You must do this in order to protect yourself from any accidental electrical shock.

9 Power ON both the printer and the multi-roll feeder. Through the front panel, relaunch the multi-roll calibration (Service Menu ⇒ Service Utilities ⇒ Multi-roll Calib). The multi-roll feeder automatically loads roll 1 and performs the calibration (do not worry if it fails).

Make sure you take the necessary precautions in order to avoid electrical shock and ESD damages.

10 The Poti R20 in the main electronics has to be adjusted. Use a 2mm flat screwdriver and touch the metal casing of the main electronics before starting.

11 Slowly adjust the Poti R20 until the green LED is ON **and** the red LED is OFF. Be very careful when doing this because there is a very small window when the green LED is ON **and** the red LED is OFF.

12 Switch OFF the printer and the multi-roll feeder and wait 5 seconds.

13 Unload the media from the printer as follows:
- Raise the printer handles.
- Turn roll 1 away from you to collect part of the media back onto the roll.
- Lower the printer handles.

14 Switch ON the printer and the multi-roll feeder and wait until initialization has finished; if the printer requests to configure a new roll **do not** load any roll.

15 Through the front panel, relaunch the multi-roll calibration (Service Menu ⇒ Service Utilities ⇒ Multi-roll Calib). The multi-roll feeder automatically loads roll 1 into the printer, so that the idle level and the reference level are measured again, now with the correct Poti adjustment. The media is then pulled out of the printer so that the maximum position level is measured. The multi-roll feeder checks these 3 measured values and reports to the printer whether the calibration was performed correctly or not.

16 Now the calibration result must be OK; if not, power OFF and repeat the process. Even though the calibration may pass after the second attempt, it is still possible that the red LED is ON (if it is, don't worry about it).

17 Power OFF both the printer and the multi-roll feeder and wait 5 seconds. If necessary, install the front top-cover.

18 Switch ON the printer and the multi-roll feeder and wait until initialization has finished; if the printer requests to configure a new roll **do not** load any roll.

19 Unload the roll through the printer's front panel.

20 Print a test print in order to check if loading and operation works (if the calibration was not successful, the loading will fail with an error).

Multi-Roll Usage (Counters) Utility

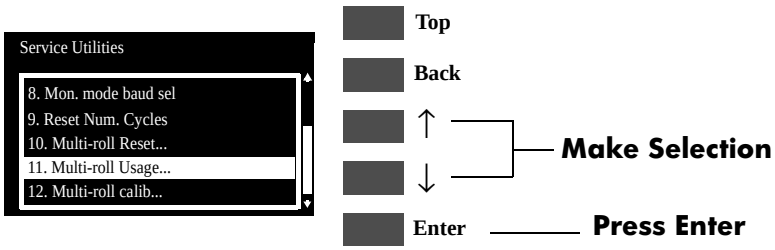
The purpose of the multi-roll usage utility is to view:

- **Load counters** - How many media loads have been performed during the life of the multi-roller feeder.
- **Total length cnt** - How much media has passed through the printer during the life of the multi-roll feeder (measured in inches).
- **Partial length cnt** - How much media has passed through the printer since the counters were last reset (measured in inches). This counter can be reset using the Reset Counter Utility.

Perform the multi-roll usage utility as follows:

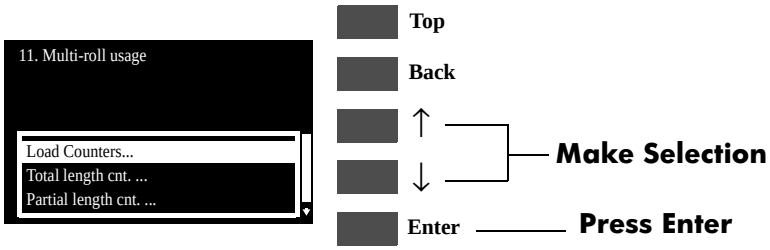
1 Enter the Service Tools menu (Printer Setup Options ⇒ Utilities ⇒ Up and Enter keys together).

2 In the Service Utilities submenu, scroll to "11. Multi-roll Usage" and press **Enter**.

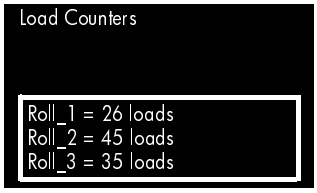


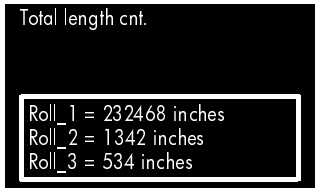
3 When the following message appears on the front panel, you must select whether you would like to view the mount of media loads, total length of

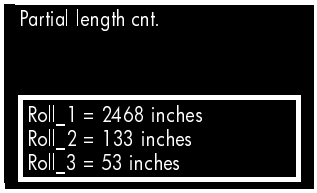
media loaded or partial media loaded. Press **ENTER** once you have made your selection.



4 Depending on which option you select, you will see the following screen:







The above information is also available in the Service Print.

Multi-Roll Reset (Counters) Utility

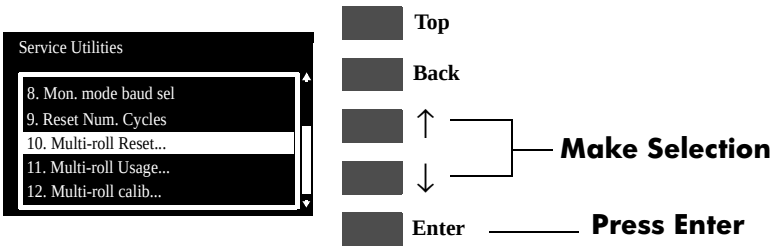
The purpose of the multi-roll reset utility is to reset the partial length counter after one of the following parts are replaced:

- Transport Roller.
- Drive Clutches.
- Drive Motor.

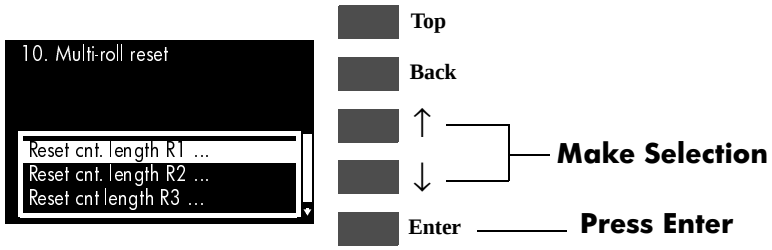
For example, If you replace the Transport Roller for Roll 1, you would use this utility to reset the partial length counter for Roll 1 to 0 (zero).

1 Enter the Service Tools menu (Printer Setup Options ⇒ Utilities ⇒ Up and Enter keys together).

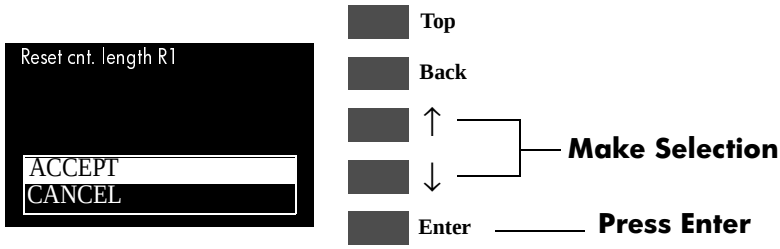
2 In the Service Utilities submenu, scroll to "10. Multi-roll Reset" and press **Enter**.



3 When the following message appears on the front panel, you must select which roll counter you want to reset. Press **ENTER** once you have made your selection.



4 The following message will appear asking you to confirm the selection. Select **ACCEPT** if you want to continue, or select **CANCEL** if you want to cancel the test. Press **Enter** once the selection has been made.



Limitations of the Printer with the Multi-Roll Feeder

There are some limitations of the printer when the multi-roll feeder is installed (or enabled) and these are explained as follows:

1 Even though some files can be printed with the printer (without the multi-roll feeder), it will report an 'Out of Memory' message if the printer has the multi-roll feeder option enabled. This is because the memory size available for the display list is ~2MB, and the memory needed for the firmware to control the multi-roll feeder is ~100KB, so when the multi-roll feeder is enabled, the available memory is reduced by 5%. **Solution** - If possible, upgrade the size of the memory available.

2 When loading a roll for the first time, if an ink cartridge is removed at the same time that the multi-roll feeder is loading the media, an error code will appear on the front panel (070100 XXXXXXX). **Solution** - Advise the customer not to remove the ink cartridges while the media is being loaded.

3 When nesting is turned ON and the printer is waiting for the next print in the nest, if the customer unloads a roll, removes it from the multi-roll feeder and installs a new, an error code will appear on the front panel (070100 XXXXXXX). **Solution** - Advise the customer not to unload a roll while the printer is waiting for the next print in the nest.