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GEN5™ Series
Printer

Operation and Maintenance Manual

(Revision 2)

P/N 960-100940R_Rev. 2

a RoHS Compliant Product

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REVISION HISTORY			
Rev №.	**Date**	**Reason for Update**	**Comment**
A	09-01-16	**Initial Version**	
1	08-16-17	**Updated Product Specifications, Installation, DIP Switch settings, JCM DFU Downloader, Disassembly/Reassembly, Exploded Views & Parts, Maintenance Equipment, Blue-Wave™DX Firmware Update procedure**	
2	12/15/17	**Updated Part Numbers and Descriptions in Section 7 Exploded Views & Parts Lists**	
3			
4			
5			

International Compliance

- RoHS Directives or or or
- UL & c-UL Marks **File No. E157601, Vol. X7, Subscriber 857947001**
- CE Mark
- CB Scheme **US-22259-A1-UL**

Electrical Current Symbol

Direct Current: indicates Direct Current values on product labels.

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GEN5™ Series
Printer
Section 1

1 GENERAL INFORMATION

Section 1 provides a general overview of the GEN5™ Series Printer, shown in Figure 1-1. This section is designed to help the user navigate through this guide with ease. It includes the following information:

- GEN5 Printer Unit
- Model Descriptions
- Precautions
- Primary Features
- Component Names
- Specifications
- Unit Dimensions
- Technical Contact Information

In order to make operating this device and navigating within this manual easier, the following illustrations are used:

- **Safety Instructions** need to be observed in order to protect the operators and the equipment; these are identified with **Bold** text and the following pictographs:
- **Special *Notes*** affect the use of the Printer; these are identified with *italic* text and the following pictograph:
- **Steps** require the operator to perform specific actions; these are identified with sequential numbers (1, 2, 3, etc.).

GEN5 Printer Unit

Figure 1-1 GEN5 Printer Unit

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Product Descriptions

Model Descriptions

Table 1-1 lists the Product Model Number Descriptions for the GEN5™ Printer.

Table 1-1 GEN5 Model Number Specifications

No.	Model: GEN5 (1)
(1)	Standard Unit: PSA-66-ST5

Firmware Descriptions

Table 1-2 lists the Firmware Number Description for the GEN5 Printer.

Table 1-2 GEN5 Firmware Number Specifications

No.	Firmware: 5 * - *** - ** **** (1) (2) (3) (4)
(1)	Firmware Type N - Netplex R - RS 232 S - USB SPC H - USB HID (GDS) C - USB CDC P - USB PDC
(2)	Country Code (3 digit, alpha)
(3)	Manufacturer
(4)	Firmware Version

GEN5 Type 5 Firmware (IGT)

Table 1-3 lists the Firmware Number Description (IGT) for the GEN5 Printer.

Table 1-3 GEN5 Firmware Number Specifications (IGT)

No.	Firmware: G 5 * - *** - **** (1) (2) (3) (4)
(1)	G: IGT
(2)	Firmware Type I - SPC/Netplex Combo N - Netplex R - RS 232 S - USB SPC H - USB HID (GDS) C - USB CDC P - USB PDC
(3)	Country Code (3 digit, numeric)
(4)	Firmware Version

Precautions

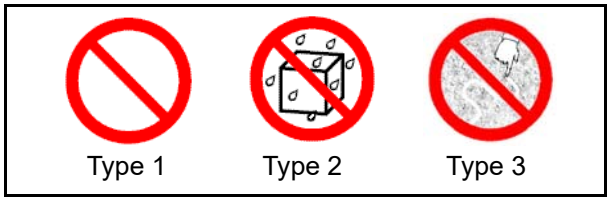

Figure 1-2 Precautionary Symbols

Symbols in Figure 1-2 are defined as follows:

1. (Type 1) Do not insert a torn, folded, or wet Ticket; it may cause a jam inside the unit.
2. (Type 2) Do not expose the unit to water. The unit contains several precision electronic devices that can be damaged if water or other liquid is sprayed or spilled into the unit.
3. (Type 3) Do not install the unit in a dusty environment. Dust may affect/degrade the sensor's and printer's performance.

User Cautions

Careful measures were taken in the design of this product to ensure quality; however, the following cautions should be read and observed by all users for safe operation.

ESD WARNING: Electronic Circuit Boards and their components are sensitive to static electricity. Care must be taken during all handling and inspection of the GEN5 Printer Unit to avoid exposure to ESD. Do not handle the Unit outside of its protective enclosure unless you are properly grounded and protected against ESD. Always discharge static electrical charges on clothing and tools, and wear a properly grounded Anti-ESD wrist strap before handling or using the Unit. Be sure to test and service the Unit in EOS/ESD-safe Workstations.

Installation Cautions

The Installation Cautions are defined as follows:

1. This unit is not designed for outdoor installation. Be sure that the Host Machine contains enough protection to avoid wet or dusty conditions when installing it in both indoor and open air spaces.
2. Be sure that the Host Machine is designed with careful consideration for retrieving a Ticket and/or clearing a Ticket jam.
3. Avoid exposing the Ticket Bezel Slot to direct Sunlight and/or Incandescent Lamp illumination having a Gradient Angle of 15 Degrees or more, and an illumination index of 3000 Lux or less. Ensure that the Host Machine is also designed to avoid exposing the Ticket Bezel Slot to direct Sunlight or incandescent light.
4. Do not allow the Printer to endure a range of temperature and humidity beyond the environmental limits specified (See "Environmental Specifications" on page 1-7 of this Section).
5. Do not use the Printer in environments that may be subject to extreme temperature changes.
6. Do not use the Printer where it may be exposed to airborne evaporated or sporadic chemicals.
7. Clean and maintain the Printer regularly when located in an excessively smoke-filled environment.

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Mounting, Dismounting & Transportation

Methods for mounting, dismounting and transporting the unit:

1. Be sure to turn the Power OFF before mounting or removing the Unit from its permanent location. Plugging or unplugging Connector plugs from their receptacles while the Power is ON may cause damage to the Unit.
2. When installing the Bottom Tray Section, ensure that each part is carefully placed in its proper location.
3. Be sure to carry the Unit by both hands when transporting. Holding the Unit by one hand may cause personal injury if the Unit accidentally becomes disassembled and drops away.
4. Be careful not to use excessive outside pressure on the Unit, or subject it to excessive vibration during transportation.
5. Make sure the Printer section does not drop off the Base when pulling it forward.

Placing Foreign Objects Into The Unit

Observe the following precautions when placing foreign objects into the Unit:

1. Do not insert anything except Tickets into the Ticket In Slot. Inserting Receipts, Stapled Tickets, Rubber Bands or Credit Cards into the Unit may damage the Unit's Transport Path.
2. Do not inject liquids into the Ticket Transport. Injecting water, oil or cleaning agents may damage the Sensors within the Unit's Transport Path.

Preventive Maintenance

The Preventive Maintenance requirements are defined as follows:

Caution: Be careful to avoid personal injury to your fingers when closing the Printer Lid, sliding the Printer into the EGM, and securing the Service Door Latches.

1. Turn power to the GEN5 Printer Unit OFF before beginning a Maintenance Procedure. The equipment produces improper operating signals while in Maintenance Mode that may cause personal injury.
2. Keep the Printer Head section clean. If it becomes dirty due to dust, foreign objects or other debris adhering to the surfaces, print quality will degrade, or paper jamming may occur.
3. Clean the Unit once a month to keep its performance stable.
4. Use a soft, lint-free Microfiber cloth, cotton swab with Isopropyl Alcohol, or non-flammable compressed air spray to clean dust and debris from the Rollers and Ticket Path.

WARNING: Do not inject water or liquid agents of any kind into the Printer, as this may cause extreme damage to the Unit.

5. Make sure that the Guides and Unit sections are properly reinstalled in their respective locations after completion of maintenance procedures.
6. Do not redesign or disassemble the Unit. Unauthorized use by inadequately trained personnel or use outside the original manufacturer's intent for operation voids the warranty.

WARNING: To minimize risk of damage to internal printed circuit boards, never allow excess fluid (e.g., from a wet cleaning cloth) to drip or leak into the device. Internal printed circuit boards may be damaged. Do not use any citrus-based cleaners, solvents or scouring agents that can damage the plastic surfaces of the device.

7. If the Unit is exposed to water or liquids, use a clean, dry Microfiber cloth to wipe off and absorb excess liquids immediately. Any remaining liquids may affect and degrade the Sensors and Printer component performance.

Caution: Make sure Interface Harness connections to the Host Machine are shorter than 9.84 Feet (3 Meters) in length. Cut off all unused portions of the Interface Harness wiring to avoid static electrical effects or short circuit possibilities that could cause damage to the Unit.

WARNING: This Unit is designed for use with a Current limiting Power Source! Design the Host Cabinet space to meet all local related safety standards.

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Ticket Fitness Requirements

The following Ticket types may not print or read correctly, or can cause a jam and/or damage to the Unit's Transport Path. Ticket stocks that exhibit the following conditions (Figure 1-3) should be avoided:

- Torn
- Folds or wrinkles
- Dirty
- Curled
- Wet
- Cut out of specification
- Index mark out of specification

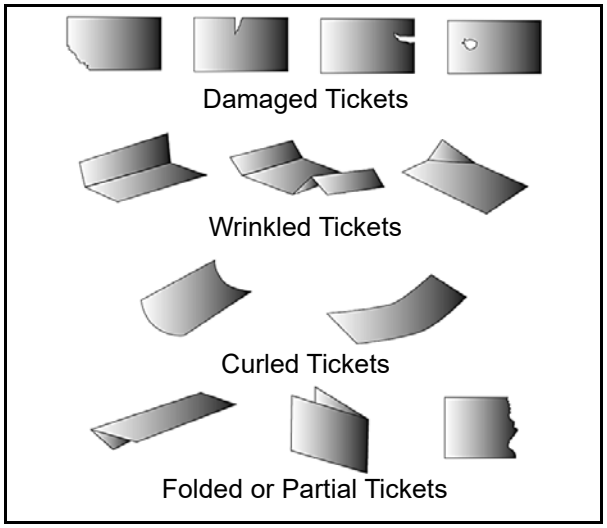

Figure 1-3 Unacceptable Tickets

Primary Features

The GEN5 Printer includes the following primary features:

- **Faster CPU –** Updated processor installed
- **Faster Print Speed –** Prints at 90mm per second
- **Dual Channel Communication –** Allows printing of TITO and Promotional Tickets
- **Jam Prevention Technology –** Blocked Bezel detection prevents jamming
- **Compatibility with all Game Manufacturers' Products –** USB, RS232C and Netplex Communications are available on all Units.

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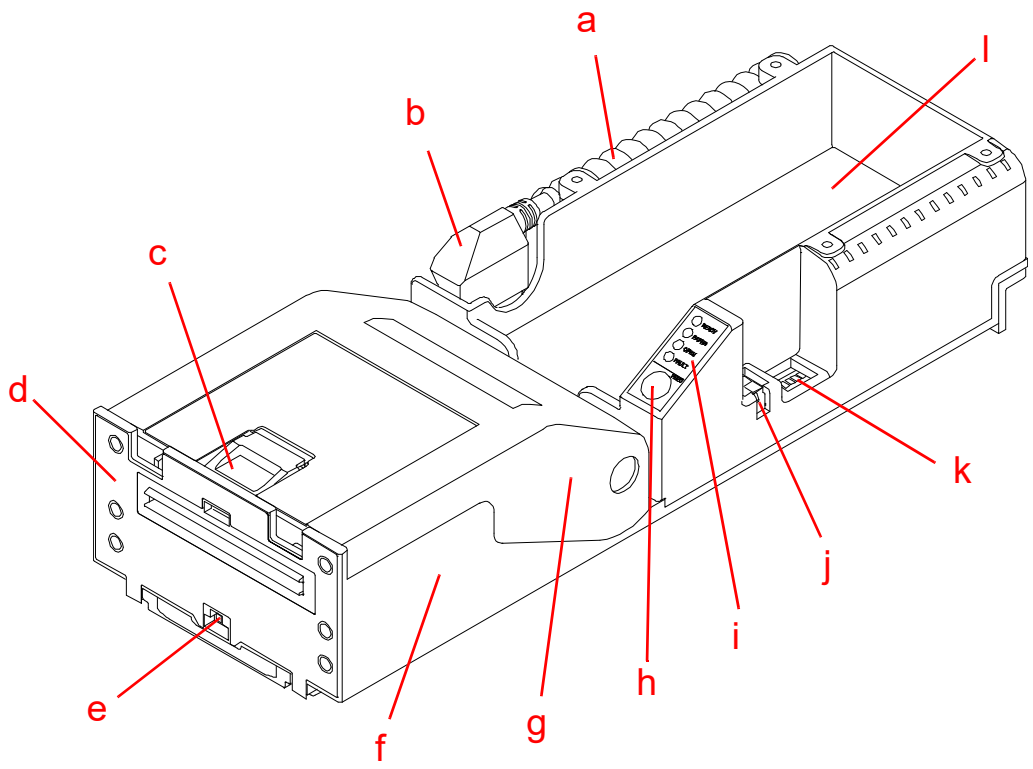
Component Names

Figure 1-4 illustrates the GEN5 Printer component names and locations.



a) RS232/USB Coil Interface Cable
b) Coil Interface Cable Connector
c) Lid Latch
d) Copper Shield
e) Bezel LED Connector
f) Bottom Tray
g) Upper Lid
h) Feed Button
i) Status LEDs
j) DIP Switch (under Rubber Boot)
k) USB Update Port
l) Paper Tray (300 note)

Figure 1-4 GEN5 Printer Components

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Specifications

Technical Specifications

Table 1-4 GEN5 Technical Specifications

Print Speed:	90mm/second (3.5”/second)
Print & Present:	2.2 seconds
Memory:	FLASH: 4Mb RAM: 8Mb
Template Storage:	4Mb*
Graphic Storage:	4Mb*
Print Head Life:	74.6 miles (120 kilometers) - approximately 787,776 Tickets based on U.S. currency size Ticket
Resolution:	8 dots/mm (203 dpi)
Print Width:	62mm (true near edge printing)
Page Mode:	Full page mode printing (simultaneous 4 orientation printing; 0 degrees, 90 degrees, 180 degrees, 270 degrees; Line and Box Draw; Bitmap Graphics; Printer residence (stored in Flash Graphics)
Media:	Direct Thermal, Top Coated, Fanfold and Perforated
Paper Specifications:	66mm (W) x 156mm (L) 4.5 mil, 1 Color/2 Color
Duty Cycle:	Max Continuous Feed of 1200 Tickets w/ 18 second delay between prints
Media Capacity:	300 STD (600/900 Options)
Bezel Control:	Two High Current Ticket Printing Bezel Control Ports
Update Port:	USB Download Port
Printer Language:	TCL Printer Language (Page Description Language), subset of ESCP2
Fonts:	8 (2.5, 3.3, 4.0, 5.5, 5.6, 7.3, 10.1, 20.5 cpi)
Font Scalability	Independently Scaled form 1x - 7x in both Height and Width
Bar Codes:	PDF-417, Interleaved 2 of 5, Code 39, UPC-A, UPC-E, UPC-E+2, UPC-E-5, Codabar, EAN-13, EAN-8, Code 128, MSI, Data Matrix, QR Code
Communications:	USB 2.0 (Full Speed at 12Mbps); USB Download Port; Compliant with GSA GDS, IGT USB/Netplex, RS-232C

*. Template Storage and Graphic Storage use shared memory.

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Environmental Specifications

Table 1-5 GEN5 Environmental Specifications

Operating Temperature:	+0ºC to +65ºC (32ºF to 149ºF)*
Storage Temperature:	-20ºC to +75ºC (-4ºF to 167ºF)*
Relative Operating Humidity:	5% to 85% RH (non-condensed)
Relative Storage Humidity:	5% to 85% RH (non-condensed)
Visible Light Sensitivity:	Interior lighting must be incandescent with a Radiant Angle of 15 Degrees or more having an Illumination index of 3000 Lux or less
Installation:	Indoors Only

*. Depends on hydrothermal conditions.

Electrical Specifications

Table 1-6 GEN5 Electrical Specifications*

Supply Voltage:	24V DC (Greater than 2.7A)
Current Consumption:	24V DC • Standby = 100 mA • Operation = 2.7 A • Peak = 4.5 A

*. Power Supply should be UL Listed or IEC Certified and marked “Class 2” or “LPS”.

Structural Specifications

Table 1-7 GEN5 Structural Specifications

Weight:	Approximately 1.22kg (2.7lbs.)
Mounting:	Horizontal
Outside Dimensions:	See “Entire Unit Outside Dimensions” on page 1-9

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Ticket Specifications

Table 1-8 GEN5 Ticket Specifications

Dimensions:	66mm x 156mm + -1mm
Paper Type:	Direct Thermal, Top Coated, Fan Fold, Perforated
Paper Thickness:	4.5 mil
Color:	1 Color/ 2 Color

Figure 1-5 illustrates the GEN5 Printer Unit's Ticket Specifications.

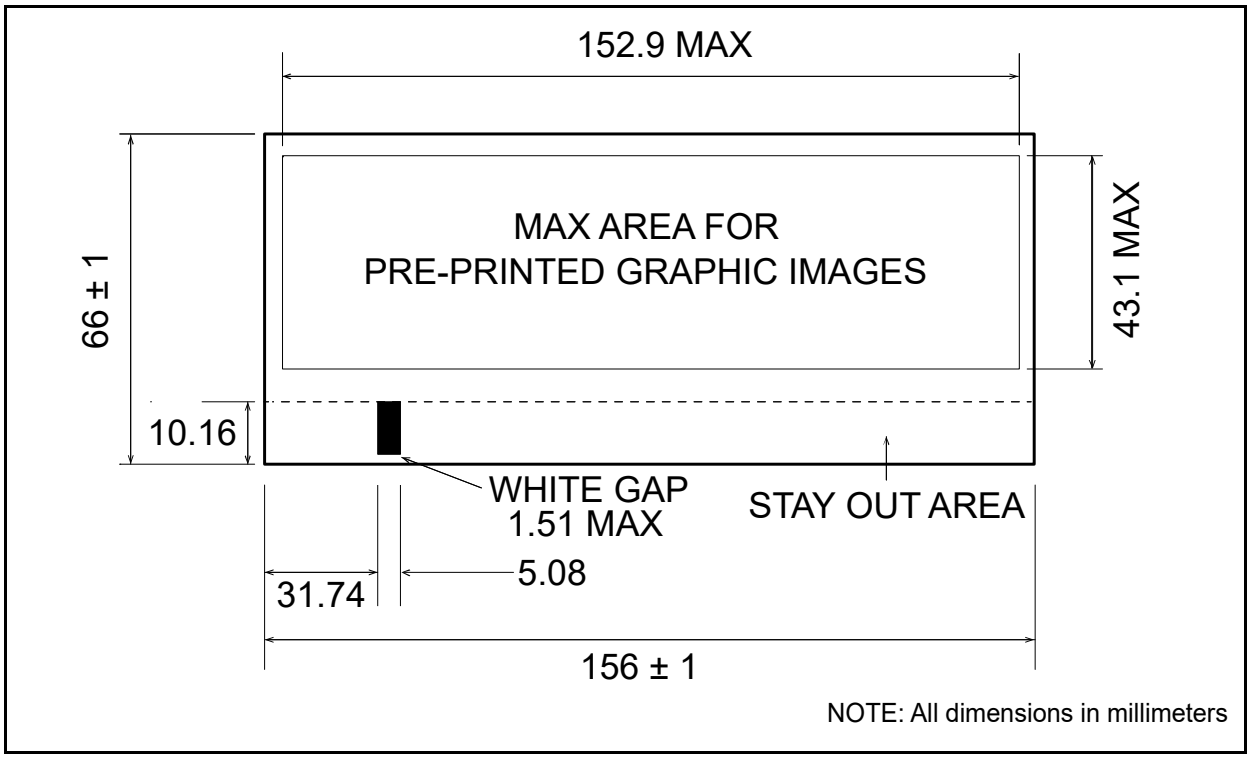

Figure 1-5 GEN5 Printer Unit Ticket Specifications

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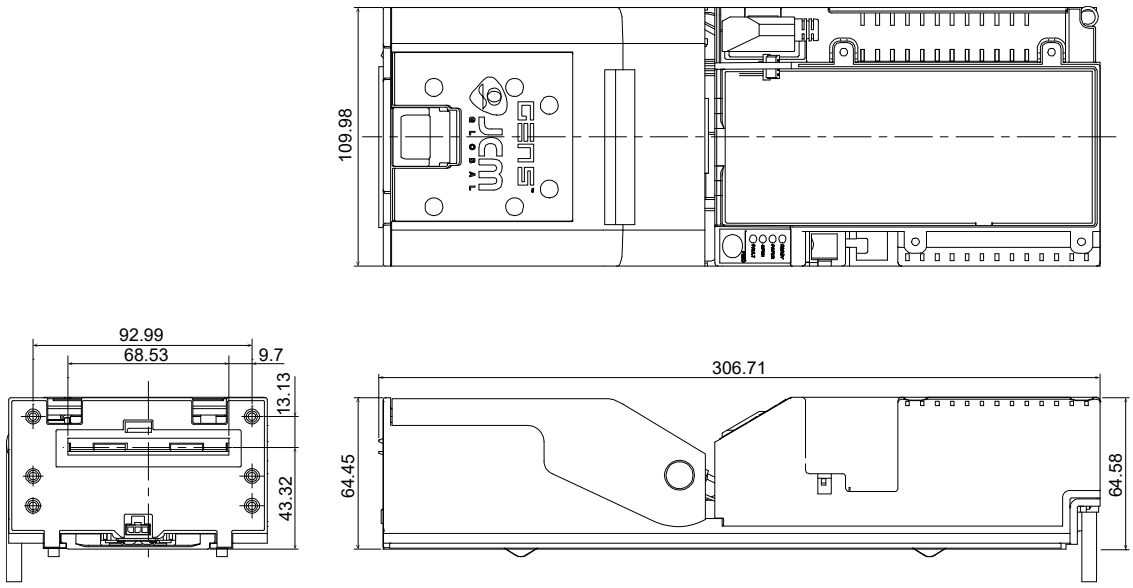
Unit Dimensions

Entire Unit Outside Dimensions

Figure 1-6 illustrates the GEN5 Printer Unit Without Bezel Outside Dimensions with a standard (300 note) paper tray.



Optional Paper Trays require additional clearance.

NOTE: All dimensions in millimeters

Figure 1-6 GEN5 Printer Unit With 300-Note Paper Tray (Without Bezel) Outside Dimensions

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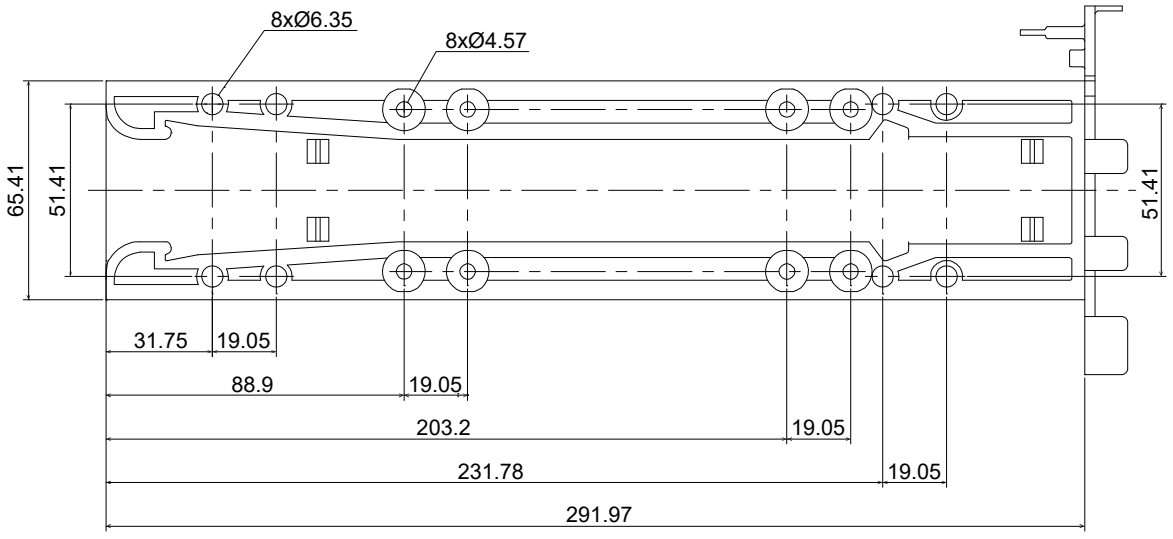
Entire Unit Outside Dimensions (continued)

Figure 1-7 illustrates the GEN5 Printer Unit's Mounting Rail Dimensions.

Mount Rails with a minimum of 4 each M4 x 4 screws
or using a Mounting Plate with M4 x 4 Studs
Printer Unit must be mounted to a grounded metal plate



NOTE: All dimensions in millimeters

Figure 1-7 GEN5 Printer Unit Mounting Rail Dimensions

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GEN5™ Series
Printer
Section 2

2 INSTALLATION

This section provides installation and preventive maintenance procedures for the GEN5 Printer. This section includes:

- Installation Procedure
- DIP Switch Configuration
- Connector Pin Assignments
- Preventive Maintenance
- Cleaning Procedure

Installation Procedure

Perform the following steps to install the GEN5 Printer Unit in the Host Machine:

WARNING: Before performing this procedure, observe the ESD WARNING in "User Cautions" on page 1-2.

1. Remove AC power from the Host Machine.
2. Identify the location where the GEN5 Printer Unit is to be installed.
3. Mount the Mounting Rail to the Host Machine chassis using a minimum of four (4) M4 x 4 screws or a mounting plate with four (4) M4 x 4 studs.

WARNING: The GEN5 Printer Unit MUST be mounted to a grounded metal plate.

4. Slide the GEN5 Printer onto the Mounting Rail.
5. Connect the Power and Signal Connector to the GEN5 Printer Unit.
6. Restore AC power to the Host Machine.

DIP Switch Configuration

This section provides the DIP Switch Configuration Settings for SW1 through SW6 on the GEN5 Printer Unit (Figure 2-1). Baud Rate settings are auto-configured by the system.

NOTE: Baud Rate settings are auto-configured by the system's firmware.

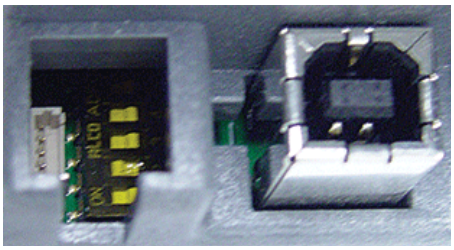
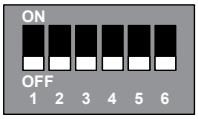


Figure 2-1 DIP Switch and Firmware Update Port

Table 2-1 DIP Switch Baud Settings



DIP Switch DS1

SW1	SW2	SW3	SW4	SW5	SW6
Refer to the Firmware Version's Software Information Sheet (SIS) for DIP Switch Settings					

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Disabling the Paper Low Sensor

If it becomes necessary to disable the GEN5 Printer Unit's Paper Low Sensor, perform the following steps:

1. Remove Paper from the Print Head.
2. Put the GEN5 Printer in a "Paper in Chute" condition. Cover the Taken Sensor (Figure 2-11 e) with your finger or a Ticket. Close the lid.
3. Press and hold the Feed button (Figure 2-4 a) for 3 seconds. If the GREEN Ready light flashes, the Paper Low Sensor has just been turned ON. If the RED Fault light flashes, the Paper Low Sensor has just been turned OFF.

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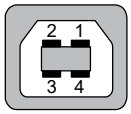
Connector Pin Assignments

Table 2-2 through Table 2-8 list the GEN5 Printer Unit's pin assignments.

Firmware Update Connector Pin Assignments

Table 2-2 lists the GEN5 Firmware Update Connector Pin Assignments.

Table 2-2 GEN5 Firmware Update Connector Pin Assignments



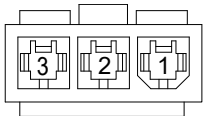
Power Source: USB B Plug
Connector: 6717101-000 (MOLEX)

Pin No.	Signal Name	I/O	Function
1	VCC (+5V)	-	+5V DC Power Supply
2	DATA -	I/O	USB Communication Input/Output Signal Line
3	DATA+	I/O	USB Communication Input/Output Signal Line
4	GND	-	Signal Ground

Bezel LED Connector Pin Assignments

Table 2-3 lists the GEN5 Bezel LED Connector Pin Assignments.

Table 2-3 GEN5 Bezel LED Connector Pin Assignments*



Connector: 43640-0301 (Micro-Fit)
Mate: 43645-0300 (Micro-Fit)

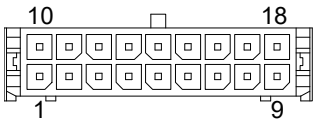
Pin No.	Signal Name	I/O	Function
1	Power 24V	O	Switched 24V 100mA Min
2	BGND	-	Bezel Ground
3	Frame Ground	-	Frame Ground

*. Bezel Connection on face of the GEN5 Printer Unit.

Base Port Connector Pin Assignments

Table 2-4 lists the GEN5 Base Port Connector Pin Assignments.

Table 2-4 GEN5 Base Port Connector Pin Assignments



Connector: 43025-1800 (MOLEX)
Mate: 43045-1812 (MOLEX)
Coil Interface Connector/RS232C/USB

Pin No.	Signal Name	I/O	Function
1	DGND	-	Ground
2	USB-	I/O	USB- (N)
3	+13V	-	No Connection
4	Switched+24V	-	Switched 24V Bezel
5	DTR	-	Data Terminal Ready
6	MRESET	-	Master Reset
7	USB+	I/O	USB+ (P)
8	+24V DC	-	+24V DC Power Supply
9	RTS	-	Request to Send

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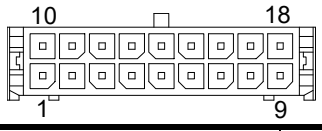
Table 2-4 GEN5 Base Port Connector Pin Assignments (Continued)



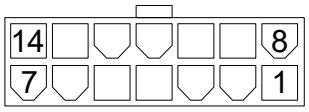
Connector: 43025-1800 (MOLEX)
Mate: 43045-1812 (MOLEX)
Coil Interface Connector/RS232C/USB

Pin No.	Signal Name	I/O	Function
10	RX2	I	Receive 2, RS232C
11	TX2	O	Transmit 2, RS232C
12	RX1	I	Receive 1, RS232C
13	TX1	O	Transmit 1, RS232C
14	TX1	O	Transmit 1, Netplex
15	RX1	I	Receive 1, Netplex
16	DNGD	-	Ground
17	VBUS	-	USB+5V
18	No Connection	-	No Connection

RS232C Connector Pin Assignments

Table 2-5 lists the GEN5 RS232C Connector Pin Assignments.

Table 2-5 GEN5 RS232C Connector Pin Assignments



Connector: 39-01-3149 Mini-Fit Jr. (MOLEX)
Mate: 39-01-2140 Mini-Fit Jr. (MOLEX)
RS232 Power/COMM Port Connector/Coil Interface

Pin No.	Signal Name	I/O	Function
1	MRESET		MRESET
2			No Connection
3			No Connection
4			No Connection
5	DGND	-	Ground
6	+24V DC	-	+24V DC Power Supply
7	DGND	-	Ground
8	+24V DC	-	+24V DC Power Supply
9	Switched +24V	-	Switched +24V(Bezel)
10	DGND	-	Ground
11	RX1	I	Receive 1 - RS232C
12	TX1	O	Transmit 1 - RS232C
13	DTR	-	DATA Terminal Ready
14	RTS	-	Request to Send

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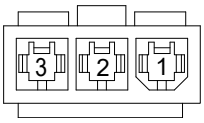
Bezel Connector (on Coil Harness) Pin Assignments

Table 2-6 lists the GEN5 Bezel Connector (on the Coil Harness) Pin Assignments.

Table 2-6 GEN5 Bezel Coil Harness Connector Pin Assignments



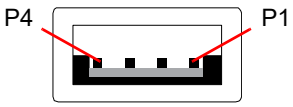
Connector: 39-01-4037 Mini-Fit Jr. (MOLEX)
Mate: 39-01-4031 Mini-Fit Jr. (MOLEX)

Pin No.	Signal Name	I/O	Function
1	Power 24V	O	Switched 24V
2			No Connection
3	DGND	-	Ground

USB Connector Pin Assignments

Table 2-7 lists the GEN5 USB Connector Pin Assignments.

Table 2-7 GEN5 USB Connector Pin Assignments



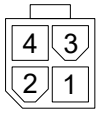
Power Source: USB Connector
Connector: Coil Interface USB (Male A Connector)

Pin No.	Signal Name	I/O	Function
1	VBUS	-	USB+5V
2	USB–	I/O	USB– (N)
3	USB+	I/O	USB+ (P)
4	DGND	-	GROUND

Auxiliary Port Connector Pin Assignments

Table 2-8 lists the GEN5 Auxiliary Port Connector Pin Assignments.

Table 2-8 GEN5 Auxiliary Port Connector Pin Assignments



USB Coil Interface Connector (2nd Port Harness)
Connector: 39-01-3042 Mini-Fit Jr. (MOLEX)

Pin No.	Signal Name	I/O	Function
1	DGND	-	GROUND
2	RX2	I	RX2 232C
3	TX2	O	TX2 232C
4	-	-	No Connection

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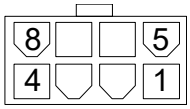
Netplex Port Connector Pin Assignments

Table 2-9 lists the GEN5 Netplex Port Connector Pin Assignments.

Table 2-9 GEN5 Netplex Port Connector Pin Assignments



Netplex Power/ COMM Port Connector
Connector: 39-01-3081 Mini-Fit Jr. (MOLEX)
Mate: 39-00-0040 Mini-Fit Jr. (MOLEX)

Pin No.	Signal Name	I/O	Function
1	MRESET	I	MRESET
2	Netplex RXD	I	Received Data
3	+13V	-	No Connection
4	Netplex TXD	O	Transmitted Data
5	NETGND	-	GROUND
6	+25VDC	-	+25V DC Power Supply
7	BGND	-	Bezel Ground
8	-	-	No Connection

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Preventive Maintenance

JCM strongly recommends regularly scheduled Preventive Maintenance procedures to ensure that the GEN5 Printer performance meets factory specifications for trouble-free operation.

Loading Tickets

To load tickets into the GEN5 Printer, perform the following steps:

1. Open the EGM's Service Door.
2. Pull the Printer forward on its Sliding Base until it stops.
3. Fan the Ticket stack, then place it in the Ticket Tray so that it lays flat (Figure 2-2 a).

NOTE: A black Paper Index Mark should be visible along the right edge of the Ticket stack (Figure 2-2 b).

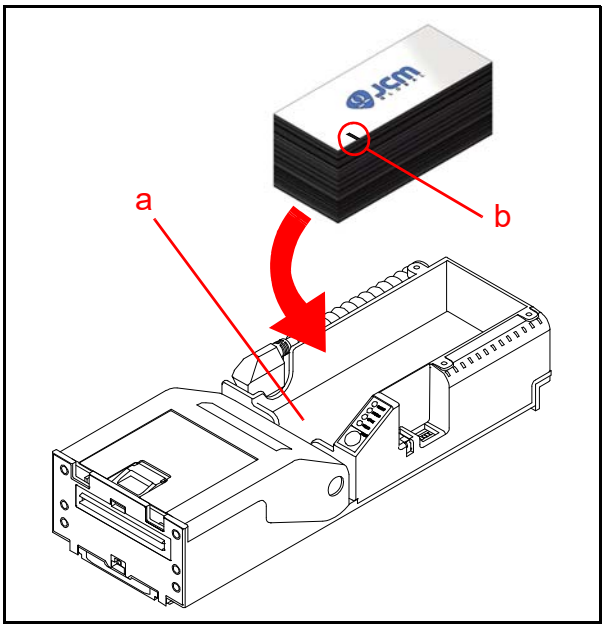

Figure 2-2 Stack Tickets in Ticket Tray

4. Insert a Ticket into the Ticket In Slot (Figure 2-3 a). The Ticket automatically feeds into the Printer and aligns in the correct position for printing.

NOTE: The Printer's LED Status indicator (Figure 2-3 b) changes from YELLOW (Paper) to GREEN (Ready).

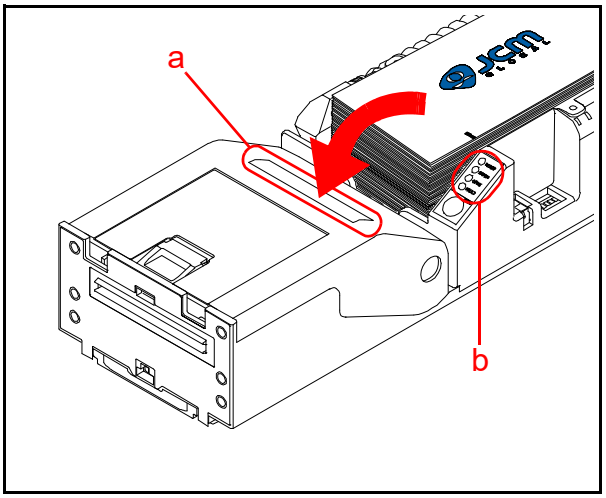

Figure 2-3 Load Ticket Stack into Printer/ LED Status

5. Reinstall the Printer in the EGM by pushing the Sliding Base into the EGM until it stops.
6. Secure the EGM's Service Door.

Paper Feed Button

To feed Paper into the GEN5 Printer or to Print a Configuration Ticket, proceed as follows:

NOTE: Before using the Paper Feed Button, follow the Loading Tickets procedure to ensure Tickets are properly loaded into the GEN5 Printer.

1. Press and hold the Feed Button to feed paper through the Printer or to advance to the top of the next Ticket (Figure 2-4 a).
2. Press the Feed Button twice within two (2) seconds to print a Configuration Ticket.

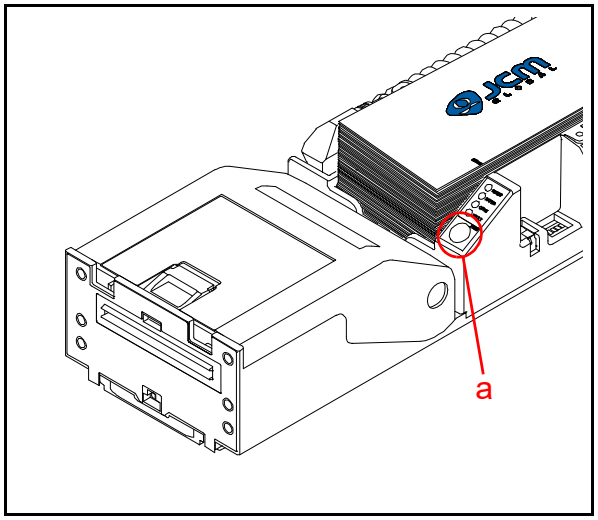

Figure 2-4 Paper Feed Button

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Clearing a Ticket Jam

To remove or clear a jammed Ticket from the GEN5 Printer, proceed as follows:

WARNING: To avoid damaging the Printer Unit, DO NOT use a screwdriver or other probing instrument to try to clear a Ticket Jam.

1. Open the EGM access door.
2. Pull the Printer out of the EGM on its Sliding Base.
3. Press the Lid Release Lever toward the rear of the Printer to release the Lid (Figure 2-5 a).

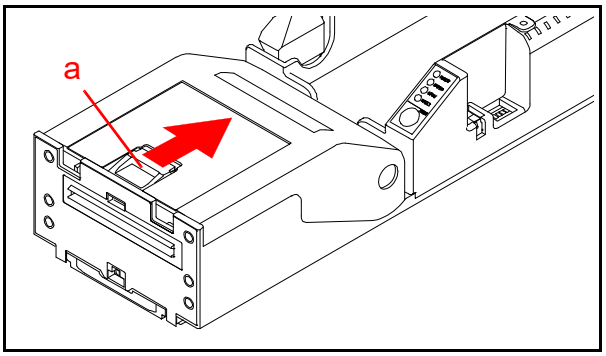

Figure 2-5 Lid Release Lever

4. Rotate the Lid up in the direction indicated by the red arrow (Figure 2-6 a) to access the Printer interior (Figure 2-6 b).

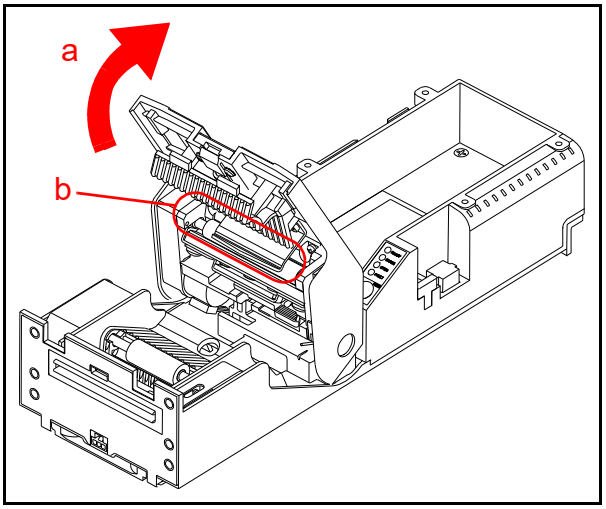

Figure 2-6 Open Printer Lid

5. Pull the Ticket out of the Ticket Insertion Slot (Figure 2-3 a). Make sure that no debris or paper remains jammed under the Platen Roller (Figure 2-6 b).
6. If debris is blocking the Ticket Path, pull (rotate) the Print Head Release Lever leftward to access the Ticket Path through the Print Mechanism (Figure 2-7 a) and carefully remove any debris.

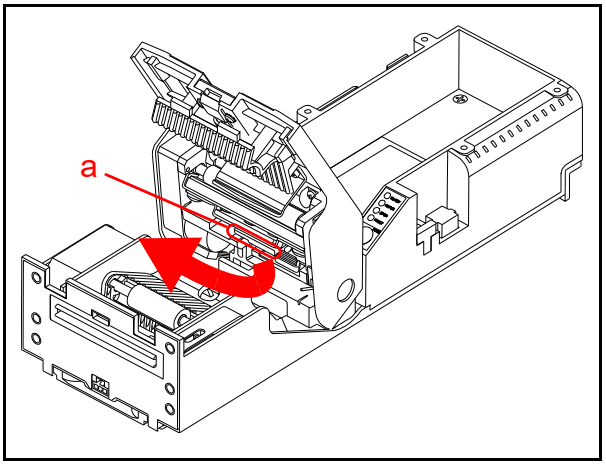

Figure 2-7 Print Head Release Lever

7. After removing debris, rotate the Print Head Release Lever to its Home (latched) position.
8. Once the Ticket Jam has been cleared, close the Printer Lid. Ensure that it latches.
9. Reload the Tickets into the Printer, then press and hold the Feed button (Figure 2-4 a) to feed a ticket through the Printer. Verify that Tickets are feeding properly.

NOTE: Make sure Tickets are properly loaded in the Printer before resuming normal operation.

Cleaning Procedure

JCM strongly recommends an annual completion of the Cleaning and Preventive Maintenance procedures to ensure that the GEN5 Printer performance meets factory specifications for trouble-free operation.

NOTE: JCM's Printer Cleaning Kit (P/N 350-00292-100) includes Cleaning Swab(s), Cleaning Wipe(s) and feed-through Cleaning Card(s), and is recommended for best results.

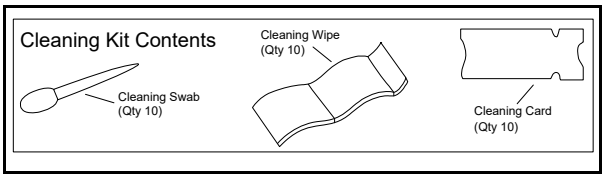

Figure 2-8 Cleaning Kit (P/N 350-00292-100)

Print Head and Roller Cleaning Procedure

To clean the GEN5 Printer Print Head and Rollers, perform the following procedure:

1. Open the EGM access door.
2. Pull the Printer out of the EGM on its Sliding Base.
3. Remove any loaded Tickets.
4. Press the Lid Release Lever to open the Printer Lid (Figure 2-5 a).

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5. Pull the Print Head Release Lever to release the Print Head (Figure 2-7 a).
6. Use non-flammable compressed air to remove dust and dirt from the compartment, Print Head (Figure 2-9 a), Rollers, Paper Out Sensor and Taken Sensor.
7. Press down on the Print Head Release Lever to lower the Print Head, then gently wipe a cotton swab along the length of (and inside) the Print Head (Figure 2-9 a). Then return the Print Head Release Lever to its closed position.

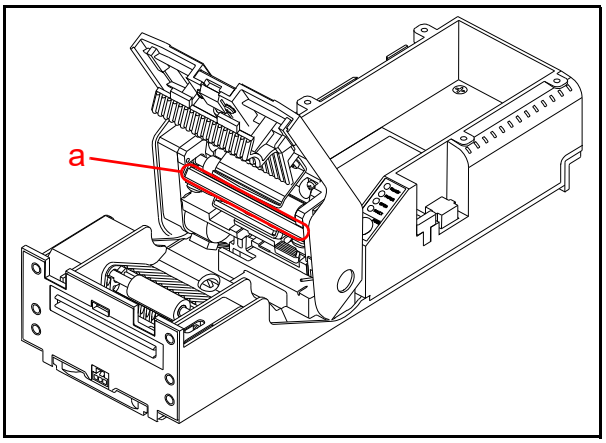

Figure 2-9 Clean Print Head

8. To clean the Print Head Rollers (Figure 2-10 a) and Feed Rollers (Figure 2-10 b), turn the Rollers by hand while wiping them with a new Cleaning Wipe or a clean Microfiber cloth (slightly dampened with Isopropyl Alcohol).

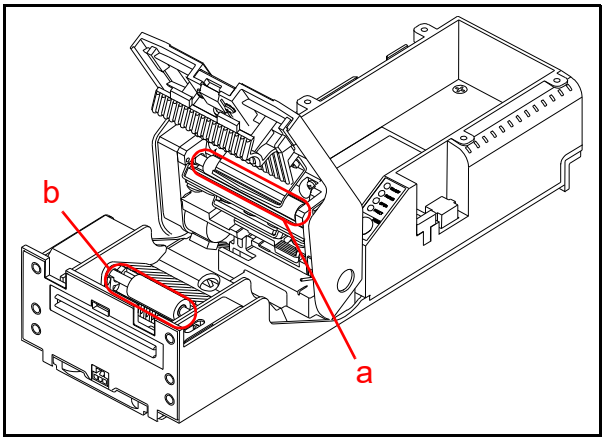

Figure 2-10 Clean Print Head Rollers and Feed Rollers

Sensors Cleaning Procedure

The GEN5 Printer has five (5) Sensors that monitor Print Activity and Ticket Feeding to provide reliable product performance.

NOTE: Refer to Figure 2-11 and Table 2-10 for Printer Sensor Locations and Cleaning Methods.

To clean the GEN5 Printer Sensors, follow this procedure:

1. Press the Lid Release Lever to open the Printer Lid (Figure 2-5 a).
2. Clean the surfaces of the Sensors using Isopropyl Alcohol and a clean cotton swab.

NOTE: The Paper Out (Index Mark) Sensor (Figure 2-11 c) is located within the Print Head approximately 1 inch from its right edge. This sensor should be cleaned using non-flammable Compressed Air.

3. Close the Printer Lid.
4. Realign the Printer with the Sliding Base, then reinstall it into the EGM.

NOTE: Make sure Tickets are properly loaded in the Printer before resuming normal operation.

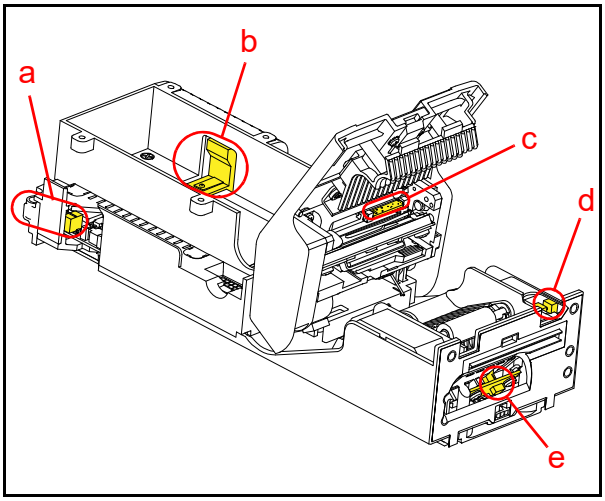

Figure 2-11 Printer Sensor Locations (cut-away)

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Table 2-10 GEN5 Printer Sensor Cleaning Methods

Symbol	Sensor Type	Cleaning Method
a	Printer Tray (Drawer Open)	Wipe clean with an alcohol swab.
b	Ticket Low (Paper Low)	Wipe clean with an alcohol swab.
c	Paper Out (Index Mark)	Blow clean with Compressed Air
d	Lid Open	Wipe clean with an alcohol swab.
e	Taken Sensor	Wipe clean with an alcohol swab.

Cleaning Card Cleaning Procedure

To clean the GEN5 Printer Paper Path and Sensors using a Cleaning Card, follow this procedure:

NOTE: Make sure the Printer's Power Supply is properly connected.

1. Open the EGM Service Door.
2. Pull the Printer out of the EGM on its Sliding Base.
3. Remove any loaded Tickets from the Printer.
4. Remove the Cleaning Card from its protective packaging (Figure 2-8).
5. Carefully insert the Card's "T"-shaped notched end into the Printer's Ticket In Slot (Figure 2-12 a). The Cleaning Card will automatically feed into the Printer.
6. Press and hold the Feed button on the Keypad (Figure 2-12 b) to feed the Cleaning Card through the Paper Path.

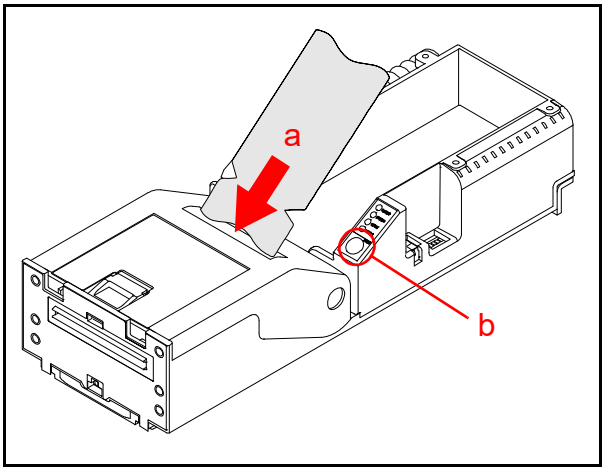

Figure 2-12 Feed Cleaning Card into Ticket In Slot

7. Carefully remove the Cleaning Card from the Printer's Ticket Out Slot.

NOTE: Each Cleaning Card is intended for single use only. Always use a new Cleaning Card for each cleaning cycle.

8. Feed 2 or 3 Tickets through the Printer to remove alcohol residue.

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GEN5™ Series
Printer
Section 3

3 COMMUNICATIONS

This section was intentionally left out due to a Non-Disclosure Agreement requirement.

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GEN5™ Series
Printer
Section 4

4 DISASSEMBLY/REASSEMBLY

This section provides disassembly and reassembly instructions for the GEN5 Printer, and includes the following information:

- Tool Requirements
- Paper Tray Removal
- CPU Board Removal
- Upper Presenter Removal
- Print Mechanism Disassembly
- Bottom Presenter Mechanism Disassembly

Tool Requirements

The following tools will be required to perform Printer disassembly and reassembly.

- #1 & #2 Phillips Screw Drivers
- Flat-blade Screw Driver
- Needle-nose Pliers
- ¼" Nut Driver

WARNING: Before performing this procedure, observe the ESD WARNING in "User Cautions" on page 1-2.

Paper Tray Removal

To remove the Paper Tray, proceed as follows:

1. Remove four (4) mounting screws from the Paper Tray (Figure 4-1 a_1, a_2, a_3 & a_4).

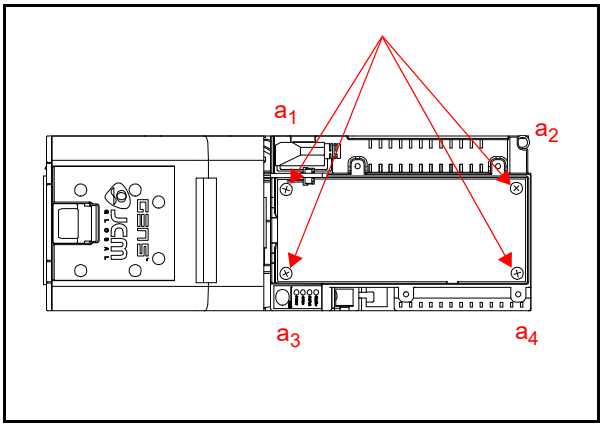

Figure 4-1 Remove Paper Tray Mounting Screws

2. Lift the Paper Tray up slightly, then disconnect the LED panel connection (not shown).
3. Lift the Paper Tray up and off the Bottom Tray.

CPU Board Removal

To remove the CPU Board from the GEN5 Printer unit, proceed as follows:

1. Disconnect six (6) Harness connections (Figure 4-2 a_1 thru a_6.
2. Remove the Ground Screw (Figure 4-2 b_1).
3. Remove three (3) screws (Figure 4-2 b_2 thru b_4).
4. Lift the CPU Board off the base.
5. Disconnect the Print Head connection (Figure 4-2 a_7).

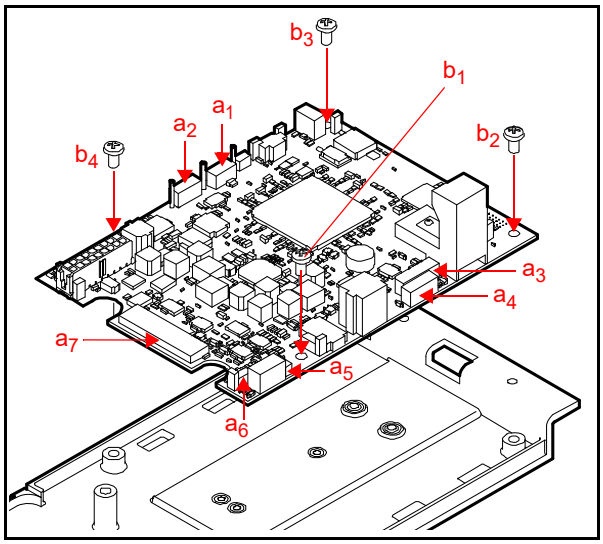

Figure 4-2 CPU Board Removal

Upper Presenter Removal

To remove the Upper Presenter from the GEN5 Printer unit, proceed as follows:

1. Remove two (2) screws (Figure 4-3 a_1 and a_2) from the bottom side of the Bottom Tray.
2. Lift the Upper Presenter (Figure 4-3 b) out of the Bottom Tray.

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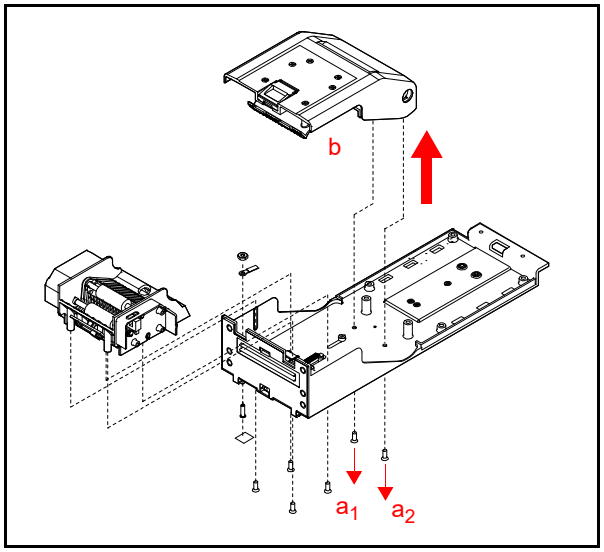

Figure 4-3 Remove Upper Presenter

Print Mechanism Disassembly

The Print Mechanism includes the TOF Sensor and Upper Presenter Motor. To disassemble it, proceed as follows:

1. Carefully cut and remove tie wraps, as needed.
2. Remove the e-clip on the Hinge Pin (Figure 4-4 a).

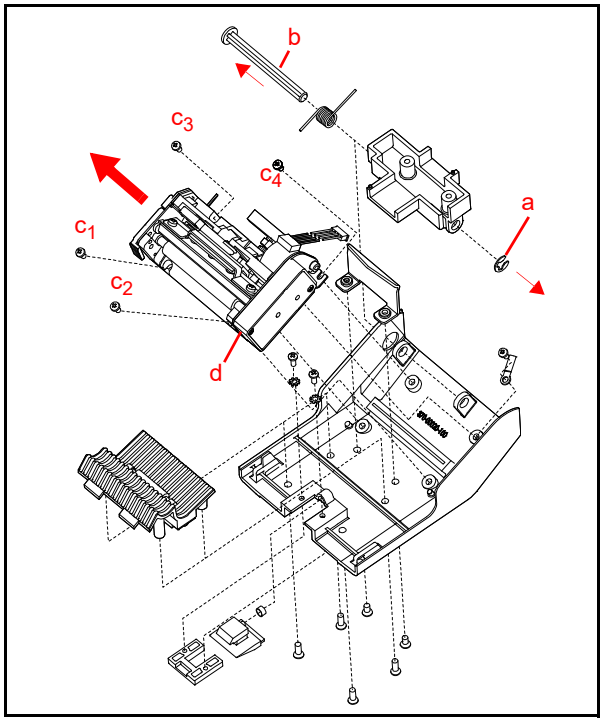

Figure 4-4 Print Head Removal

3. Pull the Hinge Pin (Figure 4-4 b) out of the side of the Print Head, separating the Mounting Bracket from the Lid Assembly.
4. Remove four (4) screws securing the Print Head (Figure 4-4 c_1 thru c_4).
5. Remove the Print Head (Figure 4-4 d) from the Lid Assembly.

TOF Sensor Removal

To remove the TOF Sensor:

1. Remove the two (2) screws (Figure 4-5 a_1 & a_2) securing the right side cover (Figure 4-5 b) to the Print Mechanism. Then remove the right side cover.

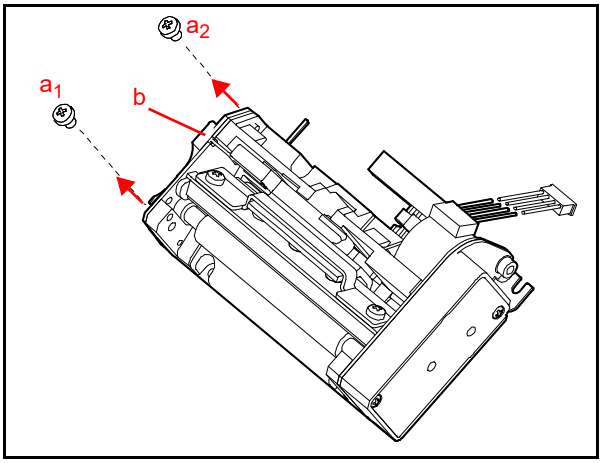

Figure 4-5 Right Side Cover Removal

2. Move the Harness out of the Guides (Figure 4-6 a).
3. Remove the Plastic Pin using a flat-edge screwdriver (Figure 4-6 b).
4. Carefully slide the TOF Sensor board out of the Print Head (Figure 4-6 c).

NOTE: Be sure to save the End Caps that hold the TOF Sensor in place.

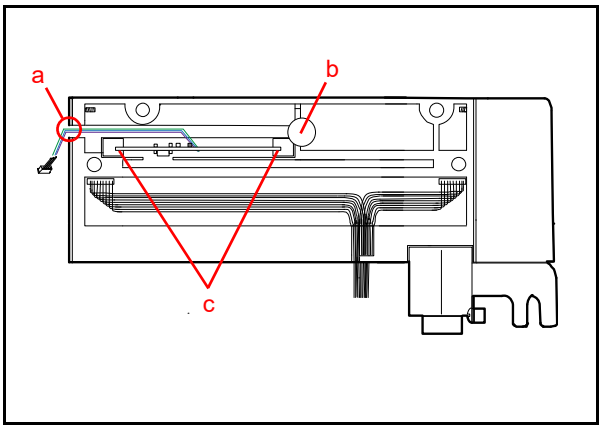

Figure 4-6 TOF Sensor Removal

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Upper Presenter Motor Removal

To remove the Upper Presenter Motor, proceed as follows:

1. Remove two (2) screws located along the left side cover (Figure 4-7 a_1 and a_2).

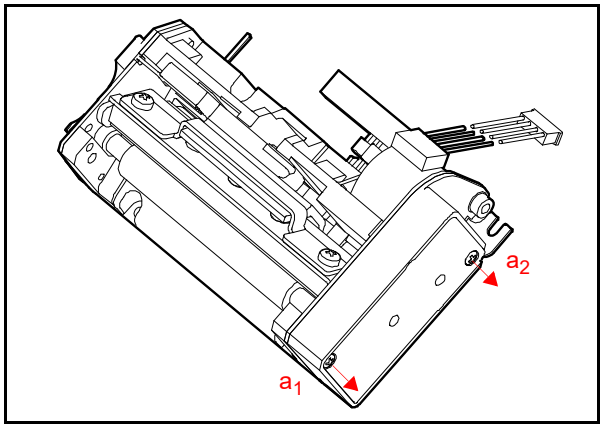

Figure 4-7 Left Side Cover Removal

2. Lift the Cover from the Print Assembly.
3. Remove two gears (Figure 4-8 a_1 and a_2).
4. Remove one (1) e-clip (Figure 4-8 b) and the Platen Roller gear (Figure 4-8 c).

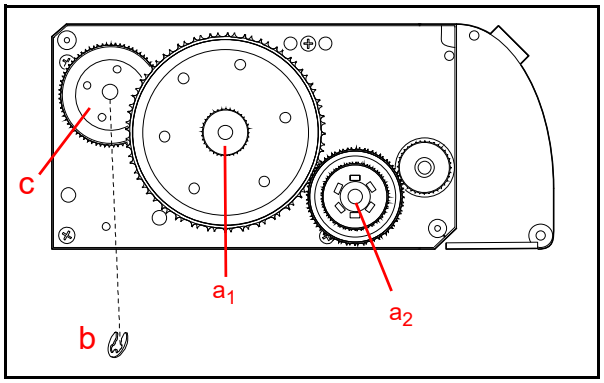

Figure 4-8 Remove Gears and E-clip

5. Remove four (4) flat head screws holding the left side (Figure 4-9 d_1 thru d_4) and the single Pan Head screw from the inside of the left bracket (Figure 4-9 e).
6. Slide the Upper Presenter Motor out of the Frame.

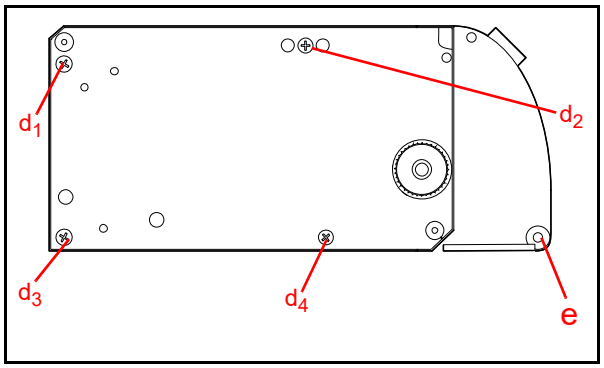

Figure 4-9 Remove Screws and Motor

Upper Platen Roller Removal

To remove the Upper Platen Roller, proceed as follows:

1. Remove four (4) screws that secure the Cover (Figure 4-10 a_1 thru a_4), then remove the Cover.
2. Remove the Platen Roller.

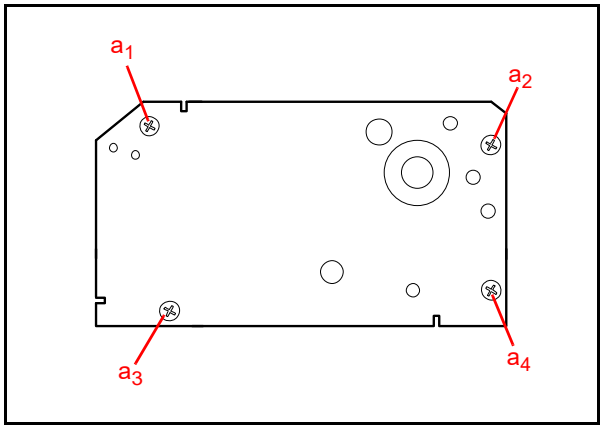

Figure 4-10 Upper Platen Roller Cover

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Bottom Presenter Mechanism Disassembly

To remove the Bottom Presenter Mechanism, proceed as follows:

1. Remove four (4) screws on the bottom rails (Figure 4-11 a_1 thru a_4).
2. Lift the Bottom Presenter upward slightly.
3. Remove the nut from the ground lug (Figure 4-11 b) using a ¼" Nut Driver.
4. Remove two (2) screws securing the Bezel LED Connector.
5. Remove the Bezel LED Harness from the holding clip.
6. Lift the Bottom Presenter (Figure 4-11 c) out of the Bottom Tray.

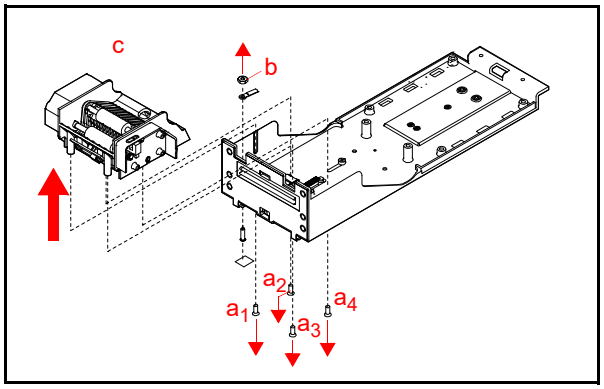

Figure 4-11 Remove Bottom Presenter

Taken Sensor Removal

To remove the Taken Sensor, proceed as follows:

1. Remove two (2) screws (Figure 4-12 a_1 and a_2) securing the Taken Sensor (Figure 4-12 b).
2. Remove one (1) connector (Figure 4-12 c).
3. Lift the Taken Sensor off the Bottom Presenter.

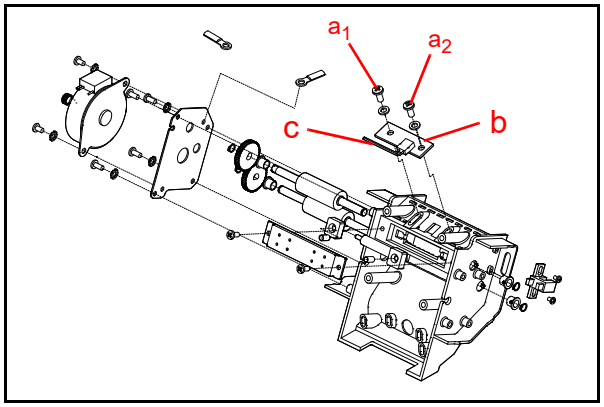

Figure 4-12 Remove Taken Sensor

Lid Closed Sensor Removal

To remove the Lid Closed Sensor, proceed as follows:

1. Remove two (2) screws securing the Lid Sensor (Figure 4-13 a_1 and a_2).
2. Disconnect one (1) connector.
3. Remove the Lid Sensor (Figure 4-13 b).

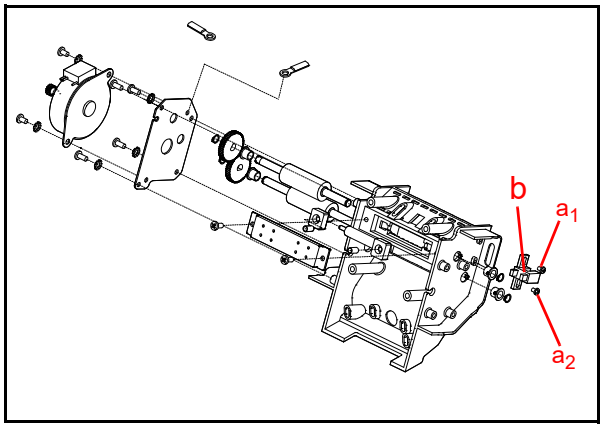

Figure 4-13 Remove Lid Sensor

Presenter Motor and Rollers

To remove the Presenter Motor and Rollers, proceed as follows:

Presenter Motor

1. Remove two (2) screws securing the Presenter Motor (Figure 4-14 a_1 and a_2).
2. Remove the Presenter Motor (Figure 4-14 b) from the Assembly.

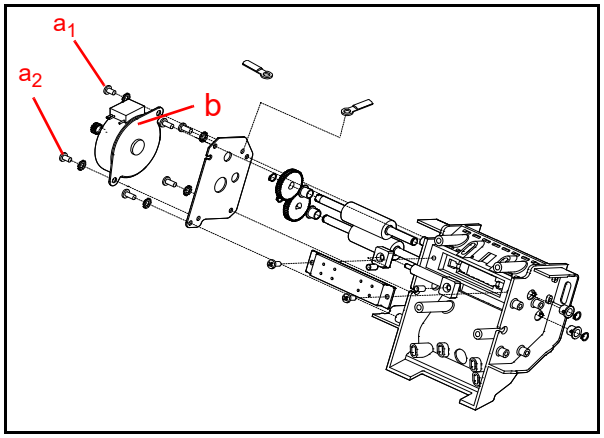

Figure 4-14 Remove Presenter Motor

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Presenter Rollers

To remove the Lower Idler Presenter Rollers, proceed as follows:

1. Remove two (2) screws securing the Lower Idler Roller and Springs (Figure 4-15 a_1 and a_2).
2. Lift the Roller Cover (Figure 4-15 b) off of the Assembly.
3. Remove two (2) tension springs (Figure 4-15 c_1 and c_2).
4. Lift the Idler Roller (Figure 4-15 d) and Mounting Brackets (Figure 4-15 e_1 and e_2) away from the Presenter.

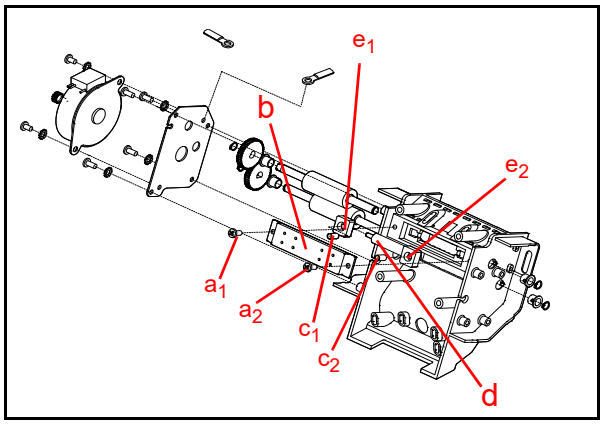

Figure 4-15 Remove Lower Idler Roller

5. Remove four (4) screws (Figure 4-16 a_1 thru a_4) securing the Motor Mounting Bracket (Figure 4-16 b).

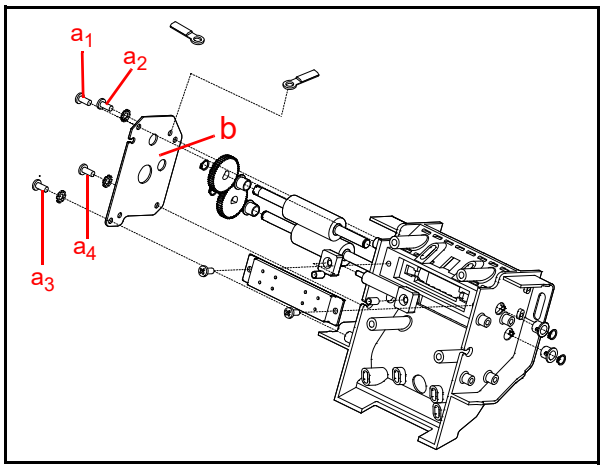

Figure 4-16 Remove Motor Mounting Bracket

6. Remove two (2) Snap Rings securing the two gears (Figure 4-17 a_1 and a_2).

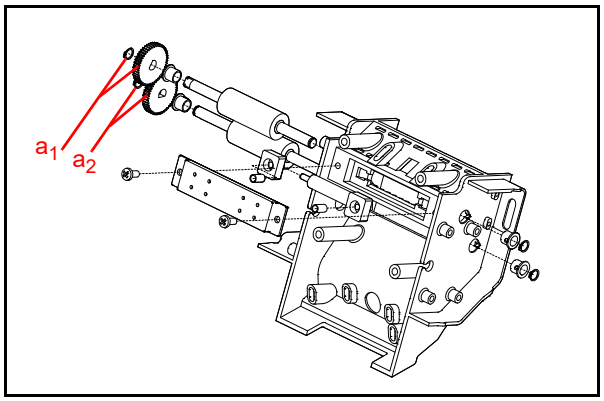

Figure 4-17 Remove Snap Rings/Gears Left

7. Remove two (2) Snap Rings on the Right side (Figure 4-18 a_1 and a_2).

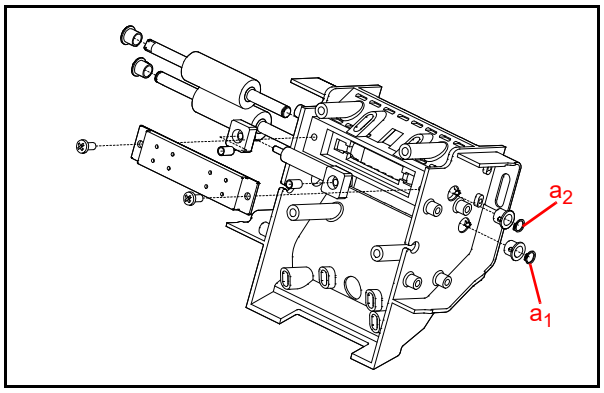

Figure 4-18 Remove Snap Rings Right

8. Remove the four (4) Roller Bushings (2 Left/2 Right) (Figure 4-19 b_1 thru b_4).
9. Remove the two (2) Presenter Rollers (Figure 4-19 c_1 and c_2).

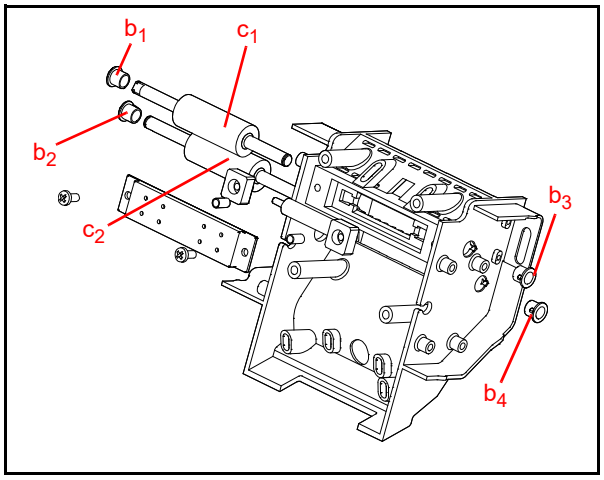

Figure 4-19 Remove Roller Bushings and Presenter Rollers

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GEN5™ Series
Printer
Section 5

5 WIRING DIAGRAMS

This section provides the following Wiring Diagram for the GEN5 Printer Unit:

- System Wiring Diagram.

System Wiring Diagram

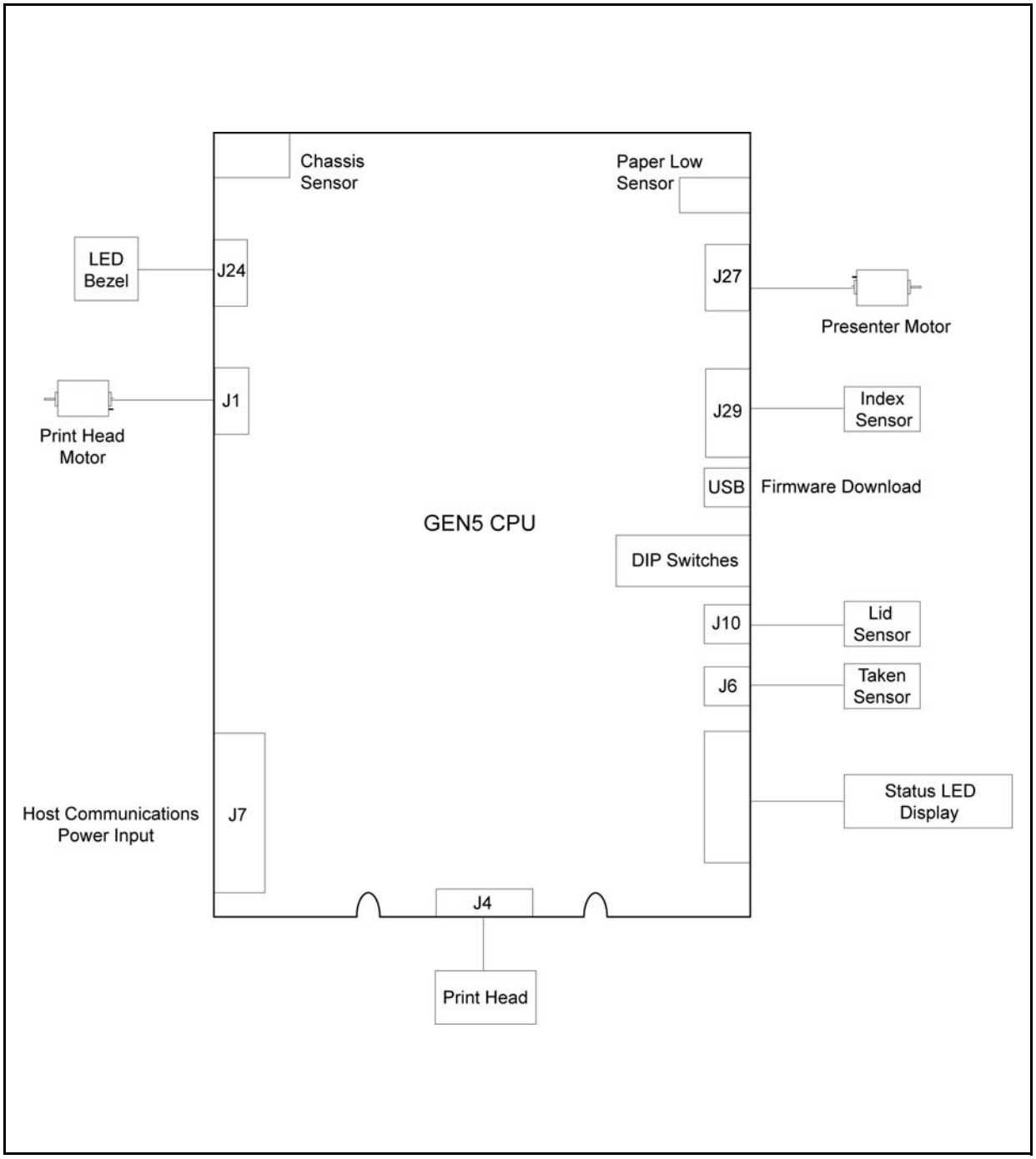

Figure 5-1 GEN5 Printer System Wiring Diagram

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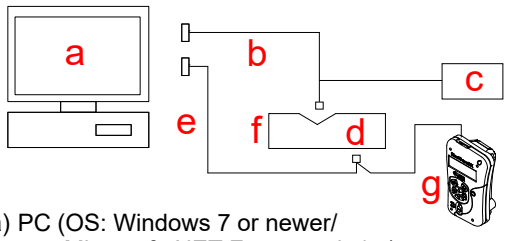
6 FIRMWARE UPDATING AND TESTING

This section provides Firmware Updating and Testing procedures for the GEN5 Printer Unit and includes:

- Tool Requirements
- Configuration Ticket Parameters
- Installation Procedures
- JCM DFU Downloader Installation
- JCM Printer Basic Driver Installation

Tool Requirements

Figure 6-1 identifies the tools and connections required to update or test a GEN5 Printer.



a) PC (OS: Windows 7 or newer/ Microsoft .NET Framework 4.5)
b) Evaluation Cable
c) 24VDC Power Supply
d) Firmware Update Port
e) USB Male “A” to Male “B”
f) GEN5 Printer Unit
g) BlueWave™DX Tool (firmware updates option)

Figure 6-1 Tool and Harness Connections

Configuration Ticket Parameters

The Configuration Ticket (Figure 6-2) provides current Printer settings and information needed to test the GEN5 Printer (Table 6-1).

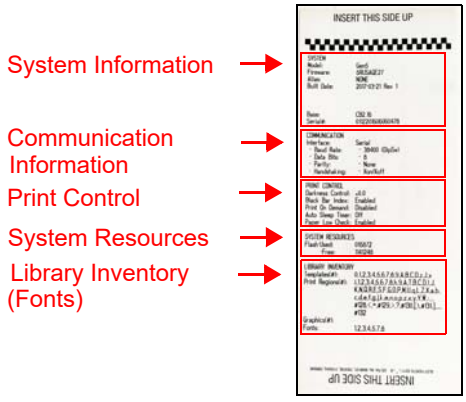


Figure 6-2 Configuration Ticket (sample)

Table 6-1 Configuration Ticket Parameters

Field Name	Description	
SYSTEM		
Model:	GEN5	
Firmware:*	Installed Firmware version (see Firmware Code below)	
Firmware Code/ Communication Setting	5Rxxxxxxx	RS-232
	5C, 5H, 5P, 5S	USB Communication C = CDC H = GDS/HID P = PDC S = SPC
	(G)5Nxxxxxxx	NetPlex
Alias:	(Not Used)	
Build Date:	Date of Firmware Release	
Base:	CB2.16 Codebase Used	
Serial #:†	xxxx	Product Code
	YYYY	Four-digit year
	MM	Two-digit month
	DD	Two-digit day
	nnnn	Number
COMMUNICATION		
Interface:	Serial	Communication Interface Type (Serial or USB)
Baud Rate:	38400	Communication Speed
Data Bits:	8	Number of Data Bits Used
Parity:	None	Communication Parity Used
Handshaking:	Xon/Xoff	Communications Handshaking Used
PRINT CONTROL		
Darkness Control:	+0%	Numeric setting (default = 0.0%)
Black Bar Index:	Enabled	Enabled/ Disabled
Print On Demand:	Disabled	Enabled/ Disabled
Auto Sleep Timer:	Off	On/Off
Paper Low Detect:	Enabled	Enabled/ Disabled
SYSTEM RESOURCES		
Flash-Used:	000016	Amount of Flash Memory in use

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Table 6-1 Configuration Ticket Parameters

Field Name	Description	
Free:	524256	Flash Memory Available
LIBRARY INVENTORY		
Templates (#):	0,1,2,3,4,5, 6,7,8,9,A,B	Templates used in current version of Firmware
Print Regions (#):	i,1,2,3,4,5,6,7,8,h,r,9, A,B,C,D,E,F,G,I,J,K,L ,N,O,P,Q,R,S,T,U,Z,X , a,b,c,d,e,f,g,j, s,k,m,n,o,p,q,	Indicates where Printing occurs on the Ticket
Graphics(#):	(Not Used)	Indicates which Graphics are used on the Ticket
Fonts:	1.2.3.4.5,7.8. 9.?,=, >,<,:,;	Indicates which Fonts are in use on the Ticket

*. Sample data; information may vary based on product configuration. Firmware is specific to Game Manufacturer and Jurisdiction; contact OEM to verify approved firmware version for the Game and Jurisdiction. ("G" indicates that the Firmware is for IGT.)

†. Serial Number is a 16-digit code that incorporates the date of manufacture in xxxxYYYYMMDDnnnn format; this number also appears on the Unit's Serial Number sticker, below the bar code.

NOTE: The parameters listed in Table 6-1 are set in Firmware, and can only be changed by the manufacturer.

Printing a Configuration Ticket

To print a Configuration Ticket:

1. Make sure Tickets are stacked in the Paper Tray and properly fed into the Printer's Ticket In Slot (Figure 6-3 a).

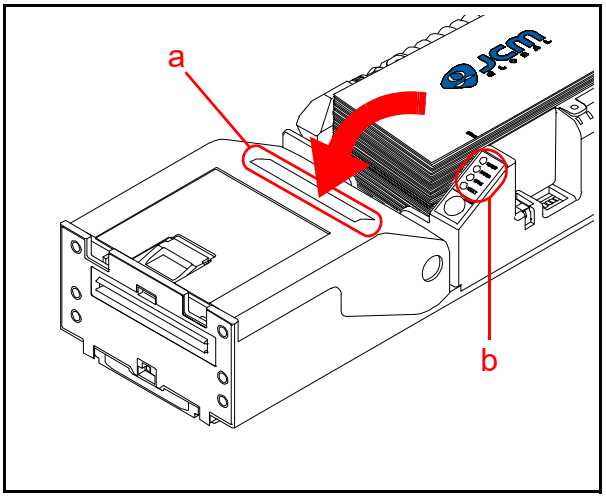

Figure 6-3 Load Ticket Stack into Printer/ LED Status

2. Press the FEED button twice within 2 seconds (Figure 6-4 a).

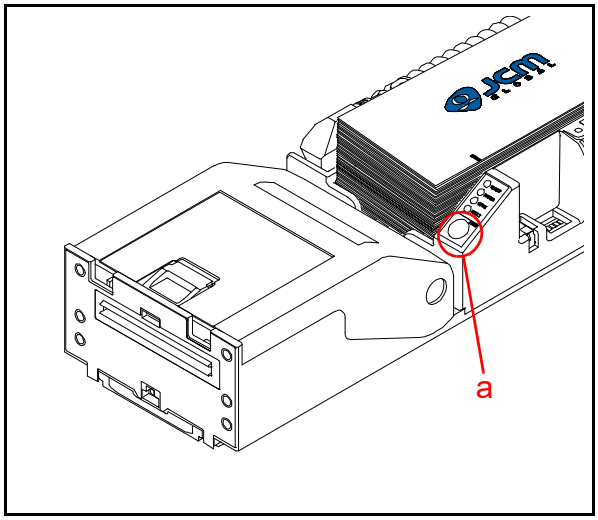

Figure 6-4 Paper Feed Button

Installation Procedures

This section provides instructions for installing the JCM DFU Downloader Software Tool (available at www.jcmglobal.com).

JCM DFU Downloader Installation

Perform the following steps to download and install the JCM DFU Downloader Software Tool (Refer to Figure 6-1 for the necessary Tool and Harness Connections).

1. Download the "JCM DFU Downloader".zip file from www.jcmglobal.com to the PC's Downloads directory (Figure 6-5 a).
2. Open the PC's Downloads directory where the "JCM DFU Downloader".zip file is located, then extract the files into a new folder on the PC Desktop (e.g., click Make New Folder, then enter a new folder name, such as JCM DFU DLSetup).
3. From the new folder just created (e.g., JCM DFU DLSetup), double-click on the "JCM DFU Setup.msi" file (Figure 6-5 b) to begin the installation.

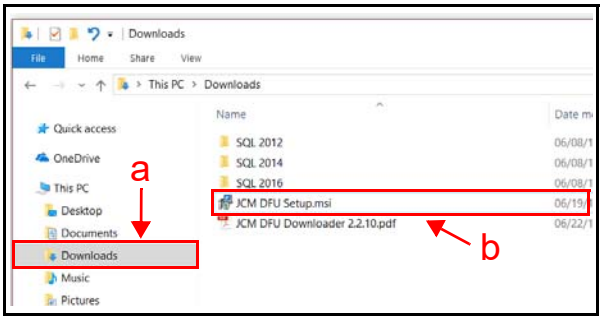

Figure 6-5 JCM DFU Setup.msi File Location

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The "Welcome to the JCM DFU Downloader Setup Wizard" Screen (Figure 6-6) will appear.

4. Click the "Next >" Next > Screen Button (Figure 6-6 a).

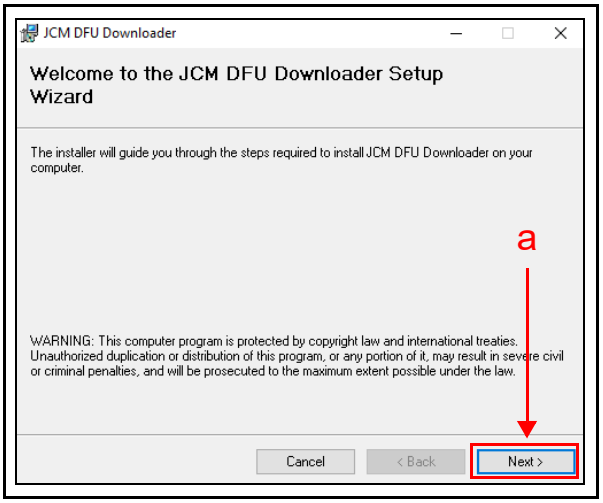

Figure 6-6 JCM DFU Downloader Setup Wizard Welcome Screen

5. The "Select Installation Folder" Screen (Figure 6-7) displays the default directory (folder) where JCM DFU Downloader will be installed. To accept the default directory (Figure 6-7 c), click the "Next >" Next > Screen Button (Figure 6-7 a).

   OR

   Click the "Browse..." Browse... Screen Button (Figure 6-7 b) to specify the directory where JCM DFU Downloader will be installed (Figure 6-7 c). Then click the "Next >" Next > Screen Button (Figure 6-7 a) to continue.

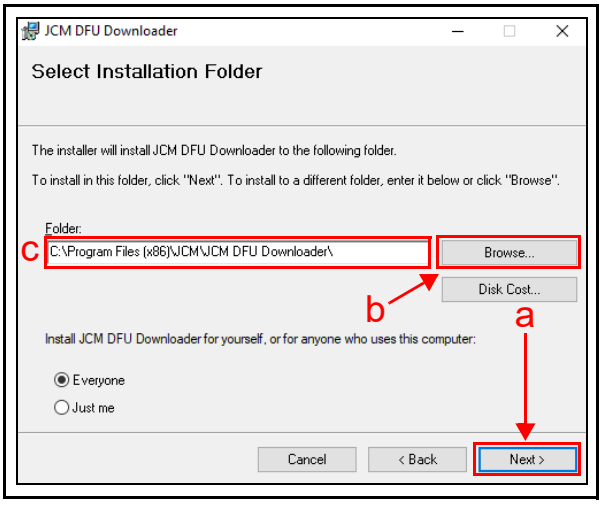

Figure 6-7 Select Installation Folder Screen

6. When the "Confirm Installation" Screen appears, click the the "Next >" Next > Screen Button (Figure 6-8 a) to continue.

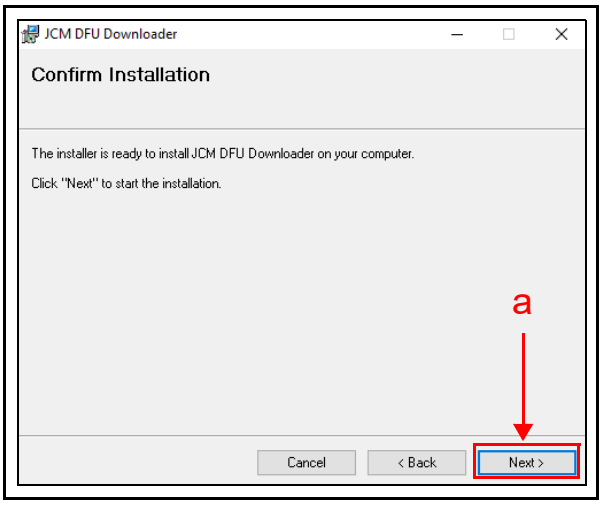

Figure 6-8 Confirm Installation Screen

7. Once installation is complete, the "Installation Complete" Screen (Figure 6-9) appears. Click the "Close" Close Screen Button (Figure 6-9 a) to end the installation process.

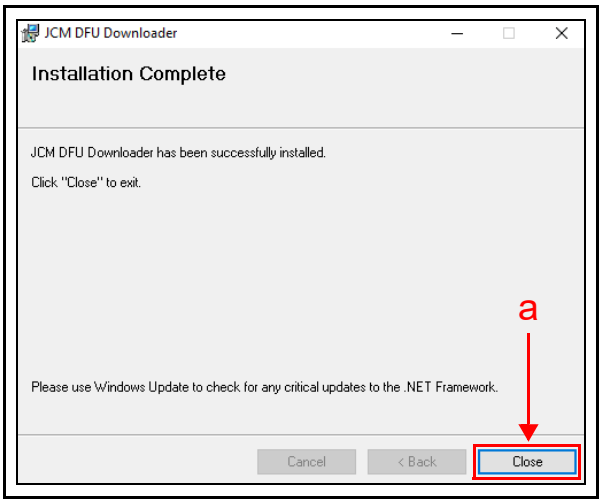

Figure 6-9 Installation Complete Screen

This completes the "JCM DFU Downloader" installation procedure. Once installation is complete, the JCM DFU icon appears on the PC Desktop.

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Firmware Download Procedure

To download GEN5 Printer Firmware to the GEN5 Printer Unit, proceed as follows:

1. Refer to Figure 6-1 to complete the necessary Tool and Harness connections.
2. Connect the PC to the GEN5 Printer.
3. Double-click the "JCM DFU Downloader" icon on the PC Desktop to launch the "JCM DFU Downloader" application.
4. Look for verification of a valid connection to the GEN5 Printer (Figure 6-10 a).
5. Click "Select FIRMWARE" to open the Browser (Figure 6-10 b).

NOTE: Look for a GEN5 Firmware filename that begins with "5" or "G5".

NOTE: Leave the Erase User Settings checkbox enabled (default), as shown in Figure 6-10 c.

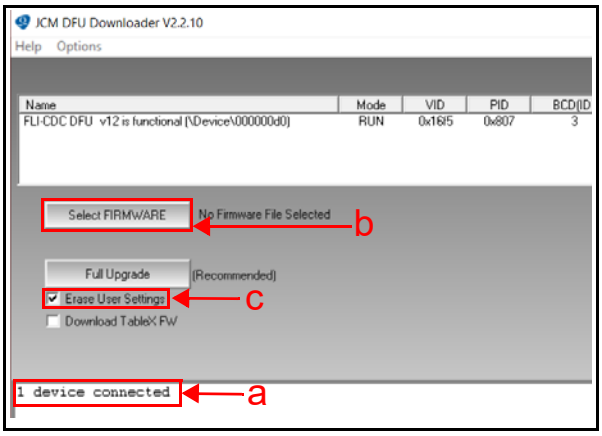

Figure 6-10 Verify Connection/Select Firmware

6. Click the "Full Upgrade" Screen Button (Figure 6-11 a) to begin the Firmware download.

NOTE: Download progress is indicated by a blue Progress Bar and a green Flashing Square that appears on the upper right side of the display screen.

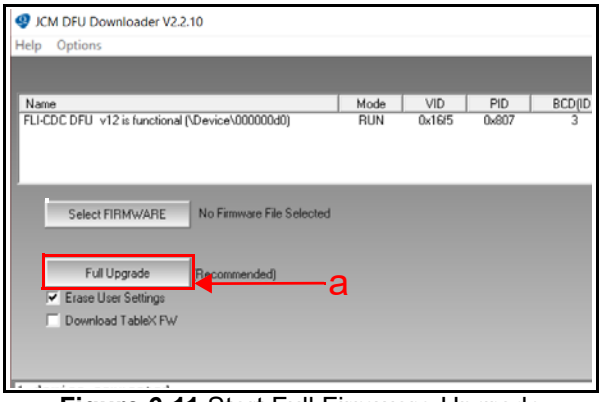

Figure 6-11 Start Full Firmware Upgrade

7. Look for the "*****Printer Successfully updated *****" message display (Figure 6-12 a). When it appears, the Firmware Upgrade is complete.

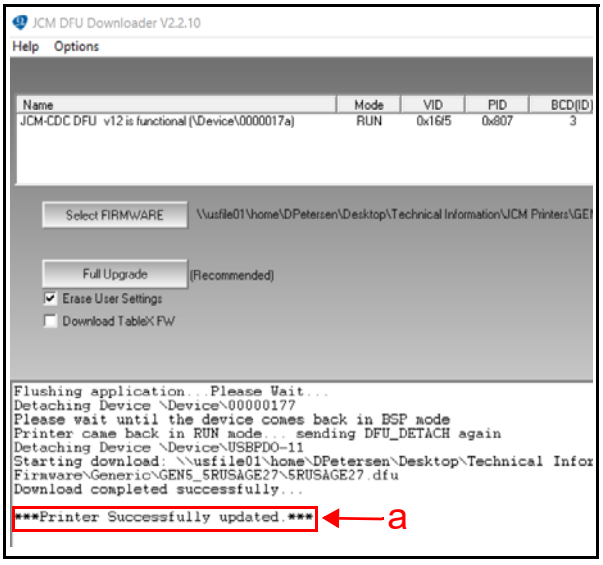

Figure 6-12 Firmware Upgrade Completed

8. From the Printer, press the "FEED" button twice within 2 seconds to print a Configuration Ticket. Verify that the updated Firmware loaded properly (refer to Figure 6-2 and Table 6-1).

This completes the Firmware Download procedure.

Updating Printer Firmware with the JCM BlueWave™DX Tool

To update GEN5 Printer Firmware using the JCM BlueWave™DX Tool, proceed as follows:

1. Connect a USB Cable between the BlueWaveDX Tool and the GEN5 Printer USB Update Port (refer to Figure 6-13 a below and Figure 1-4 k).

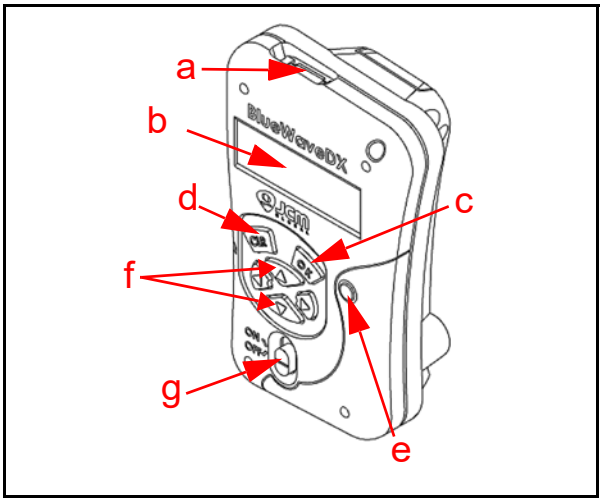

Figure 6-13 BlueWaveDX Tool Front Panel

2. Turn power to both the GEN5 Printer and the BlueWaveDX Tool ON (Figure 6-13 g). The BlueWaveDX Tool's Power LED (Figure 6-13 e) will be illuminated RED and the Firmware Update screen will be displayed (default) on the Monochrome LCD (Figure 6-13 b).

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3. Press the OK button on the BlueWaveDX Tool to select the Firmware Update function (refer to Figure 6-13 c).

   NOTE: The BlueWaveDX Tool will identify the GEN5 Printer and display the appropriate Firmware version(s).

4. Press the UP and DOWN Arrow keys (refer to Figure 6-13 f) on the BlueWaveDX Tool to scroll through the Firmware versions until the desire version is shown.
5. Press the OK button on the BlueWaveDX Tool to start the download (refer to Figure 6-13 c). The DOWNLOAD COMPLETE display appears when downloading is complete.
6. Press the CLR button on the BlueWaveDX Tool (refer to Figure 6-13 d) to navigate back to the previous menu.

   NOTE: For additional information about BlueWaveDX Tool functionality, refer to the JCM Operator Guide BlueWave™DX Tool Operational Instructions (P/N 960-100942R_Rev. A).

JCM Printer Basic Driver Installation

Perform the following steps to download and install the JCM Printer Basic Driver. (Refer to Figure 6-1 for the necessary Tools and Harness Connections.)

NOTE: Microsoft .NET Framework 4.5 is required to run the JCM Printer Basic Driver.

1. Download the "JCM_Printer_Driver".zip file from www.jcmglobal.com to a new folder in the PC's Downloads directory (Figure 6-5 a).
2. Open the PC's Downloads directory where the "JCM_Printer_Driver".zip file is located, then extract the files into a new folder on the PC Desktop (e.g., click Make New Folder, then enter a new folder name, such as JCM_Printer_Driver).
3. From the JCM Printer Basic Driver - Installation folder, double-click the "setup.exe" file to install the application.

Running the JCM Printer Basic Driver

To run the JCM Printer Basic Driver Application:

1. Click the Start button on the PC desktop.
2. Click Programs, then scroll down to JCM.
3. Click on the "JCM Printer Basic Driver" icon.

The **JCM Printer Basic Driver** user interface will appear (Figure 6-14).

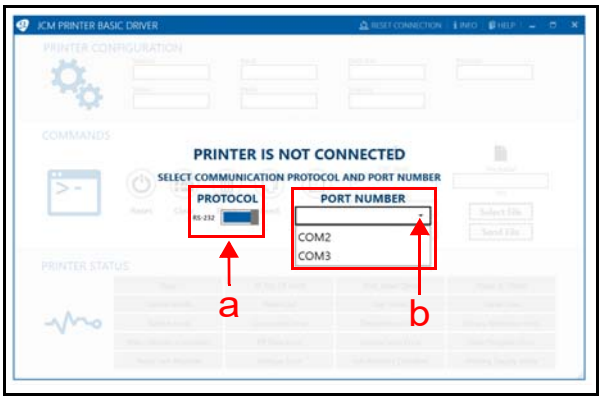

Figure 6-14 JCM Printer Basic Driver UI

4. Select the desired Communication Protocol and Port Number to connect the Printer.
   a) To toggle the Communication Protocol setting from RS-232 to Netplex, click and drag the PROTOCOL slide bar until the desired setting is displayed (Figure 6-14 a).
   b) To specify the desired Port Number, click the PORT NUMBER combo box (Figure 6-14 b), then click on the desired Port (e.g., COM3).

The Printer Basic Driver displays a spinner (Figure 6-15 a) and the "CONNECTING TO SELECTED PORT..." status message (Figure 6-15 b) while trying to connect to the specified Port.

NOTE: If the spinner disappears, the attempted connection to the specified Port has failed. In this event, check all cable connections. If necessary, select a different Port Number from the Port Number combo box.

NOTE: All USB Firmware versions have the RS-232 Port Active, and can be used for connecting to the JCM Printer Basic Driver.

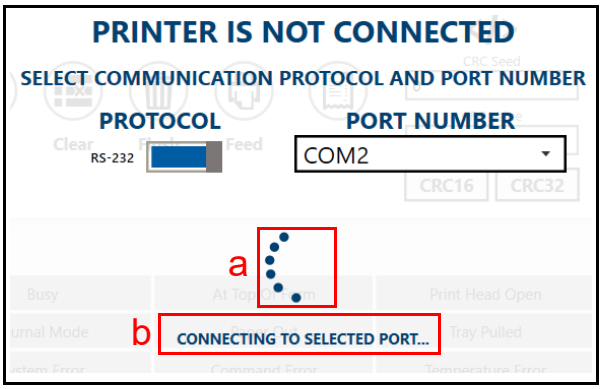

Figure 6-15 Connecting to Selected Port Message

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Printer Basic Driver Main Page

When the Printer connects successfully, the **Printer Basic Driver Main Page** (Figure 6-16) will be displayed.

Figure 6-16 Printer Basic Driver Main Page

The Main Page is divided into the following three (3) sections:

- Printer Configuration
- Commands
- Printer Status

Printer Configuration

The Printer Configuration section (Figure 6-17) displays the Printer Configuration information listed in Table 6-2.

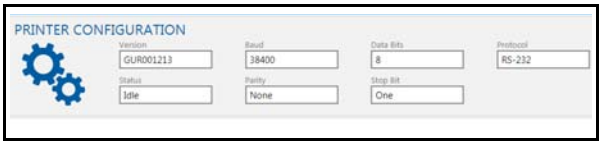

Figure 6-17 Printer Configuration Section

Table 6-2 Printer Configuration Information

Version	Baud Rate
Protocol	Parity
Status	Data Bits/Stop Bit

Commands

From the Commands section, specific actions (described in Table 6-3) can be sent to the Printer.

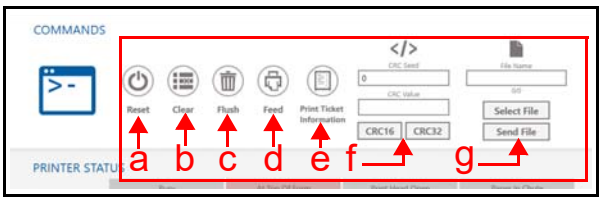

Figure 6-18 Commands Section

Table 6-3 Commands and Descriptions

Command	Description
Reset (a)	Physically resets the Printer
Clear (b)	Clears the Printer Status Fields (Warning and Error Status alerts)
Flush (c)	Deletes the Printer Application (refer to the **Warning** text below)
Feed (d)	Feeds a blank Ticket through the Printer to the top of the next form
Print Ticket Information (e)	Prints a Test Ticket with Communications and Printer Setup Information
CRC 16 CRC 32 (f)	Retrieves the Printer's CRC value, depending on the 4-byte (8-digit) seed value supplied (Default = 0)
Print File (g)	Retrieves and Prints the specified File

WARNING: If the Flush command is used, new Firmware must be installed in the Printer to restore normal operation and full functionality.

Printer Status

The Printer Status section (Figure 6-19) monitors the Printer's current status. When any of the twenty (20) separate Warning conditions monitored by the Printer occurs, the Warning tile display color changes to RED to alert the user of the condition (Figure 6-19 a).

NOTE: When the Warning condition has been resolved, the Warning tile display reverts back to its original color.

Figure 6-19 Printer Status Section

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Menu Options

The Menu Options shown in the JCM Printer Basic Driver Menu Bar (Figure 6-20 a-f) are described in Table 6-4.

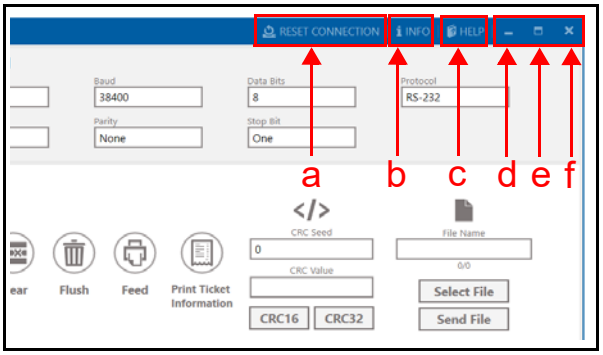

Figure 6-20 Printer Basic Driver Menu Options

Table 6-4 Menu Options and Controls

Menu Option	Description
RESET CONNECTION (a)	Click the RESET CONNECTION RESET CONNECTION icon to reconnect the current Printer or connect to another Printer
INFO (b)	Click the INFO INFO icon to display the Information page data (e.g., Current Version Number)
HELP (c)	Click the HELP HELP icon to view the online User Manual.
Minimize (d)	Click the Minimize icon to minimize the user interface display. (To restore the user interface display size, click the JCM logo icon in the Windows Taskbar on the PC Desktop.)
Maximize (e)	Click the Maximize icon to maximize the user interface display to full screen. To restore the default user interface display size, click the Maximize icon again.
Close (f)	Click the Close icon to close the Printer Driver application user interface and exit the program.

Exiting the Printer Driver Application

To close and exit the JCM Basic Printer Driver user interface, click the Close icon (Figure 6-21 a).

Figure 6-21 Exiting the Printer Basic Driver UI

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GEN5™ Series
Printer
Section 7

7 EXPLODED VIEWS & PARTS LISTS

This section provides product exploded views and parts lists for the GEN5 Printer Unit. This section contains the following information:

- GEN5 Entire Unit Exploded View
- GEN5 Bottom Presenter Exploded View
- GEN5 Bottom Presenter Housing Exploded View
- GEN5 Top Presenter Exploded View
- GEN5 Lid Upper Presenter Exploded View
- GEN5 Bottom Tray Assembly Exploded View

GEN5 Entire Unit Exploded View

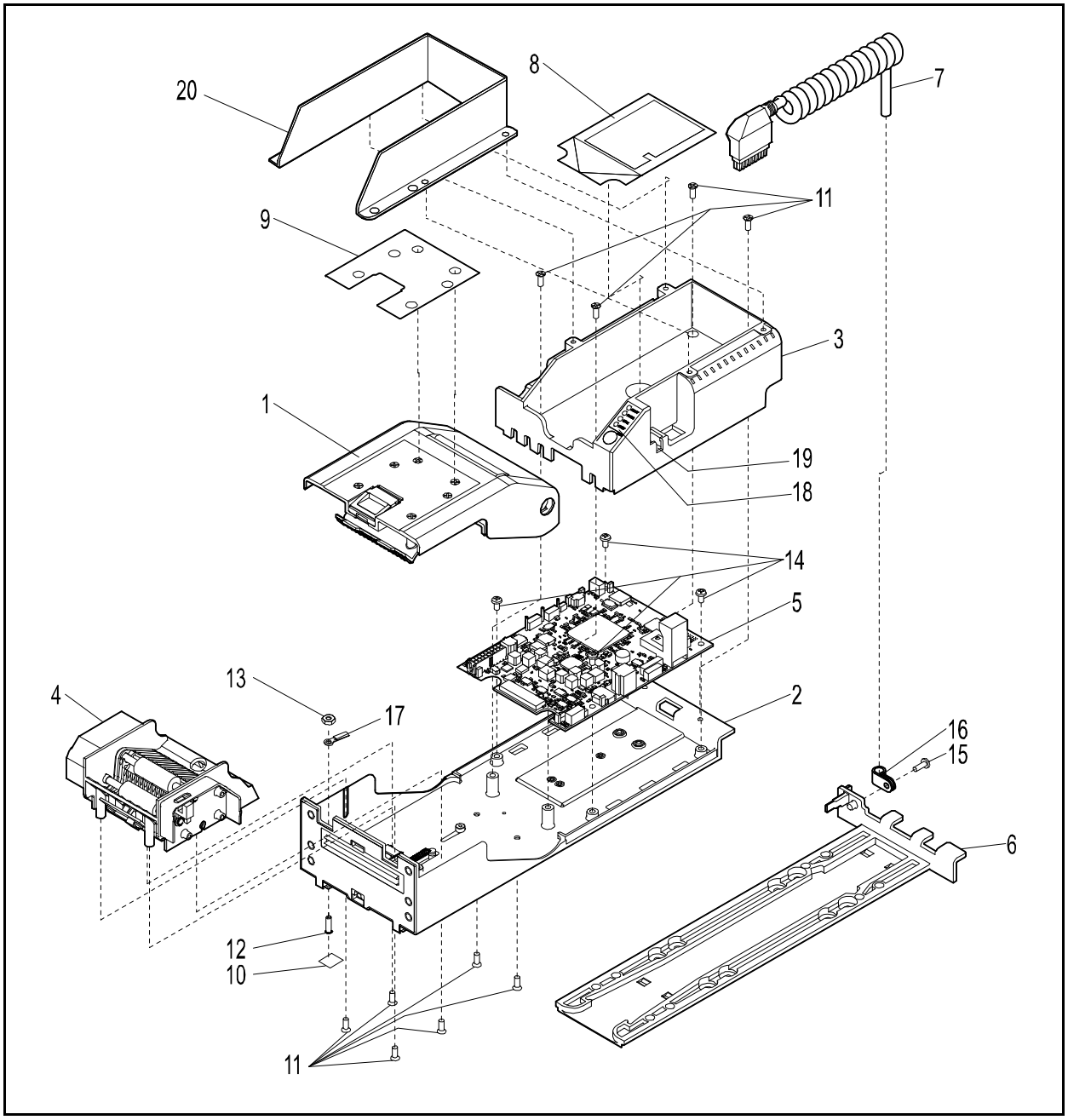

Figure 7-1 GEN5 Entire Unit Exploded View

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GEN5 Entire Unit Parts List

Table 7-1 GEN5 Entire Unit Parts List

Ref No.	Part No.	Description	Qty	Remark
1	---	Sub-Assy., LID Upper Presenter (Refer to Figure 7-5)	1	
2	---	Sub-Assy., Bottom Tray (Refer to Figure 7-6)	1	
3	370-00291-100	Sub-Assy., Paper Tray (300 NOTE)	1	
4	---	Sub-Assy., Bottom Presenter (Refer to Figure 7-2)	1	
5	140-00243-100	PCBA Assy., GEN5	1	
6	370-00015-100	Base, GEN2U/GEN5	1	
7	150-00176-100	Cable Assy., Coil 14 RS232/USB	1	
	150-00109-100	Coil NETPLEX/USB (8 pin)	1	
8	362-00253-100	Label, Tray GEN5	1	
9	362-00256-100	Label, Lid, GEN5	1	
10	362-00080-101	Label, No Tamper	1	
11	473-00082-100	SCR,FLHPH,PLASTITE 48-2,#6x3/8	10	
12	473-00117-100	STUD, SELF CLINCHING PEM FHS-632-8 OR EQ.	1	
13	476-00008-100	NUT, HX, #6-32, Narrow.	1	
14	473-00079-100	SCR,PNHPS,PLASTITE 48-2,#6x1/4	4	
15	473-00081-100	SCR,PNHPH,PLASTITE 48-2,#6x3/8	1	
16	486-00031-100	CLAMP, CBL, N4-BLK	1	
17	150-00033-100	CABLE ASSY, FRAME GROUND	1	
18	500-00005-100	MEMBRANE KEYPAD	1	
19	370-00045-100	TRAY PLUG	1	
20	320-00224-101	600 NOTE TRAY EXTENSION	1	
	320-00224-102	900 NOTE TRAY EXTENSION	1	

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GEN5 Bottom Presenter Exploded View

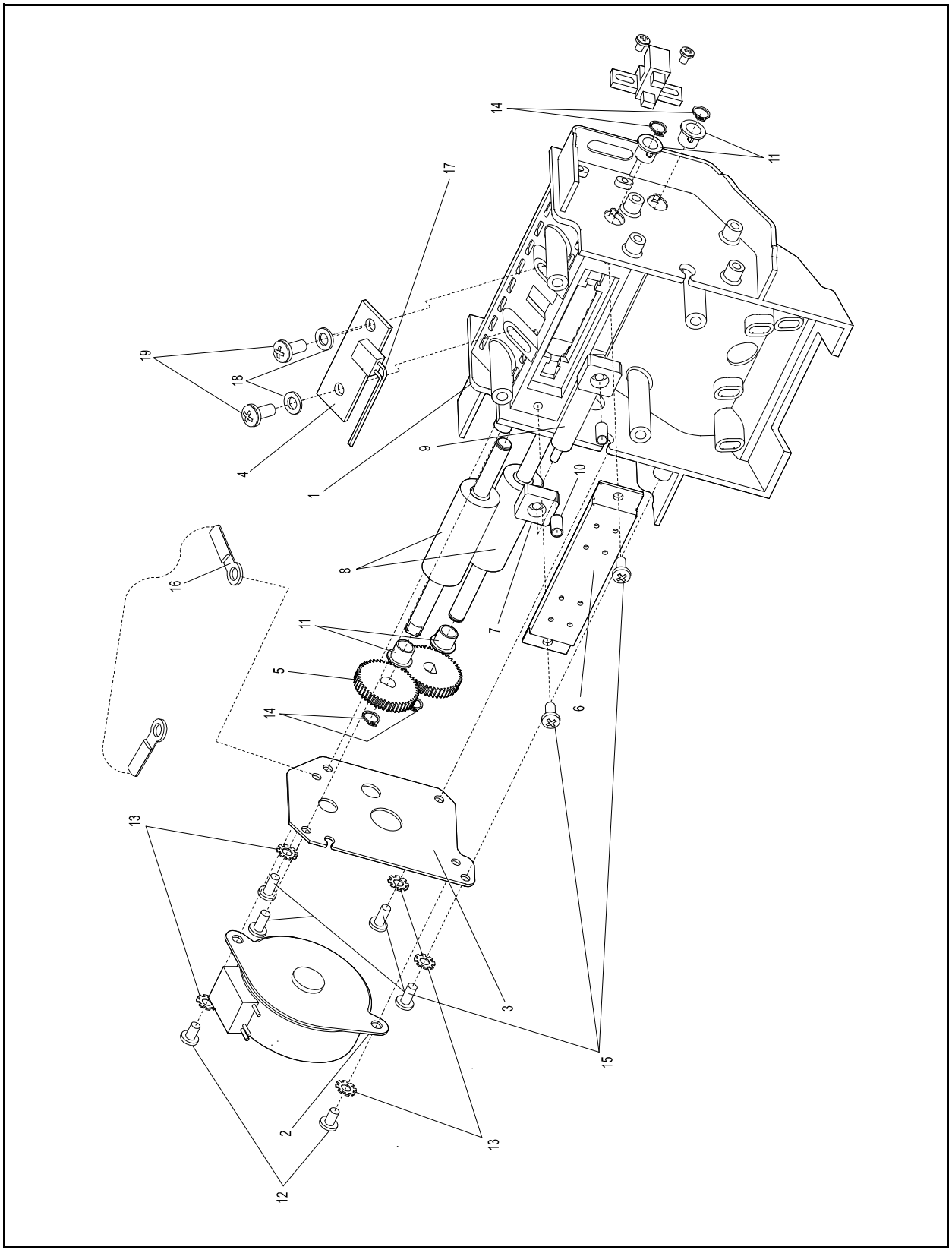

Figure 7-2 GEN5 Bottom Presenter Exploded View

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GEN5 Bottom Presenter Parts List

Table 7-2 GEN5 Bottom Presenter Parts List

Ref No.	Part No.	Description	Qty	Remark
1	370-00170-100	Presenter Bottom - Carbon	1	
2	340-00002-101	Motor, Presenter	1	
3	310-00199-100	Mounting Bracket, Presenter Motor	1	
4	140-00099-100	Taken Sensor	1	
5	240-00000-100	Gear, SPUR 48 TOOTH	2	
6	370-00026-100	Floating Part, Cover	1	
7	370-00021-100	Floating Part	2	
8	460-00104-100	Platen Shaft Assy	2	
9	460-00006-100	Roller, Idler	1	
10	485-00175-100	Spring, Compression	2	
11	486-00032-100	Bearing, Plastic	4	
12	473-00050-100	Screw, MACH, PNHPH 4-40x0.187	2	
13	482-00012-100	Washer, Lock Motor	5	
14	486-00044-100	Retaining Ring, 0.188	4	
15	473-00078-100	Screw, PLASTITE PNHPH #4x0.25	6	
16	150-00033-100	Ground Harness	1	
17	150-00027-100	Cable, Assy-Taken Sensor	1	
18	482-00028-100	Washer #6	2	
19	473-00079-100	Screw, PLASTITE 48-2, #6x0.25	2	

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GEN5 Bottom Presenter Housing Exploded View

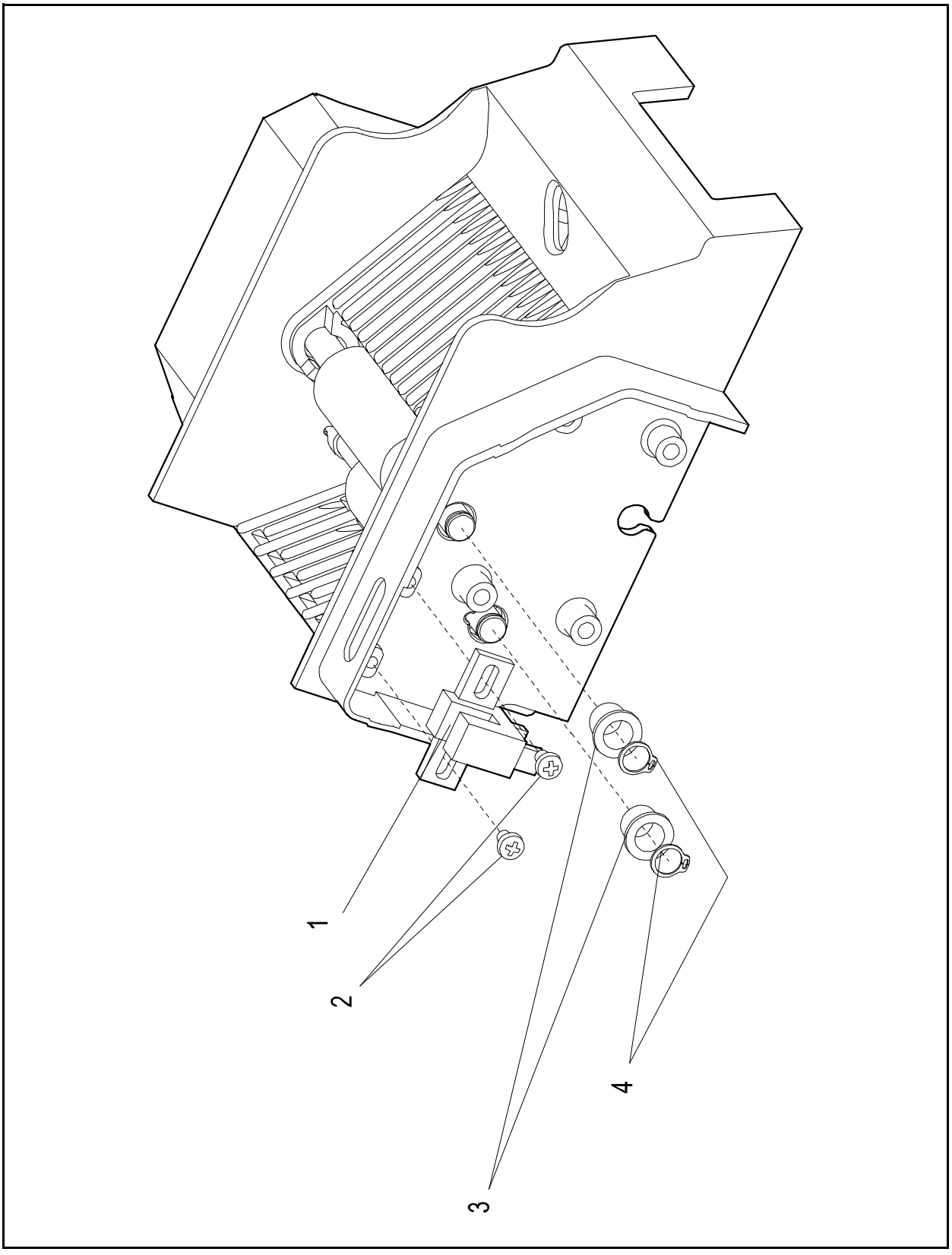

Figure 7-3 GEN5 Bottom Presenter Housing Exploded View

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GEN5 Bottom Presenter Housing Parts List

Table 7-3 GEN5 Bottom Presenter Housing Parts List

Ref No.	Part No.	Description	Qty	Remark
1	470-00007-100	Lid Sensor	1	
2	473-00099-100	Screw, PNHPH 2-32x0.125	2	
3	486-00032-100	Bearing, Plastic	2	
4	486-00044-100	Retaining Ring	2	

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GEN5 Top Presenter Exploded View

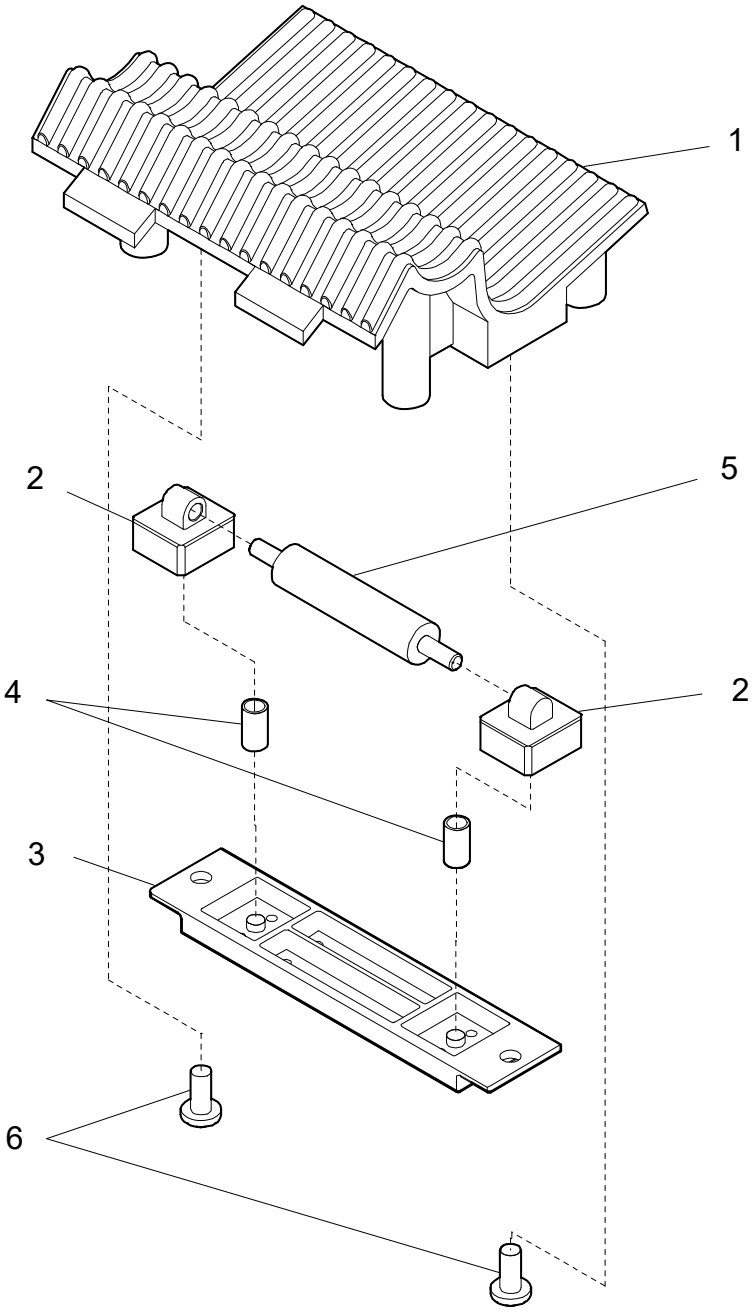

Figure 7-4 GEN5 Top Presenter Exploded View

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GEN5 Top Presenter Parts List

Table 7-4 GEN5 Top Presenter Parts List

Ref No.	Part No.	Description	Qty	Remark
1	370-00019-100	Top Presenter	1	
2	370-00021-100	Floating Part	2	
3	370-00026-100	Plate, Spring	1	
4	485-00175-100	Spring, Compression	2	
5	460-00006-100	Roller, Idler	1	
6	473-00078-100	Screw, PLASTITE, PNHPH #4x0.25	2	

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GEN5 Lid Upper Presenter Exploded View

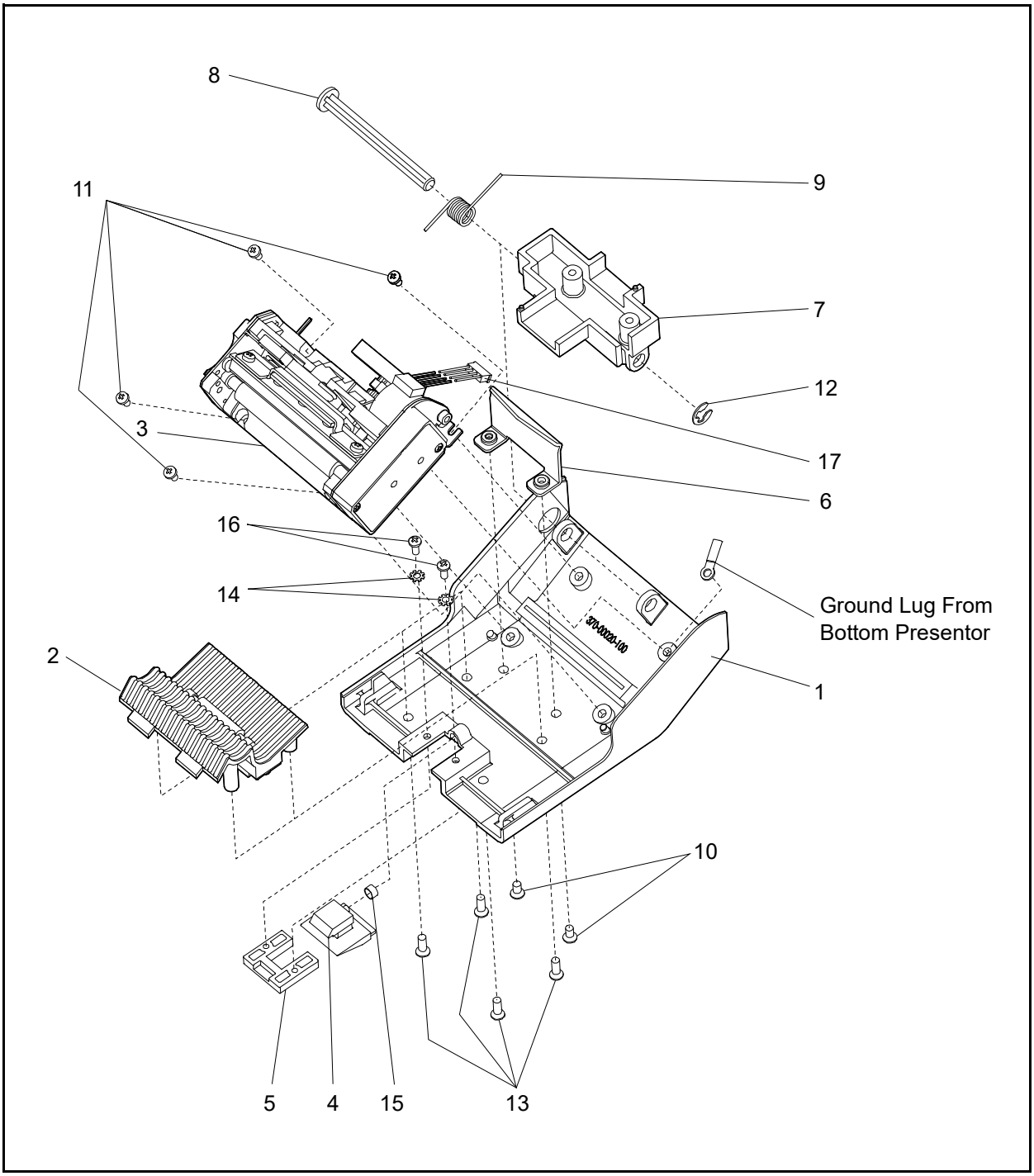

Figure 7-5 GEN5 Lid Upper Presenter Exploded View

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GEN5 Lid Upper Presenter Parts List

Table 7-5 GEN5 Lid Upper Presenter Parts List

Ref No.	Part No.	Description	Qty	Remark
1	370-00020-102	GEN5 Lid, Black	1	
2	100-00017-100	Top Presenter Assy.	1	
3	400-00023-100	Print Mechanism, GEN5	1	
4	370-00023-100	Base Locker, Latch	1	
5	370-00022-100	Locker, Latch	1	
6	310-00117-100	Cutter, Top Presenter	1	
7	370-00024-100	Hinge	1	
8	370-00025-100	Hinge, Pin	1	
9	485-00013-100	Spring, Torsion Hinge	1	
10	473-00083-100	Screw, Cutter MACH FLHPH, 6-32x1/4	2	
11	473-00049-100	Screw, Print Mech, MACH PNHPH, M3x5mm	4	
12	486-00033-100	Retaining Ring, Hinge Pin, E-RING 0.25in. dia.	1	
13	473-00082-100	Screw, Top Presenter, PLASTITE-FLHPH #6x.375	4	
14	482-00012-100	Washer, Lock	2	
15	485-00008-100	Spring, Compression	1	
16	473-00078-100	Screw, PLASTITE-PNHPH #4x.025	2	
17	150-00023-100	Print Head Harness	1	

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GEN5 Bottom Tray Assembly Exploded View

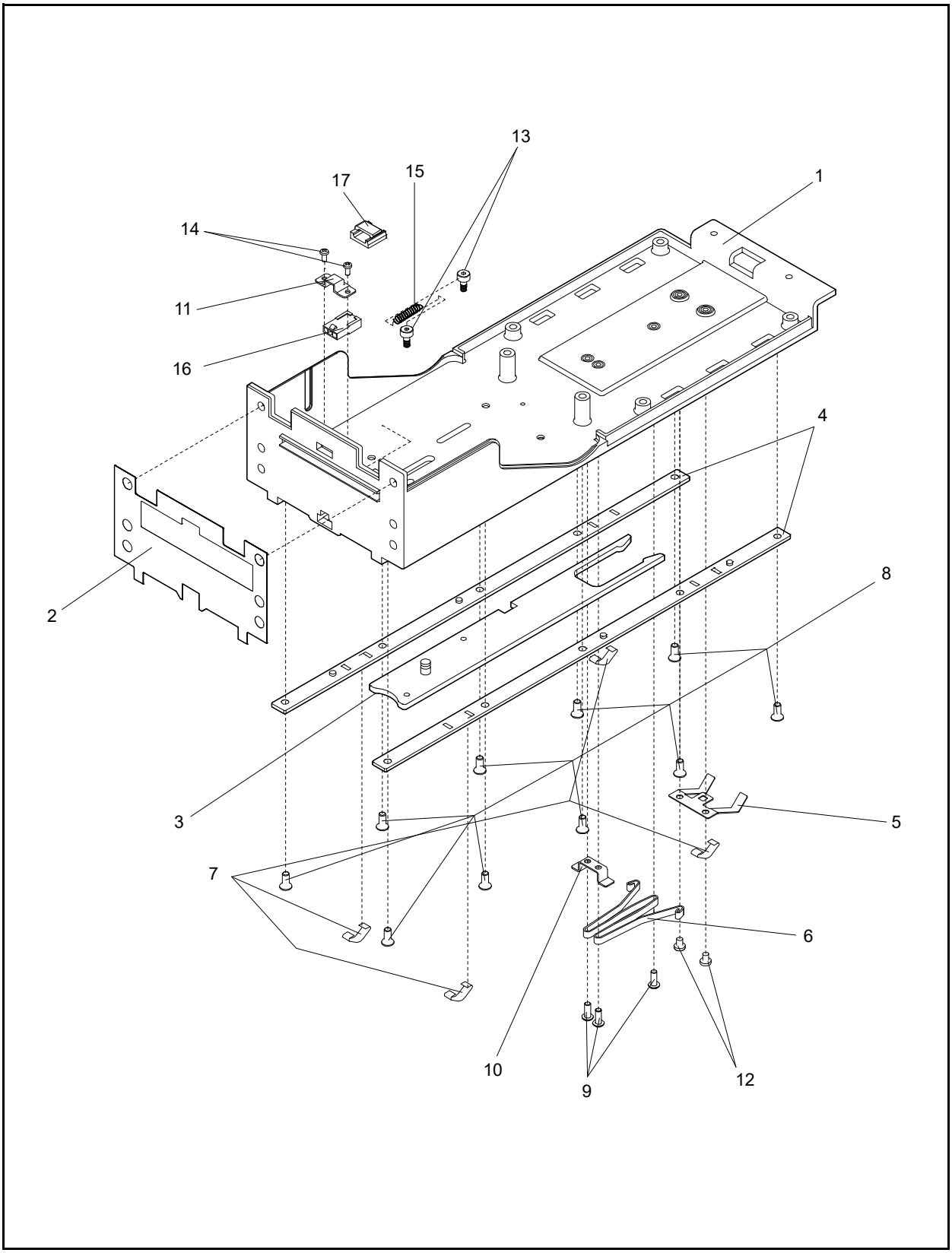

Figure 7-6 GEN5 Bottom Tray Assembly Exploded View

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GEN5 Bottom Tray Assembly Parts List

Table 7-6 GEN5 Bottom Tray Assembly Parts List

Ref No.	Part No.	Description	Qty	Remark
1	370-00016-100	Base, GEN2U/GEN5	1	
2	350-00054-100	Grounding Foil	1	
3	310-00112-100	Bracket Release Bar	1	
4	310-00116-100	Rail	2	
5	485-00027-100	Lock Spring	1	
6	485-00030-100	'W' Spring	1	MET Spacer, W-Shape, SS 17-7
7	485-00090-100	Grounding Spring	4	
8	473-00080-100	Screw, PLASTITE FLPHP 6x0.313	10	
9	473-00073-100	Screw, MACH BTH M3x 5x8mm	3	
10	310-00115-100	Guide, Release Bar	1	
11	370-00040-100	HLDR Conn	1	
12	473-00019-103	SCR, MACH PNHPH, M3x4mm Screw Lock Spring	2	
13	473-00072-100	SCR, SHLDR 4-40 1/8 x 3/16	2	
14	473-00497-100	SCR, MACH PN# 9PH #2 x 3/16	2	
15	485-00019-100	SPR - EXT	1	
16	150-00028-100	CABLE, ASSY. BEZEL	1	
17	486-00001-100	WIRE SADDLE NYLON	1	

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Section 8

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GEN5™ Series
Printer
Appendix A

A TROUBLESHOOTING

This section provides troubleshooting instructions for the GEN5 Printer Unit, and includes the following information:

- Introduction
- Troubleshooting Overview
- Fault Table Listings
- Front Bezel LED Indicators
- LED Indication Conditions
- Printer Errors

Introduction

Most Printer issues result from minor causes. Before replacing any parts, be sure that all assembly and circuit board connectors are properly fitted with their harnesses properly connected.

Poor performance by the GEN5 Printer is often due to dust, residue or foreign objects adhering to the sensors or rollers. Clean the Transport Path first, then carefully observe the operating state of the Printer when printing a Configuration Ticket. This observation is important in locating any causes of failure and the possible fault location.

Perform all repairs and updates by referring to Firmware Updating and Testing in Section 6 of this Manual, and the Disassembly/Reassembly instructions in Section 4 of this Manual.

Troubleshooting Overview

This product allows the operator to perform fault diagnosis by checking various Fault Table Listings against the symptoms. Survey the cause(s) of any failure occurrences during the process.

After determining the cause of the failure, repair the unit and replace any appropriate parts deemed necessary. Then perform the Performance Test.

Fault Table Listings

Table A-1 identifies possible GEN5 Printer Unit fault conditions that can occur, and the necessary actions required to correct them.

Table A-1 General Fault Conditions

Symptoms/Error Messages	Corrective Action Required
No Power/ No LEDs Illuminated	Check the Power Supply connection from the Host EGM to the Printer. Make sure the RS-232/USB Coil Interface Cable is properly connected to the Printer. Press the FEED Button to verify that the Ticket advances.
No Ticket Detected	Remove and reload the Ticket Stack into the Paper Tray. Check and then clean the Paper Out/Index Mark Sensor (refer to "Sensors Cleaning Procedure" on page 2-9). The press the FEED button to verify that the Printer detects the white-colored tickets and black-colored Index Mark.
Paper Jam Detected	Follow the procedure for "Clearing a Ticket Jam" on page 2-8.
Printer Lid Open	Close the Printer Lid.
Firmware Problem (Flushed)	Reload the Firmware. Refer to Section 6: "Firmware Updating and Testing" on page 6-1 for details.
Hardware Fault Detected	Power cycle the Printer. Then check the Firmware version. Refer to Section 6: "Firmware Updating and Testing" on page 6-1 for details.
Ticket does not load	Reload the ticket. Refer to "Clearing a Ticket Jam" on page 2-8 for details.

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Front Bezel LED Indicators

Table A-2 identifies the GEN5 Printer Front Bezel LED Indicators and Printer Status without requiring the EGM or Kiosk to be opened.

Table A-2 Front Bezel LED Indicators (Printer Status)

Bezel Display	LED Status	Printer Status
●	ON (Solid)	Printer idle and ready
✳	Slow Flashing	Low Ticket Stack (Paper supply) OR Printer Error
✳	Fast Flashing	Ticket Printing/Take Ticket
○	OFF	Printer or EGM Power is switched OFF.

LED Indication Conditions

The Status LED Display (Figure 1-4 i) indicates various combinations of solid or alternating Color light flashing conditions when any of the Printer Status Conditions listed in Table A-3 occur.

Identify the cause and solution for an indicated error by comparing it against each listing in Table A-3.

Printer Status LED Code Conditions

Table A-3 lists the various Printer Status LED Code conditions for Tickets (refer to Figure 2-3 b).

Table A-3 Printer Status LED Codes

Condition or Error Detected	Ready (GREEN)	Paper (YELLOW)	Open (ORANGE)	Fault (RED)
No Power	OFF	OFF	OFF	OFF
Ready	ON*	OFF	OFF	OFF
No Ticket Detected	OFF	ON	OFF	OFF
Paper Jam Detected	ON	OFF	OFF	ON*
Printer Lid Open	OFF	OFF	ON	OFF
Firmware Problem Detected	ON	ON	ON	ON
Hardware Fault Detected	OFF	OFF	OFF	ON

*. LED Flashes

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Printer Errors

Table A-4 lists possible GEN5 Printer Error Conditions and Corrective Actions.

Table A-4 Printer Error Conditions

Error	Description	Corrective Action Required
Paper Out	**Printer does not detect paper.**	**Load paper correctly.**
Print Head	**Printer senses an internal error due to connectivity or an interface problem with the Thermal Print Head. This condition may occur due to a cabling problem between the Main Controller Board and the Printer Engine.**	**The Printer will remain in this condition until the power is cycled or the Unit is reset. If the problem persists, the Printer may require service. Contact JCM Customer Service for assistance.**
Temperature	**Printer is operating outside of allowable temperature range specifications. If the operating environment ambient temperature is equivalent to room temperature, the error may be due to a hardware problem.**	**The Printer will automatically resume operation after the detected Head Temperature falls within allowable temperature range specifications.**
Voltage	**Printer detects a Power Supply Voltage outside of allowable range specifications. The error could be due to improper cable connection.**	**The Printer will automatically resume operation after the Power Supply Voltage is detected to be within range specifications (+21VDC to +25VDC).**
Missing Black Index Mark	**The Selected Paper Type is Indexed Paper, but the black Index Mark is not detected within approximately 10" of paper feeding or printing. The error may occur due to the paper being loaded in the wrong direction (so that the black Index Mark is rotated 180°) or due to an incorrect paper type being loaded into the printer.**	**Check the paper supply and orientation.**
Paper Jam	**Printer detects an error in the Paper Path for Presenting the Ticket.**	**Open the Printer Head and inspect the Paper Path for a jammed Ticket.**

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Maintenance Equipment

This section provides product information for the GEN5 Printer Maintenance Equipment.

GEN5 Maintenance Equipment

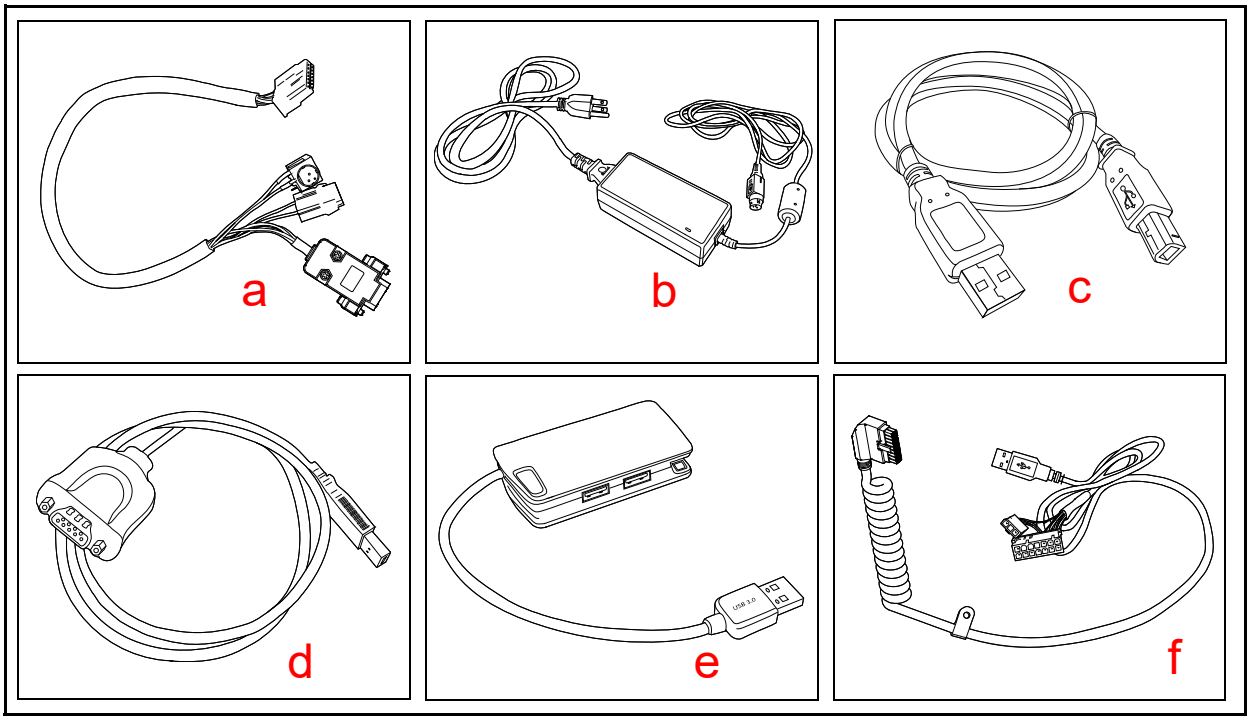

Figure A-1 Additional Maintenance Equipment Requirements

Table A-5 Additional Maintenance Equipment Parts List

Ltr.	JAC No.	Description	Qty.	Remark
a	150-00013-100	Evaluation Cable	1	
b	350-00258-100	Power Supply/With AC Plug	1	
c	400-100249R	USB Cable A-B	1	
d	302-100004R	USB Serial Adapter	1	
e	JU-H30812-S1	4 Port HUB	1	
f	150-00176-100	Coil Harness	1	

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GEN5™ Series
Printer
Appendix B

B GLOSSARY

B

1 Bezel

a removable Plastic Assembly attached to the front of the Printer Unit. It features a rectangular access slot for easy retrieval of Tickets. Bezels are available in different shapes, colors and sizes to accommodate different mounting options ... 1-2

D

2 DIP Switch

an acronym for Dual Inline Package Switch, a mountable two-position slide switch containing up to 16 individual switches per block assembly located on a Printed Circuit Board (PCB), which may be set to an ON or OFF position. DIP Switches are often used in circuits where manual selection of operational changes, options and features is desired ... 2-1

F

3 Firmware Updating

a process whereby the System Firmware stored in memory is updated periodically for improved performance. ... 6-1

P

4 Pictograph

small internationally recognized safety and attention symbols placed to the left of Notes, Cautions and Warnings throughout a JCM Maintenance Manual ... 1-1

5 Precautions

Special instructions and warnings that appear in JCM Maintenance Manuals. Precautions are intended to promote personal safety and prevent damage to equipment when working with the applicable JCM Product ... 1-2

T

6 Ticket Jam

on occasion, wrinkled or damaged Tickets become stuck within the mechanical area of the Printer Unit. This condition may occur due to a damaged or degraded Ticket, or due to a Paper feed error. ... 2-8

7 TTL

an acronym for Transistor to Transistor Logic levels ... 2-4

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U

8 USB

an acronym for Universal Serial Bus. The USB protocol is a widely used serial-based communications data bus which allows a large number of peripheral devices to communicate with a Host controller, and is commonly found on nearly all personal computers built today. The GEN5 Printer features a USB interface, allowing the user to download data files into flash memory quickly and easily from a PC ... 2-5

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