A JCM Product
Quick Reference Guide

GEN5™ Printer

NOTE: Due to advancements in industry technologies and future product development, the information in this guide is subject to change without notice.

For more information about product set up, use, testing procedures and troubleshooting methods, please contact the Technical Support Division of Customer Service via the email addresses listed below:
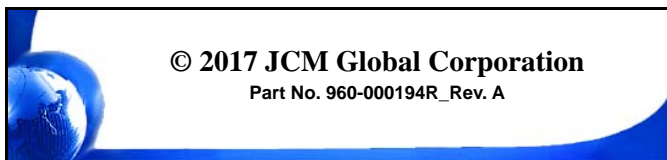
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QUICK REFERENCE
TROUBLESHOOTING GUIDE

Introduction

This Quick Reference Guide is designed for use with the GEN5™ line of Printers (Figure 1).

Figure 1 Typical GEN5 Printer

This Guide covers the set-up and use of the following Printer: PSA-66-ST5.

GEN5™ Printer
Operator Indicators (LED) And Controls

The GEN5 Printer features a Keypad with LED Status Indicators and a **FEED** Button (Figure 2). Printer Status indicators include a Front Bezel Light and the four (4) Keypad LEDs. Refer to Table 1 below for GEN5 Keypad LED Status Codes.
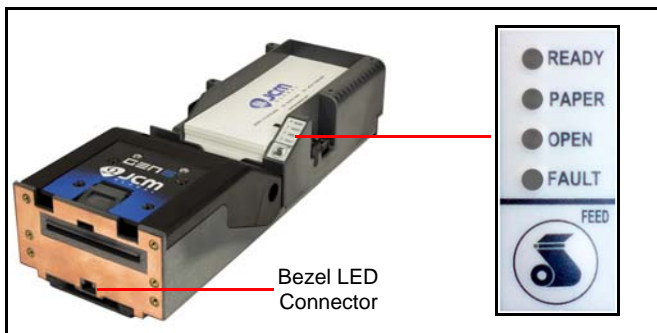
Figure 2 GEN5 Printer Keypad, LEDs and FEED Button

Table 1 GEN5 Keypad LED Status Codes

Condition	Ready	Paper	Open	Fault
Powered OFF				
Ready	Blinking (Green)			
Flushed	Green	Yellow	Orange	Red
Paper Out		Yellow		
Head Up or Ticket Module Open			Orange	
Temperature Error				Red
Voltage Error				Red
Print Head Error				Red
Missing Index Marker		Yellow		
Paper Jammed	Green			Blinking (Red)

BEZEL OPERATION

Table 2 identifies the Front Bezel Display indications, which allow you to determine the Printer Status from a distance.

Table 2 GEN5 Bezel Display Status Indicators

Bezel Display	Status
Solid On	Printer Idle and Ready
Slow Blink	Paper Low or Printer Error
Fast Blink	Ticket Printing/Ticket In Chute
OFF	Printer Power Off

DISABLING/ENABLING THE PAPER LOW SENSOR

To disable or enable the Paper Low Sensor:
1. Create a Paper Out condition.
2. Create a Paper In Chute condition.
3. Press and hold the **FEED** button for three (3) seconds. When the Paper Low Sensor is enabled, the GREEN READY LED flashes three (3) times. When the Paper Low Sensor is disabled, the RED FAULT LED flashes three (3) times.

GEN5 DIP SWITCH SETTINGS

The GEN5 Printer has a bank of DIP Switches. The functionality of the DIP Switch settings is determined by the Firmware loaded into the GEN5 Printer.

> *NOTE: For current DIP Switch settings, refer to the Software Information Sheet for the Firmware version installed in the GEN5 Printer.*

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Self-Test Procedure

The Self-Test Procedure is used to print a "Configuration Ticket" and verify that the GEN5 Print function operates normally. The Configuration Ticket can be used to check print quality. To print a Configuration Ticket (Figure 3), press the **FEED** button twice.

Figure 3 GEN5 Printer Configuration Ticket

PRINTER SENSOR FUNCTIONS

There are five (5) primary Sensor functions on the GEN5 Printer. Bezel light and Keypad LEDs may indicate a Sensor-related error condition (refer to Table 3).

Table 3 GEN5 Printer Sensor Status

Sensor	Location/Description
Paper Out	Located in the Print Head, Paper Out indicates that paper is not loaded in the GEN5 Printer.
Paper Low	Located in the Paper Tray, Paper Low indicates that less than two (2) Tickets are detected in the GEN5 Printer.
Paper Taken	Located in the Presenter Chute, Paper Taken indicates that a Ticket remains in the Presenter Chute.
Drawer Open	Located on the CPU Board, Drawer Open indicates that the Printer is not seated properly in the Host Machine.
Printer Lid Open	Located in the Print Head, Printer Open indicates that the Printer Lid is open.

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PRINTER ERRORS

Most Printer Errors occur due to paper running out or user intervention. See Table 4 below for Error Descriptions and recommended solutions. Refer to Figure 2 and Table 1 (Page 3) for Error Indicators.

Table 4 GEN5 Printer Errors

Error	Description	Remedy
Paper Out	Paper is not detected.	Load new paper stack.
Lid Open	The Printer Lid is open.	Close the Printer Lid.
Temperature	Operating Temperature exceeds limits.	Determine cause of high temperature, let unit cool down.
Voltage	Power Supply voltage exceeds acceptable range.	Check cabling, apply correct power level.
Print Head	Error due to connectivity or interface issue with Print Head.	Power cycle and reset printer. If error recurs, service the printer.
Missing Black Index	The Black Index Mark is not detected.	Ensure paper meets specifications and is loaded correctly.
Paper Jam	Error in Paper path as Ticket is presented.	Open Printer Head, inspect for jammed Ticket.

UPDATING FIRMWARE ON THE PRINTER

To update Firmware on the GEN5 Printer using a PC:
1. From your PC Desktop, launch the JCM Device Firmware Upgrade Downloader (JCM DFU) (Figure 4).
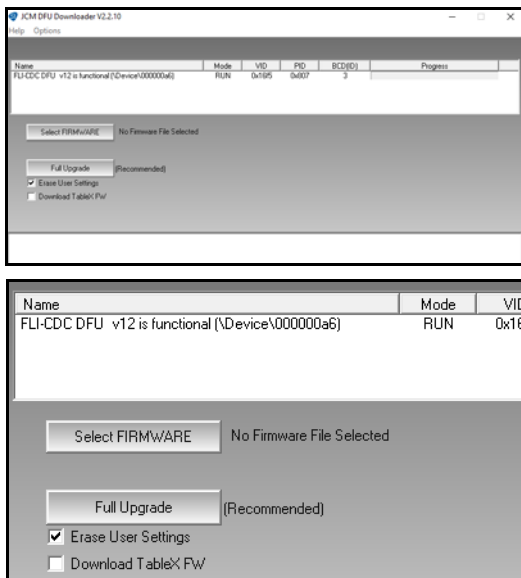
Figure 4 JCM Device Firmware Upgrade
Downloader UI Window/Closeup

2. Make sure the GEN5 Printer is powered ON.
3. Connect a USB cable from the PC to the Printer's USB port (right side).
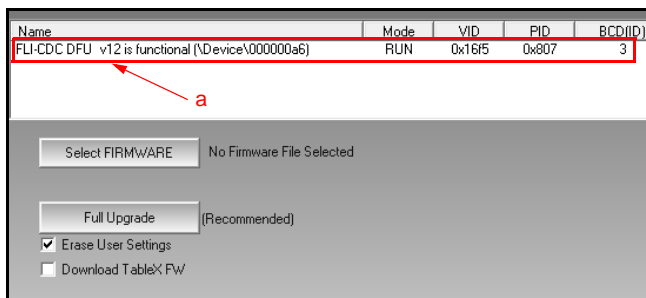
   *NOTE: A USB Hub is recommended. Connect the USB Hub between the PC and the GEN5 Printer.*

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4. To verify communication between the GEN5 Printer and the Device Firmware Upgrade Application, look for the Printer Detected indicator (Figure 5 a) in the window.

Figure 5 "Printer Detected" Indicator

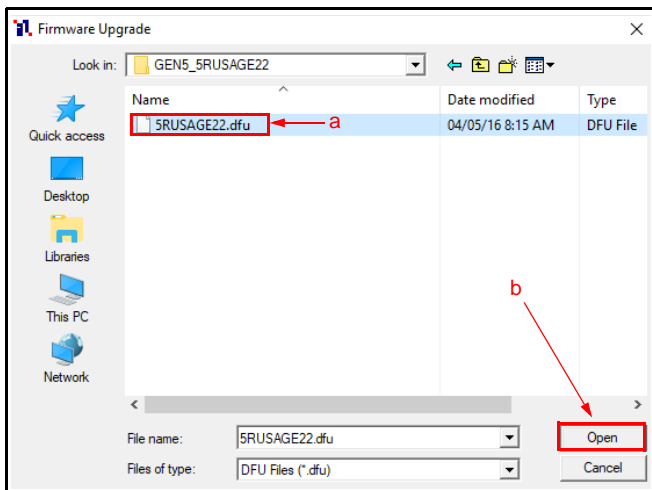5. Click the Select FIRMWARE button to select the desired Firmware Upgrade file to be downloaded (Figure 6 a).
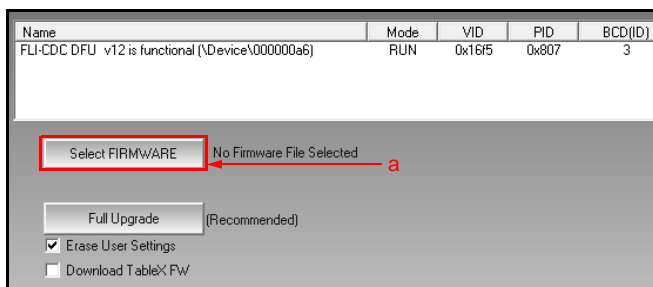
Figure 6 Click Select Firmware

6. From the Firmware Upgrade window (Figure 7), click on the desired Firmware update file (Figure 7 a) to be downloaded to the Printer. Then click the Open button (Figure 7 b) to continue.
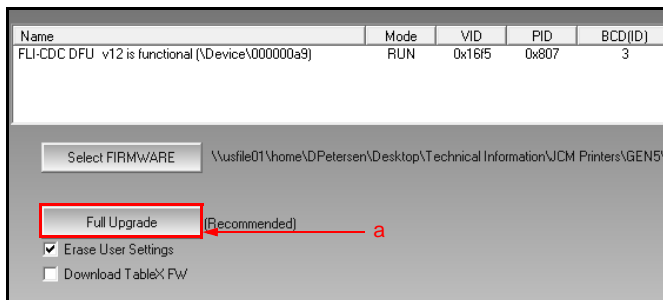

Figure 7 Select the Firmware File to Download

7. Make sure the Erase User Settings check box is selected. Then click the Full Upgrade button (Figure 8 a).

☞ *NOTE: When the ***Printer Successfully Updated*** text line appears, the update is complete.*

Name	Mode	VID	PID	BCD(ID)
FLI-CDC DFU v12 is functional (\Device\000000a9)	RUN	0x16f5	0x807	3

Select FIRMWARE   \\usfile01\home\DPetersen\Desktop\Technical Information\JCM Printers\GEN5\

Full Upgrade   (Recommended) ——— a
☑ Erase User Settings
☐ Download TableX FW

Figure 8 Select the Full Upgrade Button

8. Press the FEED button twice to print a Configuration Ticket.
9. Verify that the Firmware version printed on the Configuration Ticket matches the version downloaded to the Printer.

UPDATING GEN5 FIRMWARE WITH THE BLUEWAVE™DX TOOL

To update firmware on the GEN5 Printer using the BlueWaveDX Tool, perform the following steps:

1. Create a folder in the root directory of the SD Card, named: GEN5 System.
2. Place the Firmware file for the GEN5 Printer into this new folder.

☞ *NOTE: Multiple versions of Firmware can be stored in the GEN5 System folder.*

3. Apply power to the GEN5 Printer.
4. Connect a Standard USB Cable between the BlueWaveDX Tool and the GEN5 Printer USB Download Port.
5. Apply Power to the BlueWaveDX Tool.

6. Select FIRMWARE UPDATE by pressing the OK button on the BlueWaveDX Tool.
7. Select the Firmware Version by scrolling through the list using the BlueWaveDX Tool's UP and DOWN Arrow keys.
8. Press the OK button to select the required Firmware Version.

    NOTE: When the Firmware has been downloaded, the GEN5 Printer will reset automatically.

9. When Download Complete appears on the BlueWaveDX Tool LCD display, press the CLR button to return to the Main Menu OR press the OK button to download the selected Firmware version to another Printer.

    NOTE: The Firmware in the BlueWaveDX Tool must be Version 2.00 or higher to support the GEN5 Printer downloading.

ABOUT THE BLUEWAVE™DX PRINTER CONFIG OPTION

Using the BlueWaveDX Tool, the Bar Code format printed by the GEN5 Printer can be changed. To do so:
1. Connect the BlueWaveDX Tool to the GEN5 Printer with a USB Cable.
2. Using the UP and DOWN Arrow keys, scroll to the PRINTER CONFIG option. Press the OK button.
3. Using the UP and DOWN Arrow keys, select the required Bar Code format from the following options:
    a). 4/8 (default)
    b). 3/9
    c). 4/12
4. Press the OK button to select the Bar Code format.
5. Press the CLR button to return to the Main Menu.

ABOUT THE JCM PRINTER BASIC DRIVER

The JCM® Printer Basic Driver allows full testing of a connected Printer.

CONNECTING TO THE JCM PRINTER BASIC DRIVER

To connect to the JCM Printer Basic Driver:
1. Click the Start Button on the PC Desktop, then click on Programs.
2. Scroll down to JCM, then click the JCM Printer Basic Driver icon.
   The JCM PRINTER BASIC DRIVER Opening Screen appears (Figure 9).
3. Select the PROTOCOL (RS-232 or Netplex) and PORT NUMBER.

   NOTE: Printers supporting USB Communications also have RS-232 Active. Test connectivity using an RS-232 connection.
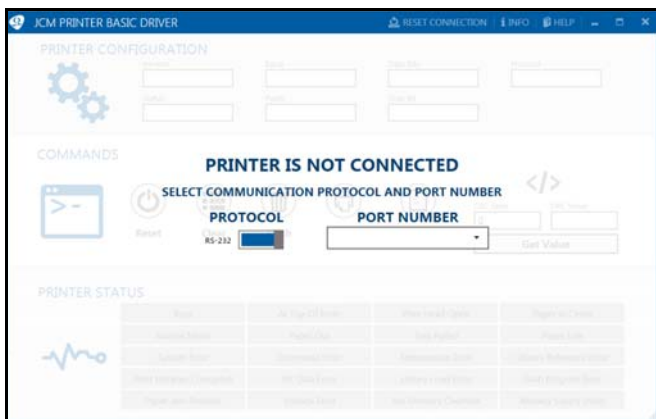
Figure 9 JCM Printer Basic Driver Opening Screen

JCM PRINTER BASIC DRIVER MAIN SCREEN

The JCM Printer Basic Driver Main Screen (Figure 10) displays three main sections:

1. PRINTER CONFIGURATION (Figure 10 a)
2. COMMANDS (Figure 10 b)
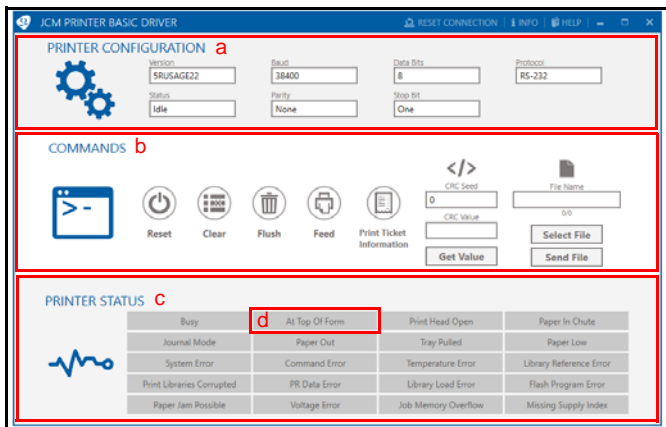3. PRINTER STATUS (Figure 10 c)

Figure 10 JCM Printer Basic Driver Main Screen

NOTE: Descriptions of these features appear on Page 15.

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PRINTER CONFIGURATION (Figure 10 a)
This section displays the current Printer Configuration, including Version, Firmware Installed and Communication Setup parameters

COMMANDS (Figure 10 b)
This section provides the following functional checks:
- Reset - Performs a reset of the Printer
- Clear - Clears Warning and Error Status
- Flush - Deletes the Firmware on the Printer
- Feed - Feeds one blank Ticket
- Print Ticket Information - Prints a Test Ticket with Printer Information, Printer Communication Settings, Character Set and a Test Barcode
- Get Value - Retrieves the Printer CRC information
- Select File - Use Select File to select a properly-formatted ticket
- Send File - Use Send File to print the sample ticket on the Printer

PRINTER STATUS (Figure 10 c)
This section displays the current status of the Printer.

> *NOTE: Any active condition appears highlighted in RED (Figure 10 d).*

PREVENTIVE MAINTENANCE

To ensure high performance printing quality, the GEN5 Printer must be cleaned periodically using the following methods:

- – Perform the Cleaning Card Method every three (3) months.
- – Manual Cleaning should be performed every six (6) months.

☞ *NOTE: The Cleaning Cycle may need to be changed, depending on operating environment conditions. Smoke-filled and/or dusty environments require more frequent Cleaning Cycles.*

Cleaning Supplies

Table 5 Required Supplies

Description	Part No.
Cleaning Kit, Bagged	P/N 350-00292-100[*]
Isopropyl Alcohol (I.P.A.) 99% or greater	N/A
Non-Flammable Compressed Air	N/A

[*] Cleaning Kit includes (10) Cleaning Swabs (P/N 350-00291-100), (10) Cleaning Wipes (P/N 350-00259-100) and (10) Cleaning Cards (P/N 350-00287-100).

CLEANING THE PRINTER (CLEANING CARD METHOD)

To clean the Printer using the Cleaning Card Method:

1. Slide the Printer out of the EGM.
2. Remove Tickets from the Printer's Paper Tray (see Figure 11 a on page 17).
3. Verify that the Printer is powered ON.
4. Remove the Cleaning Card from its package.
5. Insert the Cleaning Card into the Ticket-In Slot (see Figure 11 d on page 17). The Cleaning Card will feed into the Slot up to the loading point.
6. Press the FEED button to feed the Cleaning Card through the Paper Path.
7. Remove the Cleaning Card from the Printer.
8. Turn the Cleaning Card over.
9. Repeat Steps 5 through 7 for a second cleaning cycle.
10. Reload the Tickets.
11. Feed at least two (2) Tickets through the Printer to wipe off excess moisture on the Print Head.

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Manual Cleaning

Use the following procedure for Manual Cleaning of the Printer:
1. Slide the Printer out of the EGM.
2. Remove Tickets from the Printer's Paper Tray (Figure 11 a).
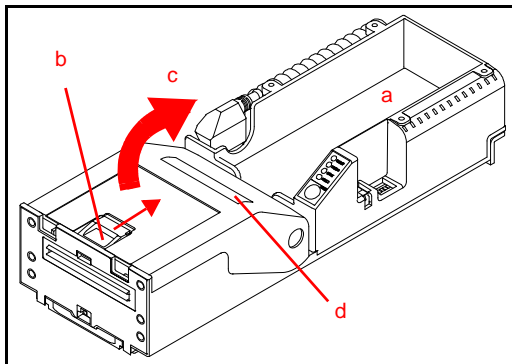


Figure 11 Cleaning the Ticket-In Slot

3. Press the Lid Release Lever toward the rear of the Printer to release the lid (Figure 11 b).
4. Rotate the Lid up in the direction indicated by the red arrow (Figure 11 c and Figure 12 a on page 18) to access the Printer interior.
5. Use Non-Flammable Compressed Air to blow out excessive dust and dirt from the following areas within the Printer:
    – Ticket-In Slot (Figure 11 d)

    > *NOTE: Insert the Compressed Air canister's tube into the Ticket-In Slot approximately 1 inch from the right edge of the Slot.*
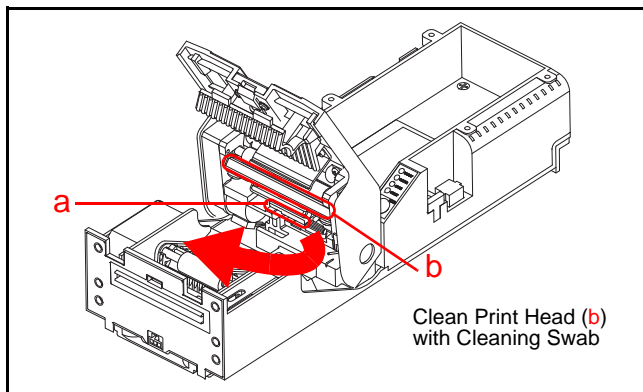
    – Presenter Assembly (refer to Figure 12 b on page 18)
    – Print Head (refer to Figure 13 b on page 18)
    – Paper Tray (Figure 11 a)
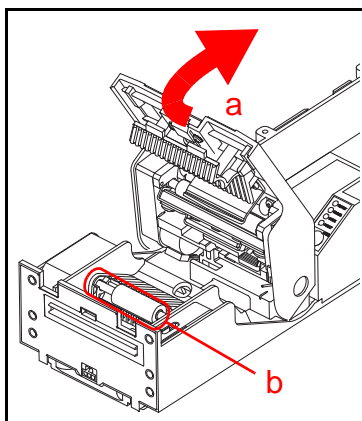
Figure 12 Presenter Assembly

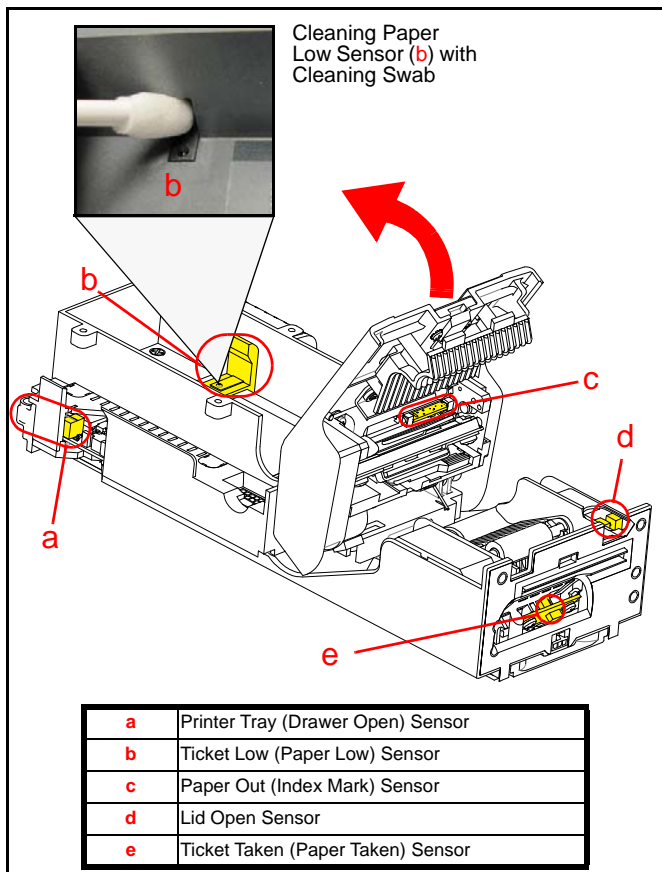6. Open the Print Head Release Lever (Figure 13 a).
7. Clean the Print Head (Figure 13 b) using a Cleaning Swab.

Clean Print Head (b)
with Cleaning Swab

Figure 13 Print Head Release Lever/Print Head

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8. Clean each of the Sensors using a clean Cleaning Swab (Figure 14).

a	Printer Tray (Drawer Open) Sensor
b	Ticket Low (Paper Low) Sensor
c	Paper Out (Index Mark) Sensor
d	Lid Open Sensor
e	Ticket Taken (Paper Taken) Sensor

Figure 14 Sensor Locations

9. Use a Cleaning Wipe to wipe and clean the Platen Roller (Figure 15 a). Rotate the Roller to clean the Roller's entire circumference.
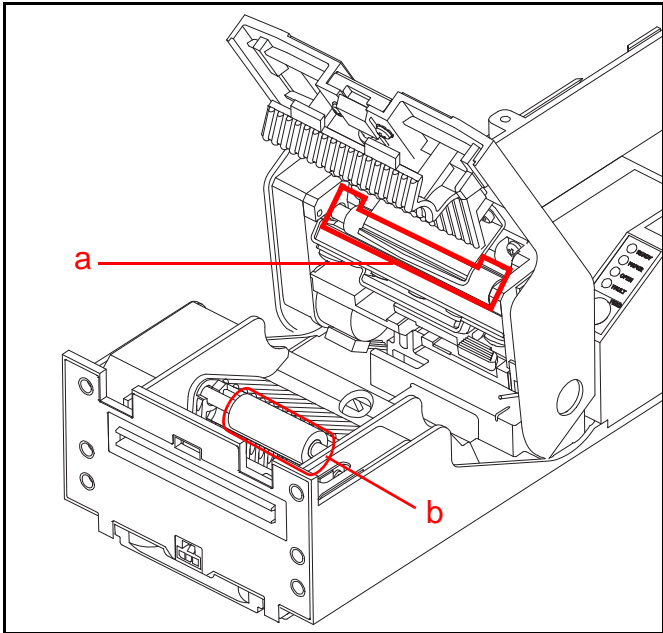
Figure 15 Platen Roller/Feed Roller

10. Close the Print Head Release Lever (refer to Figure 13 a on page 18).
11. Use a Cleaning Wipe to wipe and clean the Feed Roller (Figure 15 b).
12. Use a clean, dry Micro-fiber cloth to wipe excess liquid from all surfaces.
13. Reload the Tickets.
14. Slide the Printer into the EGM.

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