HDP100 High Definition Card Printer/Encoder User Guide (Rev. Beta); Sections 1 to 3 (modified)

- **Armstrong 1x (single-Side)**
- **Armstrong 2x (dual-Side)**
- **Armstrong 1x L (single-side + lamination)**
- **Armstrong 2x L (single-side + lamination)**
- **Armstrong 2x L (dual-side + lamination)**

User Guide Part Number: L000950

HDP100 High Definition Card Printer/Encoder User Guide (Rev. Beta), property of Fargo Electronics, Incorporated

Revision Control Number	**Date**	**Document Title**
Revision Beta	1 January 2007	HDP100 High Definition Card Printer/Encoder User Guide

These reference documents were thoroughly reviewed to provide Fargo with professional and international standards, requirements, guidelines and models for our technical, training and user documentation. At all times, the *Copyright Protection Notice* for each document was adhered to within our Fargo documentation process. This reference to other documents does not imply that Fargo is an ISO-certified company at this time.

- ANSI/ISO/ASQ Q9001-2000 American National Standard, (sub-title) Quality Management Systems – Requirements (published by the American Society of Quality, Quality Press, P.O. Box 3005, Milwaukee, Wisconsin 53201-3005)
- The ASQ ISO 9000:2000 Handbook (editors, Charles A. Cianfrani, Joseph J. Tsiakals and John E. West; Second Edition; published by the American Society of Quality, Quality Press, 625 N. Plankinton Avenue, Milwaukee, Wisconsin 53203)
- Juran's Quality Handbook (editors, Joseph M. Juran and A. Blanton Godfrey; Fifth Edition, McGraw-Hill)

Any questions regarding changes, corrections, updates or enhancements to this document should be forwarded to:

Fargo Electronics, Incorporated
Support Services
6533 Flying Cloud Drive
Eden Prairie, MN 55344 (USA)
(952) 941-9470
FAX: (952) 941-7836
www.fargo.com
E-mail: sales@fargo.com

Table of Contents

Section 1: Printer Overview

How to use the guide

The HDP100 High Definition Card Printer/Encoder User Guide (Rev. 1.0) is designed to provide installers and technicians with quick, efficient lookup of related procedures, components and terms. The Guide can be used effectively either in soft or hard copy, depending on the preference of the installer or technician.

Manual	**Description**
Glossary of Terms and Technical/Functional Specifications (hyper-linked)	You can go directly to the Glossary of Terms, Technical Specifications and Functional Specifications to learn how to use the processes, procedures, functions and windows for the HDP100 within concise, correlative tables.
Table of Contents (hyper-linked)	You can use the automated Table of Contents to quickly locate, for example, an error message, a procedure, the index or an appendix.
Cross-Referencing (hyper-linked)	You can use the cross-referencing links to quickly locate, for example, an error message or a procedure.
Comprehensive Index (hyper-linked)	You can use the Comprehensive Index to quickly locate information on the HDP100, relating to a specification, a procedural step, a window or screen, a component, a term, a qualifier or a related feature to this Printer.

Safety Messages (review carefully)

Symbol	Critical Instructions for Safety purposes
Danger: 	**Failure to follow these installation guidelines can result in death or serious injury.** Information that raises potential safety issues is indicated by a warning symbol (as shown to the left). • **To prevent personal injury**, refer to the following safety messages before performing an operation preceded by this symbol. • **To prevent personal injury**, always remove the power cord prior to performing repair procedures, unless otherwise specified. • **To prevent personal injury**, make sure only qualified personnel perform these procedures.
Caution: 	**This device is electrostatically sensitive. It may be damaged if exposed to static electricity discharges.** Information that raises potential electrostatic safety issues is indicated by a warning symbol (as shown to the left). • **To prevent equipment or media damage**, refer to the following safety messages before performing an operation preceded by this symbol. • **To prevent equipment or media damage**, observe all established Electrostatic Discharge (ESD) procedures while handling cables in or near the Circuit Board and Printhead Assemblies. • **To prevent equipment or media damage**, always wear an appropriate personal grounding device (e.g., a high quality wrist strap grounded to avoid potential damage). • **To prevent equipment or media damage**, always remove the Ribbon and Cards from the Printer before making any repairs, unless otherwise specified. • **To prevent equipment or media damage**, take jewelry off of fingers and hands, as well as thoroughly clean hands to remove oil and debris before working on the Printer.

HDP100 Overview

Reviewing the HDP100 Block Diagram

The HDP100 Block Diagram will be created and added to this service document at a future date. Should consider breaking Printer and flipper into separate block diagrams.

1	Card Input
2	Flipper Stepper
3	Transfer Stepper
4	Print Stepper
5	Transfer Headlift
6	Film Supply
7	Film Take Up
8	Ribbon Supply
9	Ribbon Take Up
10	Print Headlift
11	Card Detection?
12	Flipper Table Card
13	Encoding TOF
14	Flipper Home
15	Card TOF
16	Film Transfer
17	Film Take Up Encoder
18	RTD (Resistive Thermal Device)
19	Film - Print

13	Ribbon Panel Sensor
14	Ribbon Encoder
15	Print Headlift
16	Thermistor
17	Cover Interlock
18	Card Input Roller
19	Cleaning Roller
20	Flipper Table Roller
21	Flipper Table
22	Encoding Module
23	Card Feed Roller
24	Card Feed Roller
25	Transfer Platen Roller
26	Card Feed Roller
27	Flattener Cooling Fan
28	Transfer Roller
29	Print Platen Roller
30	Printhead
31	Printhead Cooling Fan

32	Card Cartridge
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Reviewing the HDP100 Sequence of Operations

The following sequence describes a dual sided full color print job with magnetic encoding.

Step	Process
1	The File information is received from the PC.
2	The Heater warms up and/or maintains the heat on the hot Roller using the RTD (Resistive Thermal Device) to help maintain the desired temp.
3	The DC Motor and Stepper Motor turn ON and run until a card is seen by the card Sensor, which will cause the Card Input Motor to stop. The Stepper will continue to run a certain number of steps to position the card under the Card Feed/Position Sensor.
4	For a magnetic print job, the Stepper will continue moving the card until the trailing edge is positioned under the Mag Head. All stop.
5	Stepper will turn ON in reverse direction and encode card. All stop.
6	Stepper will again turn on and position the trailing edge of the card under the Mag Head. All stop.
7	Stepper will turn ON in reverse direction and verify data encoded onto mag stripe.
8	Stepper continues transporting card until the trailing edge is positioned under the Card Feed/Position Sensor. All stop.
9	The Ribbon Drives turn ON and move until the correct panel is found by the Print Ribbon Sensor. All stop. (**Note:** The Print Ribbon Encoder is active during this step.) This step occurs simultaneously with Step 10 (below).
10	The Film Drives turn ON until the Film is positioned with the Film Print Alignment Sensor. (**Note:** This is the closest Sensor to the Print Platen Roller.) All stop. (**Note:** The Film Ribbon Encoder is active during this step.)
11	The Headlift Motor engages, moving the Printhead down until Headlift Sensor is activated. All stop.

Continued on the next page

Reviewing HDP® 100 Series Card Printer – Sequence of Operations (continued)

Step	Process
12	The Fan turns ON as required to keep head cool.
13	The Ribbon Drives, Film Drive and Print Platen Stepper turn ON and the Printhead burns the image data until the image data is depleted. All stop. (**Note:** The Ribbon Encoders and Film Encoders are active during this step.)
14	The Headlift Motor engages, moving the Printhead up until the Headlift Sensor is activated. All stop.
15	Repeat Steps 9 to 14 for the appropriate number of color/heat seal panels.

Continued on the next page

Reviewing HDP® 100 Series Card Printer – Sequence of Operations (continued)

Step	Process
23	The Film Drives turn ON to rewind the printed portion of the Film into position at the heated Transfer Roller using the Lamination Film Alignment Sensor.
24	If the heater is not at the required temperature yet, the job will pause.
25	Stepper engages to move the card to a position directly under the hot Roller. The Card Feed/Position Sensor determines card edge and number of steps to position card. All stop.
26	The Headlift Motor turns ON to lower the hot Roller and will stop when the Headlift Sensor is activated. All stop.
27	The Stepper and Film Drive engage to laminate the printed Film onto the card. They will turn off after a given number of steps based on the position given by the card Sensor. All stop. (**Note:** The Film Encoder is active during this step.)
28	The Headlift Motor turns ON to raise the hot Roller, stopping when the Headlift Sensor is activated.
29	The Film Drive and Stepper turn ON for a given number of clicks based on Film Encoder, until the film is released.
30	The Stepper turns ON to move the card into Flipper Module to flip the card to the opposite side. After flipping the card is transported back to the Card Feed/Position Sensor to repeat Steps 9 to 14. Upon completion of print all print cycles the card is transported to the Output Hopper (based on steps from a known from Flipper Card Position Sensor). All stop.
31	The Heater is maintained at a set temperature by the RTD when the Printer is ON. The cooling fan is ON when the Printhead is ON or hot.

Reviewing the HDP100 Boot up Sequence

Step	Process
1	The Card feed stepper turns ON (to check for a card on the Flipper table).
2	The Lam Headlift turns until the head up position is returned from the Headlift Sensor).
3	The Film transfer take-up Motor turns ON to take up any slack in the film.
4	The Print Headlift turns until head up position is returned from Headlift Sensor.
5	The Print Ribbon moves forward until it finds the yellow panel, pauses, advances to magenta, then backs up to yellow (the Ribbon Sensor detects marks on the ribbon).
6	The Transfer Ribbon advances forward two panels from supply (advances until the Print Film Sensor senses 2 marks on the Film).
7	The Transfer Ribbon advances forward one panel from supply (advances until the Print Film Sensor senses 1 mark on the Film).
8	The Transfer Ribbon reverses for one panel onto supply (reverses until the Print Film Sensor senses 1 mark on the Film).
9	The Transfer Ribbon reverses for one panel onto supply (reverses until the Print Film Sensor senses 1 mark on the Film).

Reviewing the Lamination Module Sequence of Operations

(Should this entire section be removed and added to the SEALS user manual or is the Armstrong+flipper+SEALS to be contained in one all-inclusive manual?)

The LAM sequence of operations begins after printing has occurred with the Card Printer.

Step	Process
1	The card is fed onto the Lamination Module Flipper Table.
2	The card is fed to the Card Position Sensor.
3	The Lamination Ribbon Motor begins cycling until the Lamination Sensor detects the mark.
4	The Card Feed Motor activates to center the card on the Platen Roller.
5	The Transfer Roller Lift Motor cycles until the Transfer Roller Lift Sensor detects state change.

Continued on the next page

Reviewing the Lamination Module Sequence of Operations (continued)

Step	Process
6	The Card Feed Motor and the Lamination Ribbon Motor activate for the length of the card.
7	The Transfer Roller Lift Motor cycles until the Transfer Roller Lift Sensor detects state change.
8	The card is fed back to the Flipper Table.
9	The Flipper Table Clutch engages.
10	The Flipper Table Motor activates until the Card is inverted based on the Flipper offset setting.
11	The Flipper Table Clutch disengages.
12	The card is fed off the Flipper Table.
13	The Flipper Table Clutch engages.
14	The Flipper Table Motor activates until the Flipper Table is homed.
15	The Flipper Table Clutch disengages.
16	Repeat Steps 2 through 7.
17	The card is fed out of the Printer.

Reviewing the Lamination Module Boot up Sequence

Step	Process
1	The Transfer Headlift turns until the head up position is returned from Headlift Sensor.
2	The Lamination Ribbon Motor activates to determine the presence of a roll of lamination.
3	The Lamination Flipper table homes itself.
4	The Card Sensor checks for the presence of a card and ejects it if found.

Section 2: Specifications

The purpose of this section is to provide the User with specific information on the Regulatory Compliances, Agency Listings, Technical Specifications and Functional Specifications for the HDP100 and HDP100-LC Printers.

Safety Messages (review carefully)

Symbol	Critical Instructions for Safety purposes
Danger: 	**Failure to follow these installation guidelines can result in death or serious injury.** Information that raises potential safety issues is indicated by a warning symbol (as shown to the left). • **To prevent personal injury**, refer to the following safety messages before performing an operation preceded by this symbol. • **To prevent personal injury**, always remove the power cord prior to performing repair procedures, unless otherwise specified. • **To prevent personal injury**, make sure only qualified personnel perform these procedures.
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Introduction

The purpose of this section is to provide the User with specific information on the Regulatory Compliances, Agency Listings, Technical Specifications and Functional Specifications for the HDP® 100 Card Printer/Encoder.

Reviewing the HDP100 Printer Overview table

HDP100 Series	Input Hoppers	Card Capacity	Accepted Card Size	Encoding Modules	Lamination Module
HDP100 (Single-Sided Card Printer/Encoder)	1	100 (100 per Cartridge)	CR-80	Optional	Optional
HDP100-LC (Single-Sided Card Printer/Encoder)	1	100 (100 per Cartridge)	CR-80	Optional	Included
HDP100 (Dual-Sided Card Printer/Encoder)	1	100 (100 per Cartridge)	CR-80	Optional	Optional
HDP100-LC (Dual-Sided Card Printer/Encoder)	1	100 (100 per Cartridge)	CR-80	Optional	Included

Reviewing the HDP100 Package

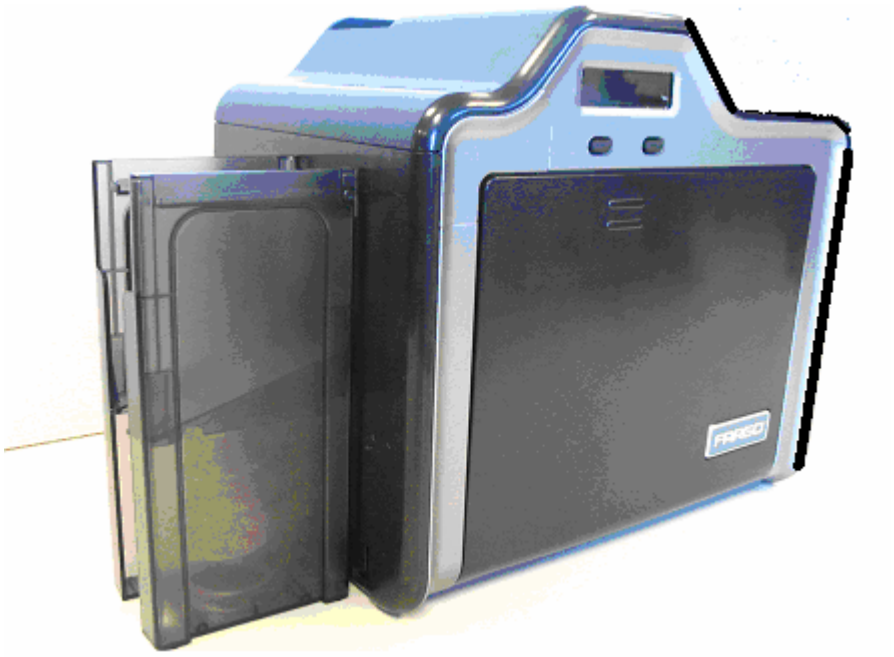
These items are included with your HDP100:

- Unpacking Instructions and Training Video CD
- Software Installation CD (includes Printer Driver)
- Cleaning Roller
- One (1) power supply with Printer; one (1) power supply with Laminator

Reviewing the HDP100 (front)

Reviewing the HDP100 Card Printer

Display - HDP100 Printer with attached Output Hopper



Regulatory Compliances, Agency Listings and FCC Rules

The purpose of this section is to provide the User with specific information on the Regulatory Compliances, Agency Listings and FCC Rules for this Printer.

Regulatory Compliances

Term	Description
CSA (cUL)	The Printer manufacturer has been authorized by UL to represent the Card Printer as CSA Certified under CSA Standard C22.2 No. 60950-1-03. **File Number:** E145118
FCC	The Card Printer complies with the requirements in Part 15 of the FCC rules for a Class A digital device.
UL	The Card Printer is listed under UL IEC 60950-1 (2001) INFORMATION TECHNOLOGY EQUIPMENT. **File Number:** E145118

Agency Listings

Term	Description
Emissions Standards	CE, FCC, CRC c1374, EN 55022 Class A, FCC Class A, EN 55024: 1998, EN 61000-3-2 and EN 61000-3-3.
Safety Standards	UL IEC 60950-1 (2001), CSA C22.2 No. 60950-1-03.

FCC Rules

This device complies with Part 15 of the FCC rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference.

(2) This device must accept any interference received, including interference that may cause undesired operation.

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

Reference Safety Messages in this document.

Technical Specifications

Term	Description
Accepted Standard Card Sizes	**HDP100 and HDP100-LC (See Card tab under Printer Adjustments):** • **CR-80:** This selection is the default form size for the HDP100. This will print a 3.375 in. L x 2.125 in. W (85.6mm L x 54mm W) image including a .04 over-bleed on each of the 4 sides. • Card Size supported is 2.204 X 3.452 (56 X 87.7 mm.)
Accepted Card Thickness	.030 in. (30 mil) to .050 in. (50 mil) (.762mm to 1.270mm)
Accepted Electronic Card types	HID Proximity Cards, Mifare Contactless Smart Cards and Contact Smart Cards
Accepted Card Compositions	ABS, PVC, PET and PETG
Colors	Up to 16.7 million colors and 256 shades per Pixel.
Card Cartridge Capacity	**HDP100 and HDP100-LC:** 100 cards (.030in./.762mm) Has refillable Card Cartridge that can either be attached to the Printer or detached for storage. This allows single feed with the Card Cartridge removed or with no other cards in the Card Cartridge
Card Output Hopper Capacity	**HDP100 and HDP100-LC:** 250 card Output Hopper capacity (Includes Reject Hopper capability when connected to the Flipper Module with available storage on the Output Tray or the Lamination Module)

Technical Specifications (continued)

Term	Description
Cardstock	**HDP100 and HDP100-LC:** • CR100, 30 UC1 cardstock (No-Co, Lo-Co and Hi-Co) • CR100, 30 UC3 cardstock (No-Co and Hi-Co)
Dimensions	• **HDP100:** 15” H x 26.1” W x 14” D/381mm H x 663mm W x 356mmD • **HDP100-LC:** 15” H x 34.75” W x 14” D/381mm H x 883mm W x 356mmD • **LC Module:** 10 H x 13 W x 14.2D/362mm H x 330mm W x 254mmD
Display	User-friendly, SmartScreen LCD Control Panel; LED display on Card Lamination Module.
Encoding Options (only HDP100 and HDP100-LC)	• ISO Magnetic Stripe Encoding Module, dual high- and low-coercivity, Tracks 1, 2 and 3 • JIS II Magnetic Stripe Encoding Module • E-card Docking Station (required for all e-card options or 3rd party smart card encoding) • Contact Smart Card Encoder (ISO 7816), Parts 1-4; T=0 and T=1 • Contactless Smart Card Encoder (Mifare®) • Prox Card Encoder (HID read-only) (**Note:** Corporate Express 1000 Cards can be used with special order Weigand/ASCII Converter) • iCLASS™

Technical Specifications (continued)

Term	Description
Fargo Certified Supplies	Fargo Card Printer/Encoder require highly specialized media to function properly. To maximize printed card quality and durability, Printhead life and Printer/Encoder reliability, use only Fargo Certified Supplies, Fargo warranties are void, where not prohibited by law, when non-Fargo Certified Supplies are used.
HDP Film Options	• Clear, 1,250 prints • Standard Holographic (only HDP100 and HDP100-LC) • Custom Holographic, special order (only HDP100 and HDP100-LC)
HDP Film Storage Temperature	77ºF (25ºC) or lower for no longer than 1.5 years.
Humidity	20% to 80% (non-condensing)
Input Hopper Card Capacity	**HDP100 and HDP100-LC:** • 100 cards (.030/.762mm)
Interface	• USB 1.1 • Interfacing information for E-card Options
Maximum Accepted Card Width	2.125W / 54mmW
Maximum Accepted Card Length	(3.375L / 85.6mmL

Technical Specifications (continued)

Term	Description
Operating Temperature	65º F to 80º F (18º C to 27º C).
Options	• Printer Cleaning Kit • Ethernet Communication Port • Card Lamination Module
Output Hopper Card Capacity	**HDP100/HDP100-LC** • 250 cards (.030mm)
Overlaminate Options (HDP100-LC and HDP100 only)	All overlaminates are available in either clear, holographic globe design or custom holographic design. They can also be optimized for use with smart cards and Magnetic Stripes. Here are the options: • Thermal Transfer Overlaminate, .25 mil thick, 500 prints • PolyGuard Overlaminate, .6 mil thick, 125 prints • PolyGuard Overlaminate, 1.0 mil thick, 125 prints
Power Supply	• 80W for HDP100 • 160W (two 80W bricks) for the HDP100-LC
Print Area	Over-the-edge on all accepted standard card sizes.
Printing Method	HDP™ Dye-Sublimation/Resin Thermal Transfer

Technical Specifications (continued)

Term	Description
Print Ribbon Options	**HDP100 and HDP100-LC (prints or images):** • Full color, InTm, 1500 prints • Full color, YMC, 750 prints • Full color with resin black, YMCK, 500 prints • Full color with two resin black Panels, YMCKK, 500 prints • Full color with one resin black Panel, YMCKH, 500 prints TBD All HDP Ribbons utilize Fargo's exclusive RibbonTraq™ system for maximum print quality, performance, reliability and ease of use. Indicates the ribbon type and the number of ribbon panels printed where Y=Yellow, M=Magenta, C=Cyan, K=Resin Black, O=Overlay, F=Fluorescing.
Print Speed-Batch Mode	**HDP100 and HDP100-LC (see note below):** • 85 seconds per card/42 cards per hour (YMCKK with transfer) • 93 seconds per card/38 cards per hour (YMCKK/Lamination) Print speed indicates an approximate print speed and is measured from the time a card feeds into the Printer to the time it ejects from the Printer. • Print speeds do not include encoding time or the time needed for the PC to process the image. • Process time is dependent on the size of the file, the CPU, amount of RAM and the amount of available resources at the time of the print.

Technical Specifications (continued)

Term	Description
Resolution	300 dpi (11.8 dots/mm)
Software Drivers	Windows® 2000/XP
Supply Frequency	50 Hz / 60 Hz
Supply Voltage	100 to 240 VAC, 3.75A (HDP100 and HDP100-LC) 100 to 240 VAC, 4.25A (HDP100 and HDP100-LC)
System Requirements	IBM-PC or compatible. Windows 2000/XP. Pentium™ class 133 MHz computer with 64 MB of RAM or higher, 200 MB free space or higher and USB 1.1
Warranty	• **Printer:** One year; optional Extended Warranty Program (U.S. only) • **Printhead:** Lifetime; unlimited pass with Fargo-certified Cards
Weight	• **HDP100:** 16 lbs. • **HDP100 + Flipper Module** 22 lbs. • **LC Module:** 36 lbs.

Functional Specifications

The Card Printer utilizes two different, yet closely related printing technologies to achieve its remarkable print quality for dye-sublimation and resin thermal transfer. See previous section as needed.

The following describes how each of these technologies works:

Function	Description
Dye-Sublimation	Dye-Sublimation is the print method the Card Printer uses to produce smooth, continuous-tone images that look photographic. (**Note:** This process uses a dye-based Ribbon roll that is partitioned by a number of consecutive color Panels.) • **Process colors:** The Panels are grouped in a repeating Series of three process colors - yellow, magenta and cyan (YMC), along the entire length of the Print Ribbon. • **Panels:** The Printer always prints the yellow Panel first, followed by the magenta Panel and the cyan Panel. • **Printhead:** As the Print Ribbon passes beneath the Printhead, hundreds of thermal elements within the Printhead heat the dyes on the Ribbon. (**Note:** When these dyes are heated, they vaporize and diffuse into the surface of the film and then the film is laminated onto the card surface. A separate pass is made for each of the three color Panels on the Ribbon.) • **Color Shades:** By combining the colors of each Panel and by varying the heat used to transfer these colors, it is possible to print up to 16.7 million different shades of color. (**Note:** This blends one color smoothly into the next, producing photo-quality images with absolutely no dot pattern.) • **Dye-Diffusion Thermal Transfer:** It is the process of heating a dye suspended in a cellulous substrate until the dye can flow, diffusing into the dye receptive surface of the card or InTM. This produces the image in the surface of the card.

Printer Components: Resin Thermal Transfer to USB Interface Port

Component	Description
Resin Thermal Transfer	Resin Thermal Transfer is the print method the Printer uses to print sharp black text and crisp bar codes that can be read by both infrared and visible-light bar code scanners. Like dye-sublimation, this process uses the same thermal Printhead to transfer color to a card from a resin-only Print Ribbon or the resin black (K) Panel of a full color Print Ribbon. The difference, however, is that solid dots of resin-based ink are transferred and fused to the surface of the film and then the film is laminated onto the card surface. (**Note:** This produces very durable, saturated printing.)
Card Cartridge	Load blank cards into this cartridge.
Card Output Hopper	Stores 250 cards.
Card Lamination Module	Works in conjunction with the Printer to apply a variety of different overlaminates to printed cards, providing increased card durability and security. The Module has its own LED indicator light and control buttons; so it can be operated separately from the Printer. (**Note:** When printing a batch of cards, the Printer can be encoding and printing one card while the Lamination Module laminates another card.)
LCD Display	Displays the current status of the Printer.
LED Light	Indicates the Printer ON, OFF, pause and error conditions.
Printhead	The component of the Printer that actually does the printing. This component is fragile and must not be bumped or touched with anything other than a cleaning pen.
Softkey Buttons	Current function is displayed above the button and will change depending upon the Printer's mode of operation.

Printer Components: Resin Thermal Transfer to USB Interface Port (continued)

Component	Description
Scroll Buttons	Used to scroll through menus and sub-menus and to adjust certain menu options.
Card Thickness Adjustment Lever	Adjusts the Printer to feed varying card thicknesses.
Card Cleaning Roller	Automatically cleans cards for higher print quality. (**Note:** Replace this Roller after every 1000+ cards or as needed.)
Power Port	Connect to the included power supply.
USB Interface Port	Connect to the Windows PC USB cable.

Printer Components: LCD and Softkey Control Pad

The Printer provides a four line, eighty (80) character LCD Displays that can communicate helpful information about the Printer's operation.

- The top three lines of the LCD Display will always be used to communicate print status, error messages and menu options.
- The bottom line of the LCD Display will always be used to communicate the current function of the Printer's softkey buttons.

This section describes how the LCD Display and Softkey Control Pad work together.

Component	Description
Softkey Buttons	The Printer has three **softkey buttons** that appear below the LCD Display. Their current function is indicated by the words appearing above them. This function will change according to the Printer's current mode of operation. • Press the corresponding softkey button under the choice you want to select. If no word appears above a particular button, this indicates it has no function in that particular mode of operation. The Printer also has another type of button on its control pad called scroll buttons. These buttons are located just to the right of the LCD Display. • Use these buttons to scroll through help text, to navigate through the Printer's menus and to adjust certain Printer settings.
LCD Display	The Printer's LCD Display will change according to the Printer's current mode of operation.

Printer Components: LCD and Softkey Control Pad (continued)

Component	Description
Ready / Printer Open Screens	Once the Printer has finished its system check and with the Printer closed, the Printer will display READY to indicate that the Printer is ready for operation. (**Note:** The Printer will stay in this mode until it receives a print job or it is turned OFF.) • If the Printer is opened, the Printer Open screen will appear. Press either the FWD or BWD buttons to move the Printer's card path Rollers in the indicated direction. Use the scroll buttons to select between moving the FWD or BWD Card Rollers or the FWD or BWD Card Rollers. This is helpful when cleaning the Printer or if clearing jammed media. In any of these screens, the Printer will always display the **Menu** option above the center softkey button. Press this button to access the Printer's menu options. (**Note:** The **Menu** option is available only in the Ready / Printer Open screens.) • If the Printer is equipped with the Card Lamination Module and the Lamination Station is opened, an LCD message will appear; and the Lamination Module's LED will flash. (**Note:** To move the Lamination Module's Rollers, push the Module's **Cancel** or **Resume** buttons.) • If both the Printer and Lamination Station are open, the LCD's FWD or BWD softkey buttons will move ALL Rollers. In any of these screens, the Printer will always display the **MENU** option above the center softkey button. Press this button to access the Printer's menu options. (**Note:** The **MENU** option is available only in the READY / PRINTER OPEN screens.)

Printer Components: LCD and Softkey Control Pad (continued)

Component	Description
Print Status Screen	During operation, the LCD will indicate the current Print Status by showing you the area of the Printer that is active. It does this by displaying the following icons on the second line: • **FEEDING:** Indicates that cards are being fed into the Printer. • **FLIPPING:** Indicates that the card is being transported to the Flipper station. • **ENCODING:** Indicates the encode station is encoding a card (appears only if you are using a Printer with an optional built-in Encoding Module). • **PRINTING:** Indicates the Printer is printing onto the HDP film. • **RECIEVING DATA:** Indicates that the Printer is receiving data from the PC. • **TRANSFERRING:** Indicates the Printer is transferring an image to a blank card. • **LAM:** Indicates the Lamination Station is applying an overlaminate to a card (appears only if using a Printer equipped with the optional Card Lamination Module. Since the Printer is capable of performing several of these functions simultaneously, one or all of these icons may appear at once, depending on if you are printing just one card or a batch of cards. The Print Status screen always displays **Cancel** in the lower left and **Pause** in the lower right.
The **Cancel** button	Use this button to cancel print jobs and reset the Printer for the next print job. **Cancel** now has two options: • Cancel single job in memory. • Cancel all jobs in memory. This **Cancel All** function will cancel all print jobs in the Printer and will completely reset the Printer. In this case, be sure to cancel the print jobs from the PC before pressing **YES**.

Printer Components: LCD and Softkey Control Pad (continued)

Component	Description
The **Pause** button	Use this button to pause the Printer at any time during operation. Note the Printer will always finish its current task before pausing. When the Printer is paused, the LED Light will flash and the **Pause** softkey button will change to **Resume**. Press **Resume** to continue Printer operation.
The LED Light	This light works in conjunction with the Printer's LCD Display to help communicate the Printer's current status. It is especially effective when you are too far away from the Printer to read the LCD Display. The following explains how to interpret both LED Lights on the exterior of the Printer. • **Off:** Indicates the Printer power is OFF. • **Solid GREEN:** Indicates the Printer is powered ON and ready for operation. • **Flashing GREEN:** Indicates a Printer ERROR or ATTENTION condition. Refer to the Printer's LCD Display for information.

Printer Components: LCD and Softkey Control Pad (continued)

Component	Description
Error/Attention Screens	The Printer is capable of communicating two similar yet different types of message or prompt screens: The first is called an ATTENTION screen. (**Note:** This screen appears if an error occurs and will completely stop Printer operation. In this case, the LCD will display ATTENTION on the first line and a brief description of the error on the following lines.) • Press the **Help** button if you would like a more detailed explanation of the error message. This will bring up the help screen explaining the nature of the error and how to correct it. If necessary, use the scroll buttons to scroll down the paragraph of help text. • Press **Quit** when you are done reading. Once the error is corrected, resume operation or reset the Printer according to how you were instructed in the help screen. The second type of prompt is called a MESSAGE screen. (**Note:** This screen will not stop Printer operation and serves to communicate helpful reminders, such as if you are running low on print supplies and also communicates any other Printer conditions of which you should be aware. In this case, the LCD will display Message on the first line and a brief description of the condition on the following lines.) • Like error messages, help text explaining the particular condition can also be accessed by pressing the **Help** button.

Printer Components: Print Ribbons

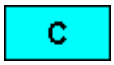
The Card Printer utilizes both dye-sublimation and/or resin thermal transfer methods to print images (print to film and transfer film to card). Since the dye-sublimation and the resin thermal transfer print methods each provide their own unique benefits, Print Ribbons are available in dye-sublimation-only and combination dye-sublimation/resin versions.

To make it easier to remember which Print Ribbons are which, a letter code has been developed to indicate the type of Ribbon Panels found on each Ribbon.

This letter code is as follows:

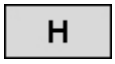
= Dye-Sublimation Yellow Panel

= Dye-Sublimation Magenta Panel



= Dye-Sublimation Cyan Panel

= Resin Black Panel



= Heat Seal Panel

Printer Components: Blank Cards

 **Caution:** Never run cards with a contaminated, dull or uneven surface through the Printer. Printing onto such cards will ultimately lead to poor print quality. Always store the card stock in its original packaging or in a clean, dust-free container. Do not print onto cards that have been dropped or soiled.

Type	Description
Card Size	These Card Printers accept standard CR80 sized cards (3.375L x 2.125W / 85.6mmL x 54mmW) with a thickness of 30 mil to 50 mil (.030/.762mm).
Card Design	The Printer will print onto any card with a clean, level and polished PVC surface.
Card Surface	Suitable cards must have a polished PVC surface free of fingerprints, dust or any other types of embedded contaminants. • In addition, cards must have a completely smooth, level surface in order for the Printer to achieve consistent color Coverage. • Some types of Proximity cards, for example, have an uneven surface which will inhibit consistent color transfer. Likewise, some smart card chips are raised slightly above the cards surface, which also results in poor color transfer.
UltraCard stock	Due to the importance of using high-quality blank cards, a factory-approved card stock called UltraCard™ is available and recommended for best results. • UltraCard stock has a glossy PVC laminate on top and bottom and is optically inspected to provide the cleanest, most scratch and debris-reduced cards possible. • Two types of these cards are available: UltraCard and UltraCard III. • UltraCard stock has a PVC core and offers medium card durability. • **Recommended:** UltraCard III stock has a 40% polyester core and offers high durability. Both types of UltraCards produce printed images with a glossy, photo-quality finish.

Printer Components: Card Input and Output Hoppers

Type	Description
Card Cartridge	The Card Cartridge is where cards are initially loaded for printing. Your Printer's hopper provides a large door that opens widely to make card loading simple and closes securely to help protect your card stock. The Printer will hold a maximum of 100 cards (based on a standard 30 mil card thickness).

Printer Components: Card Output Hopper and Reject Hopper

Type	Description
Card Output Hopper	**HDP100/HDP-LC :** All standard HDP Card Printers provide a 100 card capacity Card Output Hopper (based on a standard 30 mil card thickness). (**Note:** This Hopper stores the cards after they are printed.) Shown in the lower left. Reject hopper functionality when connected to the Flipper Module. The storage is available on output tray or the Lamination Module.
Reject Hopper	Shown in the upper left.

Printer Unit: Reviewing the Card Lamination Module

Danger: The Printer's Transfer Roller can reach temperatures exceeding 350° F (175° C). Use extreme caution when operating the Laminator. Never touch the Transfer Roller unless the Printer has been turned off for at least 20 to 30 minutes.

Select Printer models support the attachment of an optional Card Lamination Module. This Module can be ordered pre-installed on your Printer from the factory or can be ordered separately as a field upgradeable Module.

Printer Components: Transfer Roller

 **Danger:** The Printer's Transfer Roller can reach temperatures exceeding 350 degree F (175 C). Use extreme caution when operating the Transfer Roller. Never touch the Transfer Roller unless the Printer Power has been turned off for at least 20 to 30 minutes.

Type	Description
Controls	Both the Printer itself and the Printer's software Driver control the built-in Transfer Roller.
Temperature Adjustment	To change the temperature of the Transfer Roller, adjust its temperature through the Image Transfer within the Printer Driver setup window. Once adjusted, the new temperature settings will be sent down with the next print job along with the rest of the Printer Driver information.
New Temperature Setting	Before printing begins, the Transfer Roller will automatically adjust itself to the new temperature setting. (**Note:** This new temperature setting will remain programmed within the Printer until it is once again changed within the Printer Driver or until the Printer is turned OFF.) Whenever the Printer is turned OFF, the Transfer Roller will automatically reset itself and return to its default temperature the next time the Printer is turned ON. Disconnect the Printer's power supply. (**Technician Note:** The Printer's power supply serve to reset the Transfer Roller to its default temperature. The temperature setting within the Printer Driver, however, will stay the same until it is changed.)

Reviewing the Overlaminates

Important! Fargo Card Printers require highly specialized overlaminates to function properly. To maximize Printer life, reliability, printed card quality and durability, you must use only Fargo Certified Supplies. For this reason, the Fargo warranty is void, where not prohibited by law, if you use non-Fargo Certified Supplies. To order additional materials, please contact the authorized reseller.

Reviewing the Thermal Transfer Film and PolyGuard Overlaminates

Term	Description	Cross Reference
Thermal Transfer Film and PolyGuard Overlaminates	The Card Lamination Module will accept either a Thermal Transfer Film overlaminate or a Polyester Patch Overlaminate called PolyGuard™. • **Thermal Transfer Film:** The Thermal Transfer Film overlaminate is a relatively thin material which Covers a card Edge-to-Edge and provides a medium level of card durability and security.) • **PolyGuard Overlaminate:** PolyGuard is a much thicker material which does not Cover Edge-to-Edge, but provides an extremely high level of card durability and security. (**Note:** PolyGuard is available in either a 1.0 or .6 mil thickness and should always be used for those applications requiring the highest degree of card durability and security.)	See the Loading the Overlaminate.

Reviewing the CR-80 Patch Size

Term	Description	Cross Reference
CR-80	PolyGuard Overlaminate is available in a standard CR-80 patch size. (**Note:** Thermal Transfer Film overlaminate will accommodate the CR-80 size.)	See the Loading the Overlaminate.

Reviewing the Overlaminate Design

Term	Description	Cross Reference
Design	Both PolyGuard and the Thermal Transfer Film overlaminates are available in either a clear or generic secure holographic-type design. (**Note:** Custom holographic-type overlaminates are also available with specific designs, patterns, logos and security features.) Please contact the authorized reseller for more information about custom Overlaminates..	See the Loading the Overlaminate.

Section 3: General Troubleshooting

The purpose of this section is to provide the User with specific procedures relating to the LCD Messages, Communication Errors, Card Feeding Errors, Encoding Errors, Printing Process Errors, Transfer Process Errors and Diagnosing the Image Problems for the HDP100.

Important! Fargo Card Printers require highly specialized print Ribbons to function properly. To maximize Printer life, reliability, printed card quality and durability, you must use only Fargo Certified Supplies. For this reason, your Fargo warranty is void, where not prohibited by law, if you use non-Fargo Certified Supplies. To order additional materials, please contact your authorized reseller.

LCD Messages

The LCD display shows the current status of the Printer. Refer to the cause and solution tables in this section for all possible LCD messages. (**Note:** These tables display the LCD messages in alphabetical order. If the LCD message is communicating an error or requires an action, these tables will also offer a solution to what should be done.)

Troubleshooting LCD Messages

LCD Message	Cause	Solution
Calibrating Sensor	The Input Hopper cards-out Sensor needs to be calibrated.	Go to MENU>SETUP PRINTER>SENSOR CALIBRATION>CAL HOPPER SENSOR and press **SELECT**.
CALIBRATE RIBBON	The print Ribbon is out of calibration.	Select **CANCEL** and then perform the Ribbon calibration procedure. See Resolving a Ribbon Sensor Error (Ribbon Miscue) procedure.
CARD ERROR	A card has been removed; or a card is jammed; or a Ribbon align error has occurred in the Print Station of the Printer.	Clear the problem. Press **RESUME** to continue. See the Resolving the Card Jam Error procedure.
CARD FEED STOPPED	The Ribbon access arm was opened. This caused the card transfer to stop.	Press **RESUME** or **CANCEL**.
CARD HOPPER EMPTY	The Card Hopper is empty.	Load more cards and press **RESUME** to continue. See Resolving a Card Hopper Empty Error.
Card Jam	A card is jammed in the Print Station or card flipping area of the Printer.	See the Resolving the Card Jam Error procedure. Press **RESUME** to continue.
CARD JAM: PROX	A card is jammed in the PROX card encoding area of the Printer.	Clear the jam. See the Resolving the Card Jam Error procedure.
CARD JAM: SMART	A card is jammed in the smart card encoding area of the Printer.	Clear the jam. See Resolving a Card Jam (Encoder) Error.

Continued on the next page

Troubleshooting the LCD Messages (continued)

LCD Message	Cause	Solution
CARD JAM: TRANS	A card is jammed in the Transfer Station of the Printer.	See the Resolving the Card Jam Error procedure.
CARD NOT FOUND	The card being processed cannot be found.	Press **RESUME** to load the next card or **CANCEL**. See Resolving a Card Not Fed Error.
MULTIPLE FEED	Two or more cards may have been fed from the Card Hopper.	If so, remove the fed cards and verify the card thickness setting is set to the thickness of your cards. See Resolving a Card Not Fed Error (Cards will not feed off the Hopper). Press **RESUME** to continue.
Clean Printer	For best Printer performance, replace the Cleaning Cartridge Tape and clean the Printers Feed Rollers and Printhead at this time.	See Cleaning.
E-Card Encoder Startup Error	A problem was detected during Printer start-up.	If this problem persists, call for technical assistance. See E-card Encoding Errors.
E-CARD STARTUP ERROR	A problem was detected during Printer start-up.	If this problem persists, call for technical assistance. See E-card Encoding Errors.
EEPROM CORRUPT	EEPROM restored with factory default values.	No action needs to be taken.
EJECTING	Indicates cards are ejecting.	No action needs to be taken.
EJECTING CARD	The system Firmware has detected a card already in the Printer and is ejecting it.	This card has been ejected; however, it may contain encoded data and therefore should be disposed of properly.

Continued on the next page

Troubleshooting the LCD Messages (continued)

LCD Message	Cause	Solution
Empty	Indicates no cards or empty.	Refill.
FILM OUT	The HDP Film has run out. **OR** The HDP Film will soon run out.	Install a new roll of film and press **RESUME** to continue or **CANCEL** to reset. If this appears as an error, see Resolving a Film Out Error.
Flipper Jam	A card is jammed in the card flipping area of the Printer.	Clear the jam. See Flipper Jam Error procedure.
Film Align Error	Unable to align film. OR If this appears as a prompt, the HDP Film is self-aligning to the proper position for printing.	Check for obstruction. If the problem persists, call for technical assistance. If this appears as an error, see Film Errors procedure.
Film Break/Jam FILM LOW FILM RELEASE FILM RELEASE ERROR	The HDP Film is not installed properly or has run out, jammed, broken or been damaged.	If this appears as an error, see Film Errors or Resolving a Film Out Error.
Film: Wrong Material	The HDP Film is not installed properly or has run out, jammed, broken or been damaged.	If this appears as an error, see Film Errors or Resolving a Film Out Error.

Continued on the next page

Troubleshooting the LCD Messages (continued)

LCD Message	Cause	Solution
Headlift Error	The Printer was unable to raise or lower the Printhead.	Verify that the head is not jammed. See Resolving a Headlift Motor or Sensor Error. Press **RESUME** to retry or **CANCEL** to abort. If the problem persists, call for technical assistance.
HEAD LOADING	An unrecoverable error occurred while printing.	Contact technical support if this error repeats. Press **CANCEL** to abort this card.
HEAD RESISTANCE	LCD setting for head resistance is out of range.	Enter a value for head resistance in the LCD Printer Setup menu. Reset the correct value according to the steps in the Troubleshooting Section. If this problem persists, call for technical assistance.
HEAD SENSOR ERROR	The Printhead Temperature Sensor is not functioning or is not connected properly. **OR** The Printhead is not cooling properly.	If the problem persists, call for technical assistance. See Printing Process Errors.
HEAD VOLTAGE ERROR	A hardware fault has prevented setting the correct Printhead voltage.	A default value will be used. Call for technical assistance.
H1	Indicates that the Left Hopper is OFF.	No action required.
[H1]	Indicates that the Left Hopper is ON.	No action required.
H2	Indicates that the Right Hopper is OFF.	No action required.
[H2]	Indicates that the Right Hopper is ON.	No action required.

Continued on the next page

Troubleshooting the LCD Messages (continued)

LCD Message	Cause	Solution
Invalid Film	The Printer was unable to sense the HDP Film properly while printing. OR The Printer senses that the wrong HDP Film had been installed.	See Film Errors procedure.
INVALID PASSWORD	Printing disabled at this time.	Press **CANCEL** to abort this print job and then check security settings at host computer.
INVALID RIBBON	The print Ribbon installed in the Printer does not match the Ribbon type set in the Printer.	Get the correct Ribbon from your dealer. See Resolving an Invalid Ribbon Error.
Init	Indicates the Printer is beginning its startup system check. Referred to as initializing.	
PLEASE INSERT RIBBON	Instructs the User to properly insert the Ribbon in the Printer.	Same as the cause.
JOB DATA ERROR	The print data sent to the Printer is corrupt or has been interrupted. **OR** The Feed Module is out of sequence with the Transfer section.	Check the interface cable and cancel the print job from the PC. Press **CANCEL** to abort this print job and then resend the job. See Resolving the Communication Errors.

Continued on the next page

Troubleshooting the LCD Messages (continued)

LCD Message	Cause	Solution
Lamination	A power connector must be connected to the Laminator module.	Insert power connector and cycle power to the Printer. See Resolving the Laminator (Check Power) Error.
Lam Card Jam	A card is jammed in the Lamination module area of the Printer.	Clear the jam. See Resolving a Card Jam (Laminator) Error. Press **QUIT** to clear this message.
LAM CARD FLIP ERROR	A problem has been detected in the Laminator Flipper.	If this problem persists, call for technical assistance. See Resolving a Card Jam (Laminator) Error.
LAM ERROR	The Lamination module requires attention.	Check the indicated condition and correct it, using the Laminator's control buttons. Press **QUIT** to clear this message. See Resolving a Laminator (General Error).
LAM HANDLER STARTUP ERROR	See the next column.	If this problem persists, call for technical assistance. See Resolving the Laminator (Check Power) Error.
Lam Heat Timeout	The Transfer Roller was unable to reach its goal temperature.	Reboot the Printer and try sending the print job again. If this problem persists, call for technical assistance. See Resolving LAM Heater Times Out Error.
LAM HEATER OFF		See Resolving LAM Heater Times Out Error.

Continued on the next page

Troubleshooting the LCD Messages (continued)

LCD Message	Cause	Solution
LAM LIFT ERROR	See the next column.	If this problem persists, call for technical assistance.
CHECK LAM MATERIAL	Lamination material is low.	See Resolving Check Lamination Material Error.
LAM MEMORY ERROR	See the next column.	If this problem persists, call for technical assistance.
MAG ENCODING	The magnetic stripe was not encoded properly.	See Resolving a No Magnetic Strip Present Error.
Magnetics:	The Magnetic Encoder was properly installed.	No action required.
MAG ENCODER PAUSED	The head arm assembly has been opened during Magnetic Encoding, causing this operation to halt.	Press **RESUME** to retry or **CANCEL** to abort. See Magnetic Encoding Errors.
MAG ENCODER STARTUP ERROR	A problem has been detected in the MAG encoding section of the Printer during start-up.	If this problem persists, call for technical assistance. See Magnetic Encoding Errors.

Continued on the next page

Troubleshooting the LCD Messages (continued)

LCD Message	Cause	Solution
Mag Verify Error	Print could not verify MAG write. **OR** The magnetic stripe was not encoded properly.	See Resolving a Magnetic Verify Error.
MULTIPLE FEED	Two or more cards fed from the Card Hopper.	See Resolving a Card Not Fed Error.
No Flip Module	Two sided job sent to a one sided Printer.	See a No Flipper Table Module Error.
No Prox Encoder	You are trying to send encoding data, but the Printer is not configured with this Encoder type.	See Resolving a No Prox Card Encoder Error.

Continued on the next page

Troubleshooting the LCD Messages (continued)

LCD Message	Cause	Solution
No Smart Encoder	You are trying to send encoding data, but the Printer is not configured with this Encoder type.	See Resolving a No Smart Card Encoder Error.
No Mag Module	MAG encoding job sent to Printer without MAG encoder. You are trying to send encoding data, but the Printer is not configured with this Encoder type.	See Resolving a No Magnetic Encoder Installed Error.
No Ribbon	There is no Ribbon installed or it is broken.	See Resolving a No Ribbon Installed Error.
Ribbon Low	The print Ribbon will soon run out.	If printing a large number of cards, replace the Ribbon now or monitor the Printer until the Ribbon is gone and install a new Ribbon. See Resolving a Ribbon Out Error.
Ribbon Out	The print Ribbon has run out. **OR** There is no Ribbon or its identification tag cannot be read.	Install a new Ribbon and press **RESUME** to continue or **CANCEL** to abort. See Resolving a Ribbon Out Error.
REINSERT RIBBON	The Ribbon must be reinserted for proper functioning of the Printer.	Reinsert the Ribbons or press **RESUME**.
Ribbon Miscue	The print Ribbon is either damaged or the Printer is not calibrated.	Replace the Ribbon or recalibrate. Press **RESUME** to continue or **CANCEL** to abort.

Continued on the next page

Troubleshooting the LCD Messages (continued)

LCD Message	Cause	Solution
Ribbon Break/Jam	The print Ribbon is either jammed or broken.	If jammed, see Resolving a Ribbon Break/Jam Error. If broken repair by taping the Ribbon back on to the take-up core. Press **RESUME** to continue or **CANCEL** to abort.
RIBBON TENSION	The Ribbon tensions or pretensions may be out of range.	Check and adjust the LCD settings. If this problem persists, call for technical assistance. Press **RESUME** to continue or **CANCEL** to abort.
Remove Ribbon	The print Ribbon is either damaged or the Printer is not calibrated.	Replace the Ribbon or recalibrate. See Resolving a Ribbon Break/Jam Error. Press **RESUME** to continue or **CANCEL** to abort.
Self Test Fault	Self-test job could not be initiated.	Reset the Printer and try again. If this problem persists, call for technical assistance. See Printing a Test Image.

Continued on the next page

Troubleshooting the LCD Messages (continued)

LCD Message	Cause	Solution
System Fault	Unspecified system error detected by the Printer Firmware.	If this problem persists, call for technical assistance.
Tests	Self-test job cannot be printed with the print media installed.	Install the correct print media and try again.
Unable to Feed	The Printer is unable to feed a card from the Card Hopper.	Check the following then press **RESUME** to continue. • Verify the card thickness setting is set to the thickness of your cards. • Verify the Cleaning Cartridge is properly assembled and fully inserted into the Printer. • Clean the in-feed rollers. • Verify your cards are within the Printers accepted card size range. • Be sure the cards are not sticking together. See Resolving an Unable to Feed Card Error.
UNSPECIFIED ERROR	Unspecified system error detected by the Printer Firmware.	If this problem persists, call for technical assistance. See Resolving the Communication Errors.

Continued on the next page

Troubleshooting the LCD Messages

LCD Message	Cause	Solution
UTILITY ERROR	Command resulted in an error.	See Resolving the Communication Errors.
Wrong Film	The Printer was unable to sense the HDP Film properly while printing. OR The Printer senses that the wrong HDP Film had been installed.	If this appears as an error, see Resolving a Film Sensor Not Calibrated Error.
WRONG RIBBON	The print Ribbon installed in the Printer does not match the Ribbon type selected in the Printer Driver. **OR** A Self-test job cannot be printed with the print media installed or the Ribbon must contain YMC panels for Sensor calibration.	Change either accordingly. Press **RESUME** to continue or **CANCEL** to abort. See Resolving a Wrong Ribbon Error.
Ribbon Wrinkle	Verify the convex Roller (D860051) is installed correctly with the shorter notch towards the front of the Printer. Verify the density is set within specification (67-69).	Check to see if the Ribbon Hubs are too tight. Check the Printhead alignment. See the Setting the Printhead Resistance procedure.

Continued on the next page

General Troubleshooting Guide

Problem	Possible Solution
Film Wrinkle	Check the peel-off bar alignment with fixture TL 1733. WE DO NOT SELL TOOLS- Adjust the transfer tension. See the Adjusting the Transfer Tension procedure.
Flashing	Check for poor alignment of the peel-off bars, center plate or the Transfer Roller. Lower the transfer tension. See the Adjusting the Transfer Tension procedure. (**Note:** Flash is typically caused by excessive heat or excessive transfer tension.)
Smudge	If smudge is on the leading edge of the card, increase the transfer tension. Verify the Take-up Motor turns without delay when Lamination begins. If the Motor delays, increase the transfer tension. • Adjust the transfer temperature. See the Adjusting the Transfer Temperature procedure. • Increase the transfer dwell time. See the Adjusting the Transfer Dwell Time and Transfer Temperature procedure. (**Note:** Smudge is typically caused by low heat or low transfer tension.)
Film Chipping / Incomplete Transfer of Image onto Card	Check Printhead alignment. • Lower transfer tension (if chipping is on the leading edge). • Increase the transfer temperature. See the Adjusting the Transfer Temperature procedure. • Increase the transfer dwell time. See the Adjusting the Transfer Dwell Time and Temperature procedure.

Continued on the next page

General Troubleshooting Guide (continued)

Problem	Possible Solution
Ribbon Chipping / Reverse Transfer during Printing	Print density is set too high.
Self Test is not square	Adjust the peel off bar height with peel off bar fixture. Adjust position of the center-plate (D860132).
Scratches	Lightly buff any film contact points with a fine steel wool. Verify the scratch is not film wrinkle. See film wrinkle in this table.
Cards won't feed / or more than one is fed	Verify the correct position of the card thickness lever. Verify that the Cleaning Roller Assembly is fully seated.
Wash	Check the Printhead alignment. If washing out on resin, try changing to a different lot of film.
Printing pauses between panels	Check the air flow from the Printhead fan (D860149) to verify it is wired correctly. Replace Printhead cable (840143). See the Replacing the HDP100 Series Printhead Assembly (D860004) procedure.
Card stops under flattener and won't continue	Adjust the Flattener position.
Print fans run all of the time	Check for pinched Printhead wires. Replace the Printhead cable (840143). Replace the Printhead (220052). See the Replacing the HDP100 Series Printhead Assembly (D860004) procedure.
Lamination Assembly sticking open	Check the clearance of the Lamination Cover (840260-01) with the Transfer Roller (D880146). Check orientation of the Headlift Cam (762452).

Continued on the next page

General Troubleshooting Guide (continued)

Problem	Possible Solution
Printhead cutting Ribbon	Verify the solder leads on the Printhead are trimmed. Replace the Printhead cable (840143). See the Replacing the HDP100 Series Printhead Assembly (D860004) procedure. **XX Warning:** The Printhead may be extremely hot.
Transfer warming then heater time out after a period of time	The Transfer Roller is not connected to the Circuit Board (A000300). Check the crimp of the wires on the connector of the RTD (Resistive Thermal Device) (D870168).
Transfer cooling then heater time out after a period of time	Replace the Lamination RTD (Resistive Thermal Device) (D870168). Replace the Circuit Board (A000300). See the Removing the PCB Board Assembly (A000300) procedure. Check the crimp of the wires on the connector of the thermocouple (D870168).
Poor Registration	See the Bad Registration Checklist.
Printer has no power	Verify the Printer and Lamination unit (if applicable) are plugged into outlet. Verify the power cables are connected to the Circuit Board (A000300). Check the fuse on the Circuit Board (A000300).
Ribbon won't queue up	Check the Ribbon orientation. Verify that you are using the correct Ribbon type. See the Adjusting the Ribbon Type procedure. Use the multi-meter to check for proper Ribbon Sensor voltage. See the Reviewing the Sensor Locations and Voltages section. Check to see if the Ribbon drive DC Motors (D840980) are rotating in the correct direction.

Continued on the next page

General Troubleshooting Guide (continued)

Problem	Possible Solution
Film won't queue up See Film Sensor Errors. See the Sensor Testing section.	Verify the Film Sensors have been calibrated. Check to see if the Film Drive DC Motors (D840980) are rotating in the correct direction. Check the Film Drive Hubs (D841152-XX) and verify the Hubs are not cracked.
Input Roller continually spins on power up	Verify the cable (D840687) is plugged into the Sensor (840176) and the Circuit Board (J58). Replace the cable (D840687). See the Removing the PCB Board Assembly (A000300) procedure.
Card Jam during printing 60 mil cards	Check the peel off bar height with fixture. Verify the TOF and print offset are correct. Replace the Stepper Motor Cable (D860120). **XX Warning:** The Transfer Roller may be extremely hot.
Printer will queue up Ribbon and film but will not print	In the diagnostic mode of the LCD, check the Platen Roller (D860022) to verify that it is spinning clockwise when pressing FORWARD. If the Motor is spinning counter-clockwise, replace the Stepper Motor Cable (D860120).

General Troubleshooting Guide (continued)

Problem	Possible Solution
Dash Lines on Image	Check the Transfer Roller (D880146) or Platen Roller (D860022) for cuts or nicks.
Film Sensor Error	Verify the Film Sensors (J35 and J36) have not been switched. CHECK FOR ACCURACY Verify the Take-up Motor turns without delay when Lamination begins. Increase the transfer tension if the Motor delays. Verify that the washers (760386) are between the e-clip and springs on the spring loaded film and Ribbon hubs. Verify the film is not telescoped on the roll with fixture TL1574. Verify the Platen Roller stepper Motor cable (D860120) is wired correctly and is connected to the Motor (E000062) and the circuit Board (A000300) J32.
Ribbon Sticking to the Film	Increase the Ribbon Tension. See the Adjusting the Ribbon Tension procedure.

Continued on the next page

Magnetic and E-card Troubleshooting Guide

Problem	Possible Solution
Film is only printing on the back half of the card	Check to see if the Lamination Lift Motor (D840980) is rotating in the correct direction.
Start Sentinel is yellow or red	Change the magnetic TOF in the LCD according to the start sentinel reference chart Verify correct mag Module placement. The mag Module should be adjusted so that the belt (F000111) is snug prior to installing the tensioner. Verify correct tension of the belt (F000111). Belt should have approximately 1/8 deflection at the center point between pulleys

Magnetic and E-card Troubleshooting Guide (continued)

Problem	Possible Solution
Random yellow or red readings on each track	Verify correct tension of the belt (F000111). Belt should have approximately 1/8 deflection at the center point between pulleys Verify the belt (F000111) is riding in the middle of the press on pulleys (D850190). Adjust position so the press on pulleys are parallel / even. Check that all wires are free from any gears Verify Mag Voltage is @ 6 volts for Hi-Co, 3 Volts for Lo-Co and JIS2. Verify that the belts (F000092 and F000094) are not catching / rubbing against the edges of the pulleys (D850221 and D840888). Verify the belts (F000092 and F000094) are tensioned properly. Try replacing the input stepper (E000062)
Random yellow or red readings with a spike in the bits	Adjust the magnetic TOF down (closer to the ideal .293) if a spike is occurring at the end of the card. • Verify correct Magnetic Module placement. The Magnetic Module should be adjusted so that the belt (F000111) is snug prior to installing the tensioner. • Verify the card is not running into the Flipper Table. Check the alignment of the Flipper Table / Flipper Offset. • Inspect all gears on the input hopper drive train for damaged teeth • With cleaning Roller removed, verify all gears roll smoothly and do not bind. • Check that all gears are free from wires.

Continued on the next page

Magnetic and E-card Troubleshooting Guide (continued)

Problem	Possible Solution
Yellow or red readings on only one track	Verify wires are not pulling the Magnetic Head to one side. Inspect the Magnetic Module to verify Magnetic Head is parallel with Roller. If not, replace the Magnetic Module and notify Assembly.
Magtek gives good readings but Printer will not verify	Check that the correct magnetic circuit Board is being used - (A000294). Replace the Magnetic Head (840104).
Magtek reports - LRC parity error and track 1 or 3 has a red bar underneath it.	The Magnetic head (840104) is assembled backwards within the Module.
Magtek reports – First bit is excessively close to the edge of the card. Card may not be readable in the field	Check for a burr on the leading edge of the card. Scrape the burr off with an Exacto knife.
Mag Encode Failed - Card stops at the end of the mag card Roller (840234) and fails to exit completely.	Change the Sensor Board Assembly (140407)
E – Card Mifare / Iclass Station cannot be found	Verify in the Encoder settings that the Mifare / IClass is listed as installed. Verify Mifare components are installed.
E - Card component has no power	Verify that all cables are connected properly. Check the power @ J24 on the Circuit Board (Pin 1 +24 Volts, Pin 2 Ground, Pin 3 +12 Volts, Pin 4 +5 Volts).
E - Card application cannot find component	Verify that the serial cable is connected to the appropriate component and communication port Verify the correct RS232 cable is being used

Communications Errors

Resolving the Communication Errors

Symptom(s): Incorrect output, communications error on PC or Printer, stalling, no response from Printer, no job printed, “paper out” error.

Step	Procedure
1	Confirm that the system meets the minimum requirements, as shown here: • IBM-PC or compatible. • Windows 98SE, Me/2000/XP Pentium™ class 233 MHz computer with 64 MB of RAM or higher • 200 MB free hard disk space or higher • USB Port (Optional Ethernet connection)
2	Confirm the correct installation of the Printer Driver. a. Close the software program and check the Printer Driver. b. Reboot the computer. c. Ensure the Printer Driver is installed correctly. (**Note:** Especially if an obsolete Driver was recently removed.) d. Ensure the correct setup options within the Printer Driver are selected. e. Confirm that the Driver is current by checking at: www.fargo.com
3	Confirm the correct installation of the Flipper Table Module Assembly. a. Reboot the computer. b. Ensure that the **Print Both Sides** option in the Printer Driver is set correctly. c. Verify the Flipper Table Module Assembly is functioning properly by printing out cards in a test run. d. If you are experiencing problems, see Resolving the No Flipper Table Module problem.

Resolving the Communication Errors (continued)

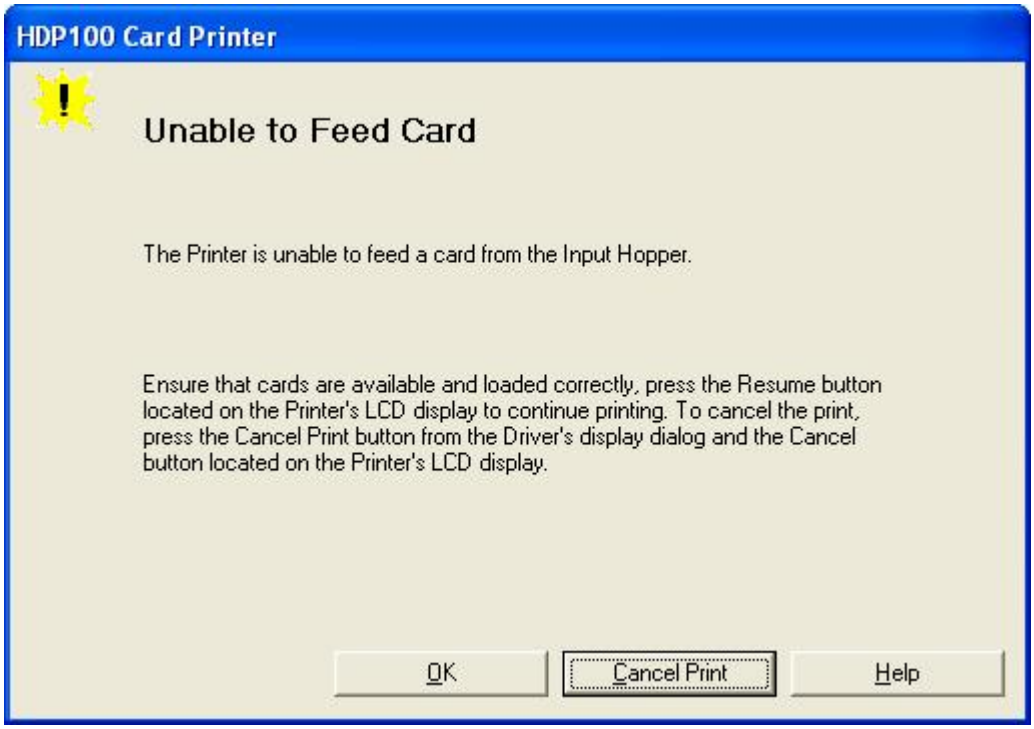
Step	Procedure
4	Determine the problem with printing from the application. a. Print a self-test from the Printer by holding down the **Pause** button on power up to ensure that the Printer (itself) is functioning properly. b. Print the Windows test page that is located in the General tab of the Driver. c. Use **WordPad** (a Windows 98SE, Me/2000/XP word processing program in the Accessories Program Group). 1) Go to the **File** menu and select **Page Setup**. 2) Click on the **Printer** button and select the HDP600 Card Printer. 3) Click **OK** and reset all four margins to zero. (**Note:** The WordPad will automatically replace the values with its minimum margins.) 4) Open the program and type: “This is a Test.” then, go to **File** on the menu bar and select **Print**.
5	Determine whether there is adequate hard Drive space. (**Note:** A large volume of temporary files on the computer can cause communications errors.) a. Access the temporary files by following this process: • Search for all folders called TEMP. Once found, clear out the contents of the folders. • If using Windows 98SE, Me/2000/XP, run the System Utility - Disk Defragmenter found in the Accessories folder of the **Start** Menu. • Use a disk cleanup utility (such as **Disk Cleanup** found in the System Tools folder of the Start menu) or use a third party application.

Card Feeding Errors

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

Resolving an Unable to Feed Card Error

Step	Procedure
1	Review the following information. • **Symptom:** Cards will not feed at all. • **Printer Error State:** Card is not being detected by the Card TOF Sensor 11 seconds after the initiation of a print job causing the Printer to produce an error • **LCD Error Display:** Unable to Feed • **Driver Monitor Error Display:** Unable to Feed Card



Resolving an Unable to Feed Card Error (continued)

Step	Procedure
2	Check the card quality / loading. a. Remove cards from the Card Hopper. b. Ensure that the cards are not sticking together by fanning them out and then lining them back together in straight deck. c. Press the Card Hopper Load Lever down until the Card Tray locks into place. d. Load up to 100 cards into the Hopper with the print side down. e. Close the Card Hopper Cover to release the Card Tray. f. Press on the **Resume** button. g. If the cards do not feed, continue to Step 3.
3	Press the **Cancel Print** button on the Driver Monitor Error Display Message.
4	Reboot the Printer by cycling the power.
5	Check the Card Feed Motor. a. Remove all cards from the Hopper. b. Press the Card Hopper Load Lever down until the Card Tray locks into place. c. Using the Fargo Diagnostic utility, send a test print to the Printer. See the **Card** tab (**Diagnostic** button) in the Printer Driver. d. Gently touch the Card Hopper Feed Roller to verify that it is turning e. If Roller is NOT turning, continue to Step 7. f. If Roller is turning, continue to Step 6.

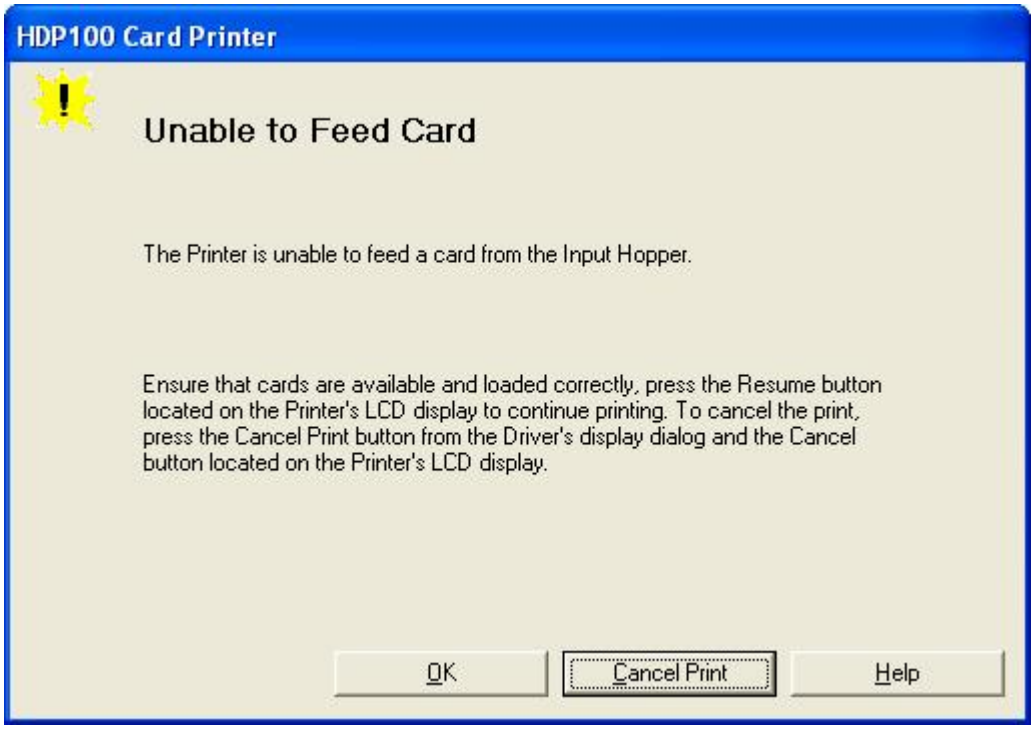
Resolving an Unable to Feed Card Error (continued)

Step	Procedure
6	Check Hopper Tray Spring Tension. a. Open Card Hopper Cover. b. Using the Fargo Diagnostic utility, send a test print to the Printer. See the **Card** tab (**Diagnostic** button) in the Printer Driver. c. When the Card Hopper Feed Roller engages, push up on the Card Hopper Tray. g. If the cards feed, replace the Card Hopper Lift Spring. d. If the cards do not feed, replace the Card Hopper Feed Roller.
7	Card Hopper Feed Roller is not turning during a print job. a. Remove the Printer rear Cover. b. Ensure that the Card Hopper Feed Motor power cable is securely connected to J-20 on the Printers Main Board. c. Ensure that the Card Hopper Feed Motor power cable is securely connected to the Card Hopper Feed Motor. d. Use the Fargo Diagnostic utility to send a test print to the Printer. See the **Card** tab (**Diagnostic** button) in the Printer Driver. e. If the Card Hopper Feed Motor is not moving, continue to Step 8.
8	Replace Card Hopper Feed Motor. a. Replace the Card Hopper Feed Motor. b. Use the Fargo Diagnostic utility to send a test print to the Printer. See the **Card** tab (**Diagnostic** button) in the Printer Driver. c. If the Card Hopper Feed Motor does not turn, replace the Main Board.

Resolving a Card Not Fed Error (Two (2) or more card feed at the same time)

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

Step	Procedure
1	Review the following information. • **Symptoms:** Two or more cards feed at the same time causing the cards to jam at the Card Hopper Roller. Printer is out of cards. • **Printer Error State:** Card is not being detected by card TOF Sensor 11 sec after the initiation of a print job causing the Printer to produce an error • **LCD Error Display:** Multiple Feed • **Driver Monitor Error Display:** Unable to Feed Card

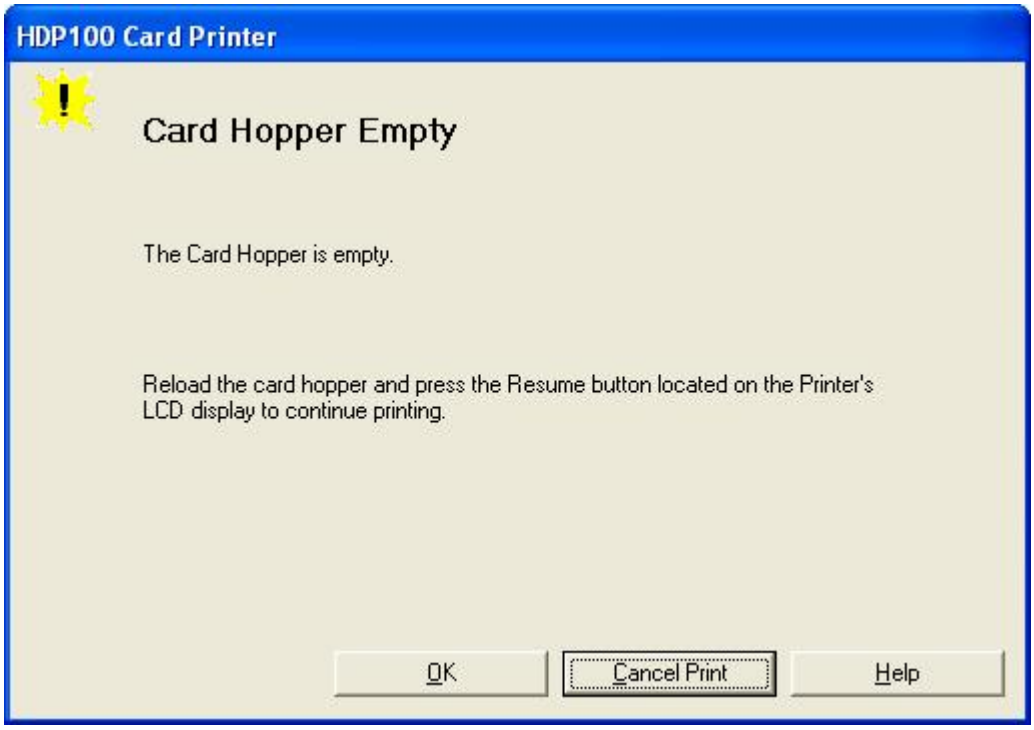


Resolving a Card Not Fed Error (Two (2) or more card feed at the same time)

Step	Procedure
2	Check card quality / loading. a. Remove cards from the Card Hopper. b. Ensure that the cards are not sticking together by fanning them out and then lining them back together in straight deck. c. Press the Card Hopper Load Lever down until the Card Tray locks into place. d. Load up to 100 cards into the Hopper with the print side down. e. Close the Card Hopper Cover to release the Card Tray. f. Press on the **Resume** button. g. If the cards do not feed, continue to Step 3.
3	Press the **Cancel Print** button on the Driver Monitor Error Display Message.
4	Reboot the Printer by cycling the power.
5	Check Card Feed TOF Sensor. a. Remove the Printers rear Cover. b. Use a digital volt meter to place the Positive lead to pin 9 of the J-4 Main Board connection and the negative lead to pin 12 of the J-4 Main Board connection. • The blocked Sensor should read +4.99 vdc. • The open Sensor should read +1.5 vdc. c. If the Card Feed TOF Sensor does not read properly, replace the Sensor.
6	Clean the Card Feed Roller.

Resolving a Card Hopper Empty Error

Step	Procedure
1	Review the following information. • **Symptom:** The Card Hopper is empty. • **Printer Error State:** Reload the Card Hopper and press the Resume button, located on the Printer's LCD display to continue printing. • **LCD Error Display:** Card Hopper Empty • **Driver Monitor Error Display:** Card Hopper Empty

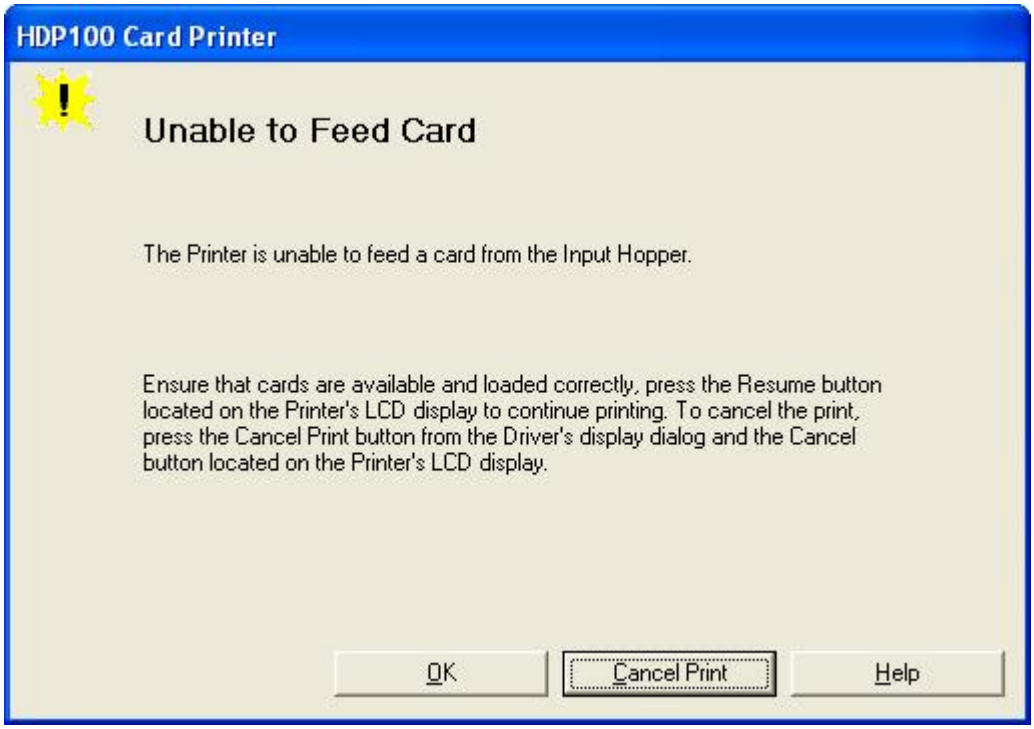


Resolving a Card Output Hopper Full

Step	Procedure
1	Review the following information. • **Symptom:** The Card Output Hopper is full. • **Printer Error State:** Remove the cards and press the Resume button, located on the Printer's LCD display to continue printing. • **LCD Error Display:** Card Output Hopper Full • **Driver Monitor Error Display:** Card Output Hopper Full

Resolving a Card Not Fed Error (Cards will not feed off the Hopper)

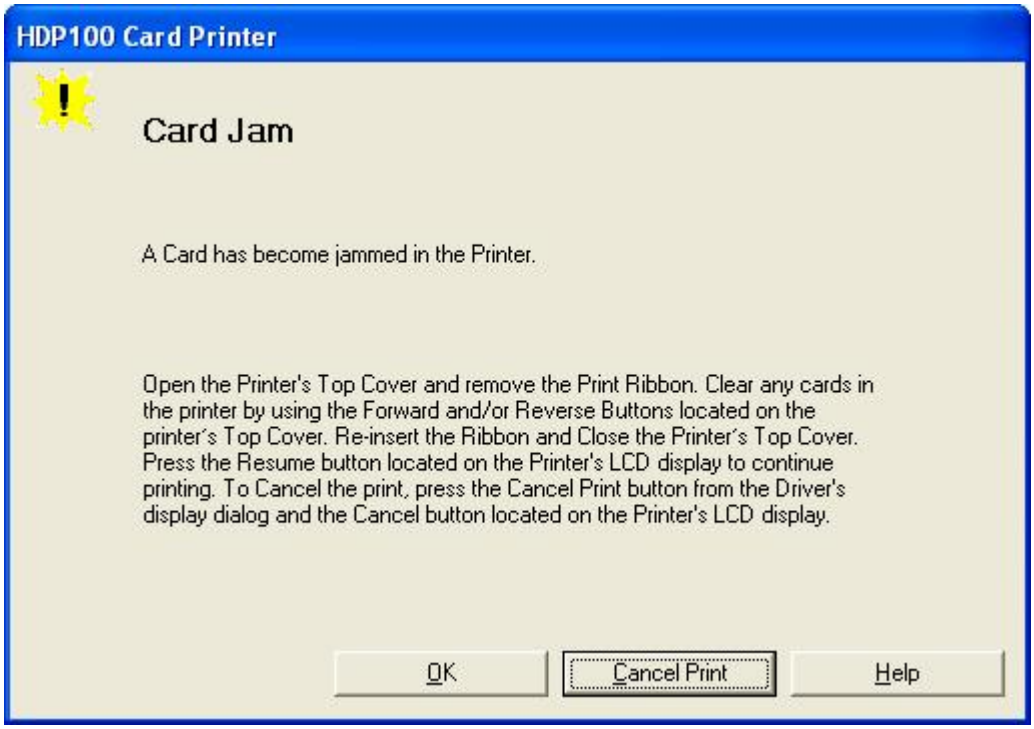
Step	Procedure
1	Review the following information. • **Symptom:** Cards will not feed at all. • **Printer Error State:** Card is not being detected by the Card TOF Sensor 11 seconds after the initiation of a print job causing the Printer to produce an error • **LCD Error Display:** Card Not Fed • **Driver Monitor Error Display:** Unable to Feed Card



Resolving a Card Jam Error

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

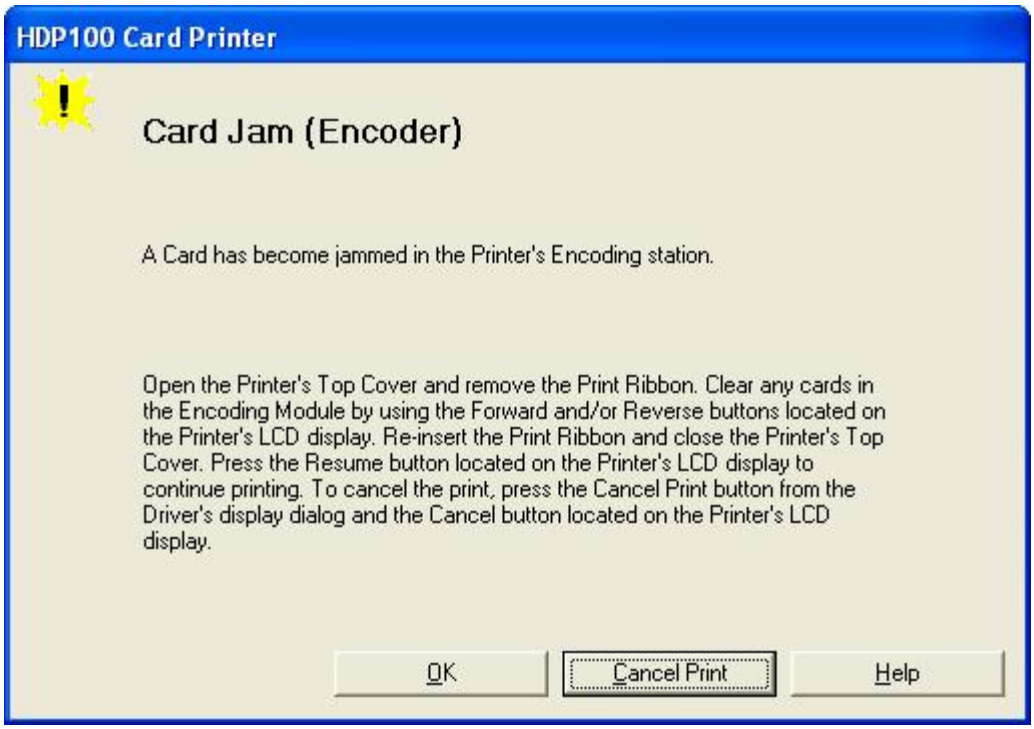
Step	Procedure
1	Review the following information. • **Symptom:** Card is jammed. • **Printer Error State**: Card TOF Sensor is detecting no card motion. • **LCD Error Display:** Card Jam • **Driver Monitor Error Display:** Card Jam



Resolving a Card Jam (Encoder) Error

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

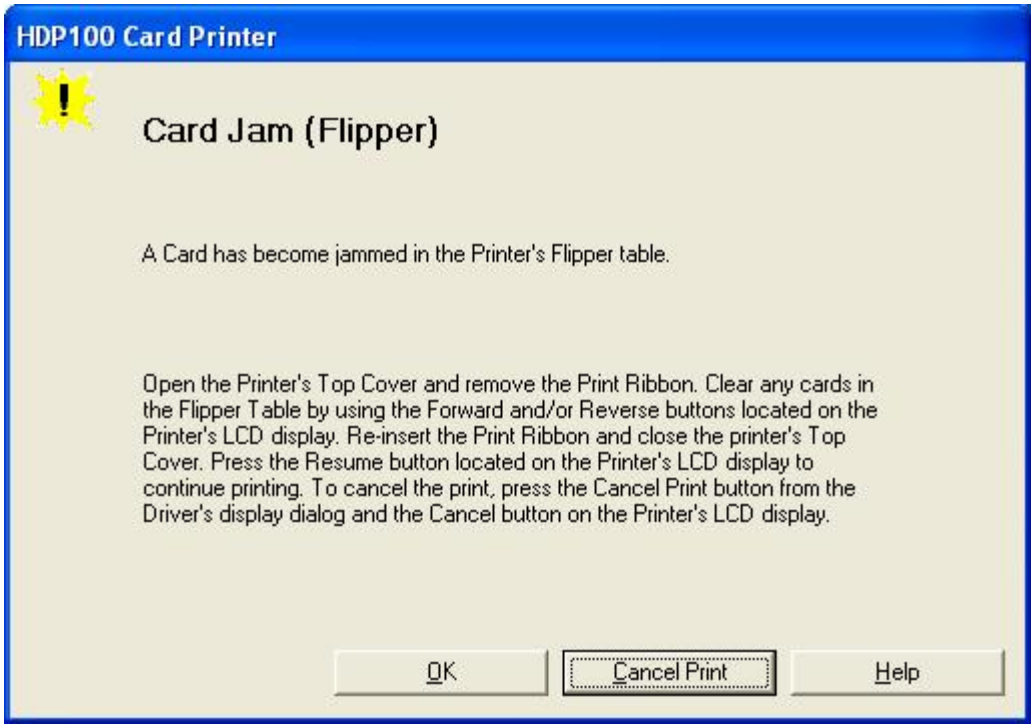
Step	Procedure
1	Review the following information. • **Symptom:** A card has become jammed in the Printer's Encoding station. • **Printer Error State**: A card has become jammed in the Printer's Encoding station. • **LCD Error Display:** Card Jam (Encoder) • **Driver Monitor Error Display:** Card Jam (Encoder)



Resolving a Card Jam (Flipper) Error

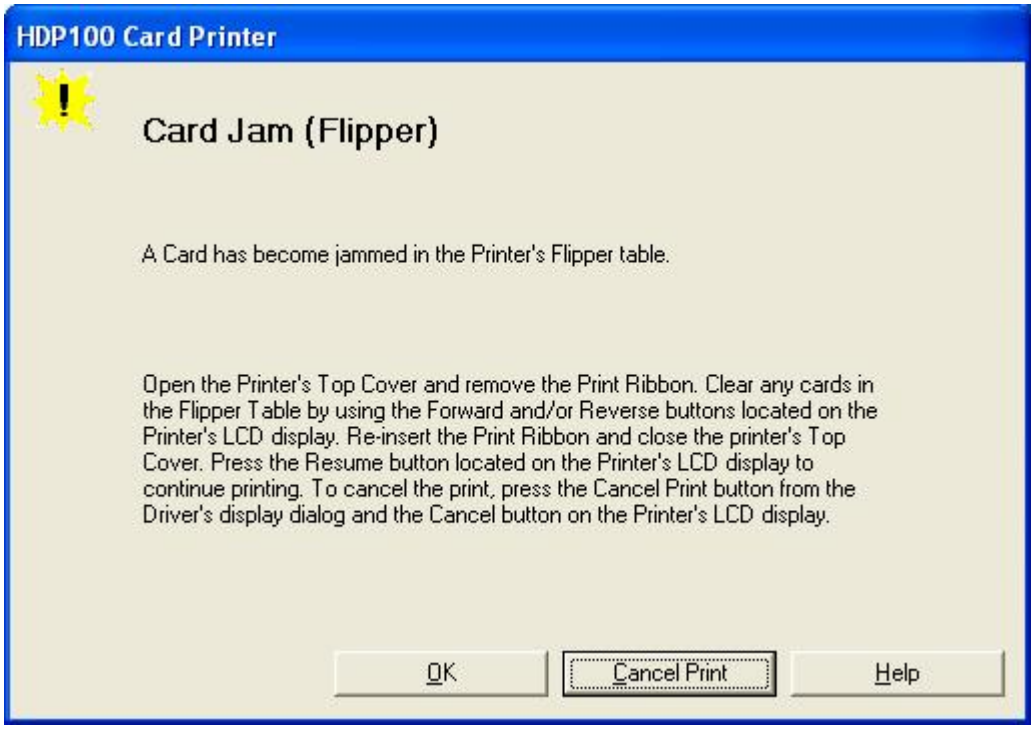
All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

Step	Procedure
1	Review the following information. • **Symptom:** A card has become jammed in the Printer's Flipper Table. • **Printer Error State:** A card has become jammed in the Printer's Flipper Table. • **LCD Error Display:** Card Jam (Flipper) • **Driver Monitor Error Display:** Card Jam (Flipper)



Resolving a Card Jam (Flipper) Error

Step	Procedure
2	Open the Printer's Flipper Table Module Cover. a. Clear any cards in the Flipper Table Module by using the **Forward** and/or **Reverse** buttons located on the Printer's Top Cover. b. Ensure that the Flipper Table Module can rotate freely. c. Close the Printer's Flipper Table Module. d. Press the **Resume** button on the Printer's Top Cover to continue printing. e. To cancel the printing, press the **Cancel Print** button from the Driver's display dialog.



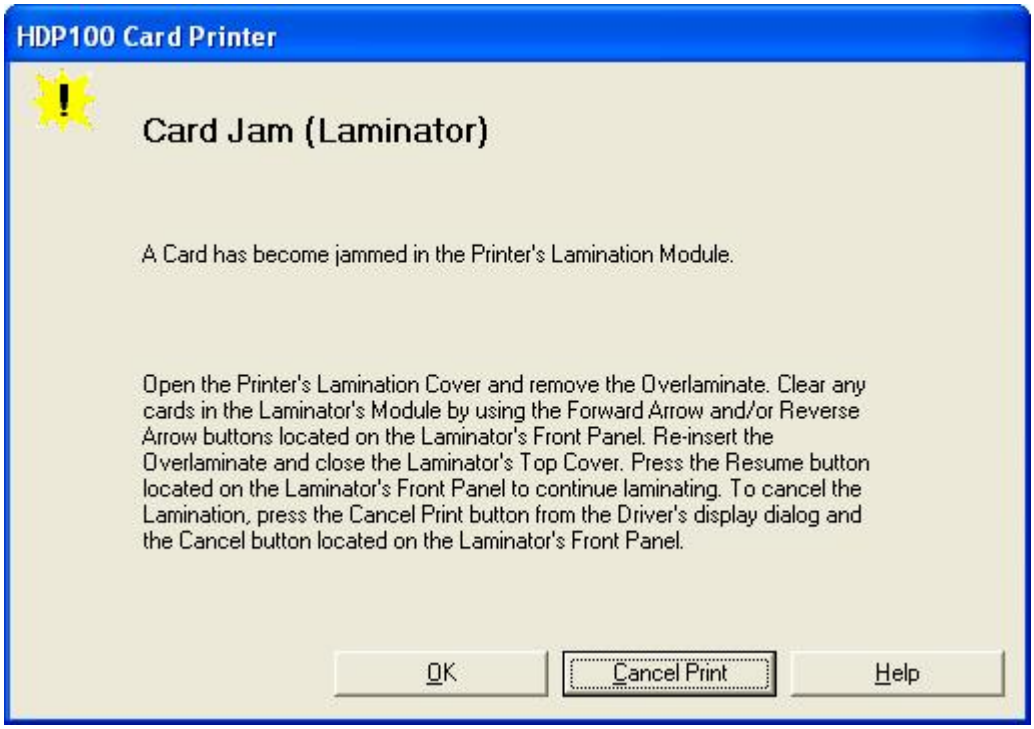
Resolving a Card Jam (Laminator) Error

Symptom: The Card Jam: Lam Error is displayed on the LCD.

Step	Procedure
1	Look for a jammed card in the Printer. a. Open the Printer's top Cover. b. Remove the ribbon from the Printer. c. Check to see if a card is jammed in the Lam Station of the Printer. d. If a card is jammed in the Printer, use the **Pause**/**Resume** button and the **Cancel** buttons to move the feed rollers and free the card. (**Note:** The card can then be fed out of the Printer.) e. If no card was found in the Lam Station, continue to Step 2.
2	Test the TOF Sensor. (**Note:** If the Printer has begun laminating the card and then jams, it may be possible that the centering of the Lamination of the card has caused the jam.) a. Inspect the card and determine if the Lamination is centered on the card. b. If the Lamination is hanging off the leading or trailing edge of the card, see the Resolving the Laminator (General Error).

Resolving a Card Jam (Laminator) Error

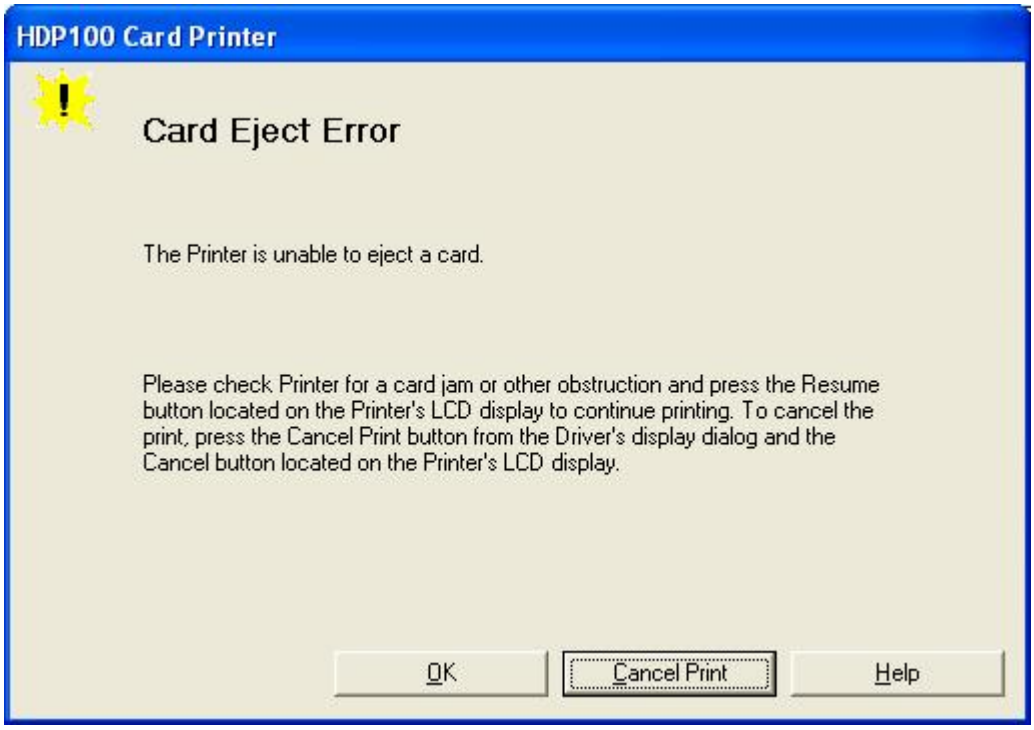
Step	Procedure
3	Test the Card Detection Sensor (D840624). a. Remove the rear Cover. b. Using a Digital voltmeter, connect the negative lead to ground. c. Connect the positive lead to Pin 1 of J6. • If **blocked**, the voltage should read 4.9 to 5.5 VDC. • If **unblocked**, the Sensor should read 0.15 to 0.18 VDC. d. If the voltages do not read correctly, replace the Sensor.



Resolving a Card Eject Error

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

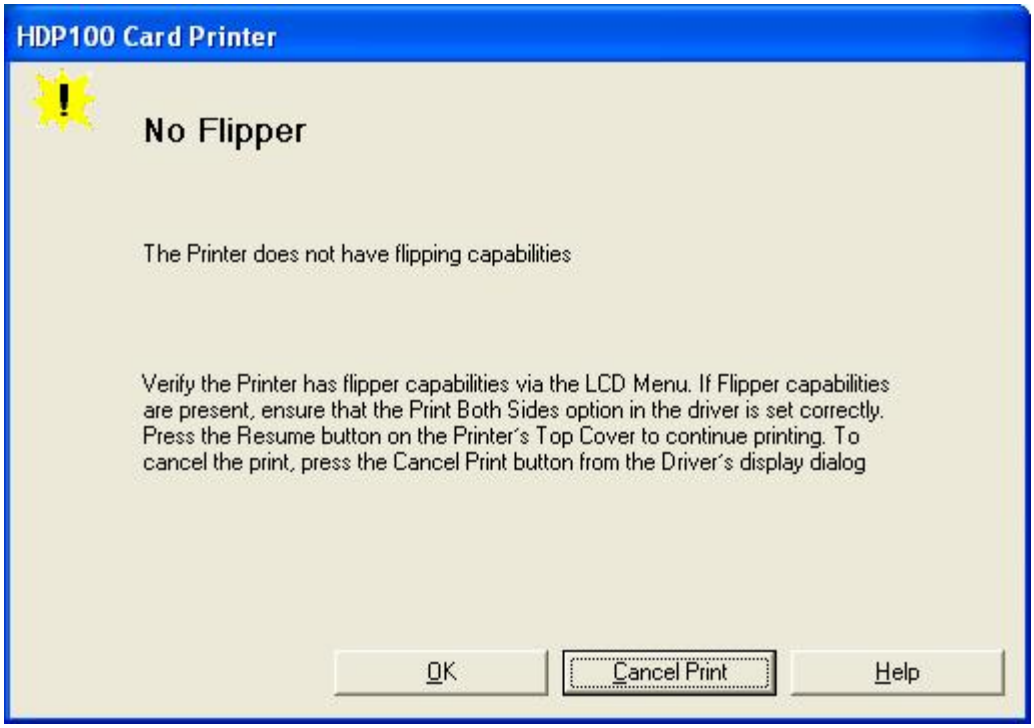
Step	Procedure
1	Review the following information. • **Symptom:** The Printer is unable to eject the card. • **Printer Error State**: The Printer is unable to eject the card. • **LCD Error Display:** EJECTING CARD • **Driver Monitor Error Display:** Card Eject



Resolving a No Flipper Table Module Error

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

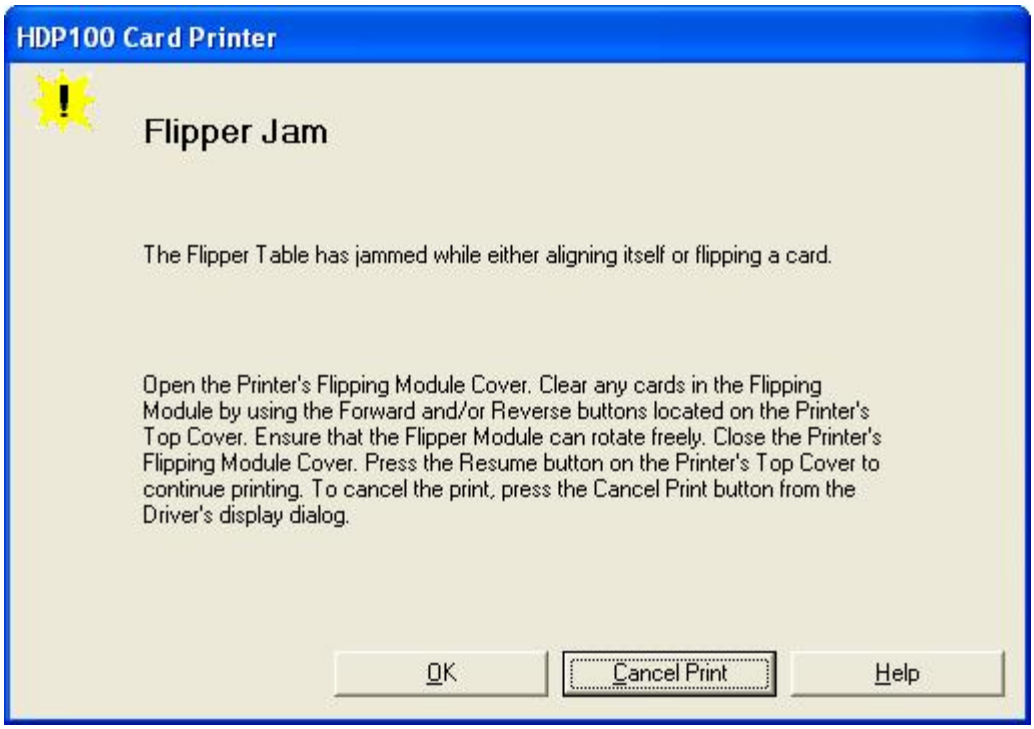
Step	Procedure
1	Review the following information. • **Symptom:** The Flipper Table Module Assembly is not functioning. • **Printer Error State:** The Printer is unable to communicate with the Flipper Module. • **LCD Error Display:** No Flip Module • **Driver Monitor Error Display:** No Flipper



Resolving a Flipper Jam Error

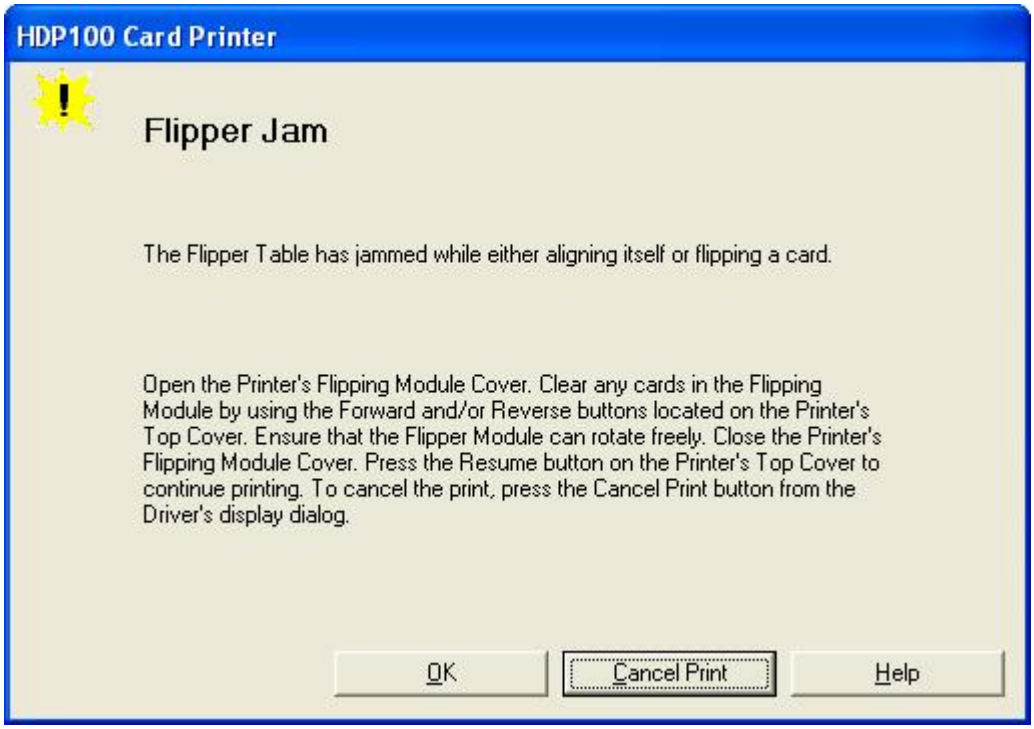
All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

Step	Procedure
1	Review the following information. • **Symptom:** The Flipper Table Module is jamming. • **Printer Error State:** The Flipper Table has jammed while either aligning itself or flipping a card. • **LCD Error Display:** Flipper Jam • **Driver Monitor Error Display:** Flipper Jam



Resolving a Flipper Jam Error

Step	Procedure
2	Open the Printer's Flipper Table Module Cover. a. Clear any cards in the Flipper Table Module by using the **Forward** and/or **Reverse** buttons located on the Printer's Top Cover. b. Ensure that the Flipper Table Module can rotate freely. c. Close the Printer's Flipper Table Module. d. Press the **Resume** button on the Printer's Top Cover to continue printing. e. To cancel the printing, press the **Cancel Print** button from the Driver's display dialog.

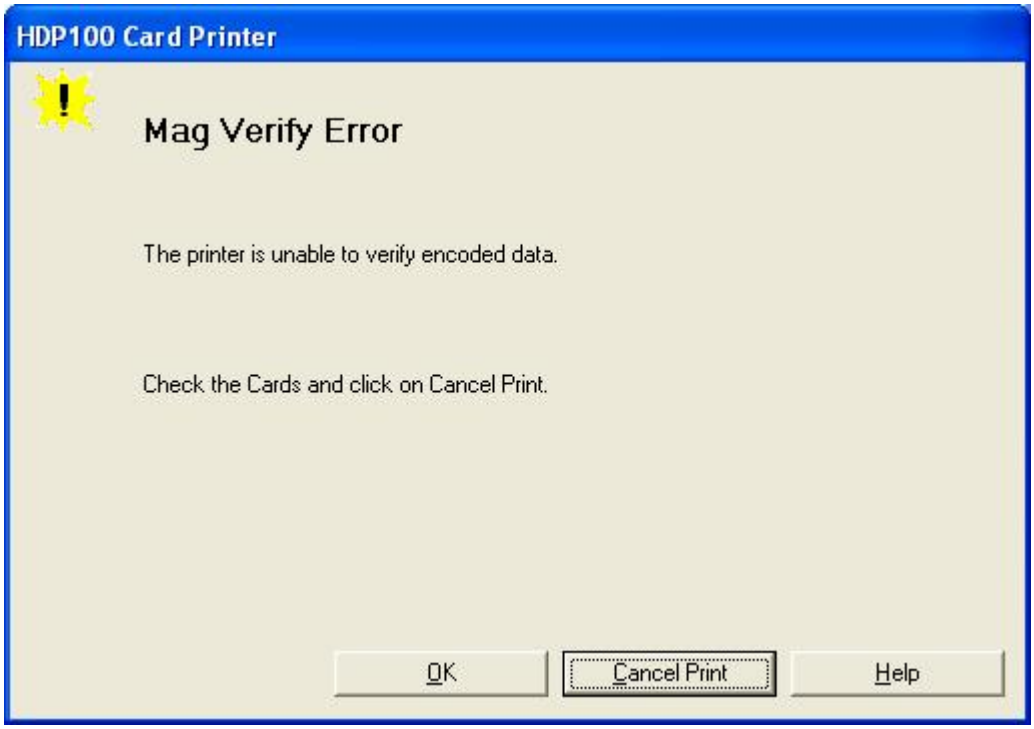


Magnetic Encoding Errors

Resolving a Magnetic Verify Error

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

Step	Procedure
1	Review the following information. • **Symptom:** The Printer is unable to verify encoded data. • **Printer Error State:** The Printer is unable to verify encoded data. • **LCD Error Display**: Mag Verify Error • **Driver Monitor Error Display**: Magnetic Verify

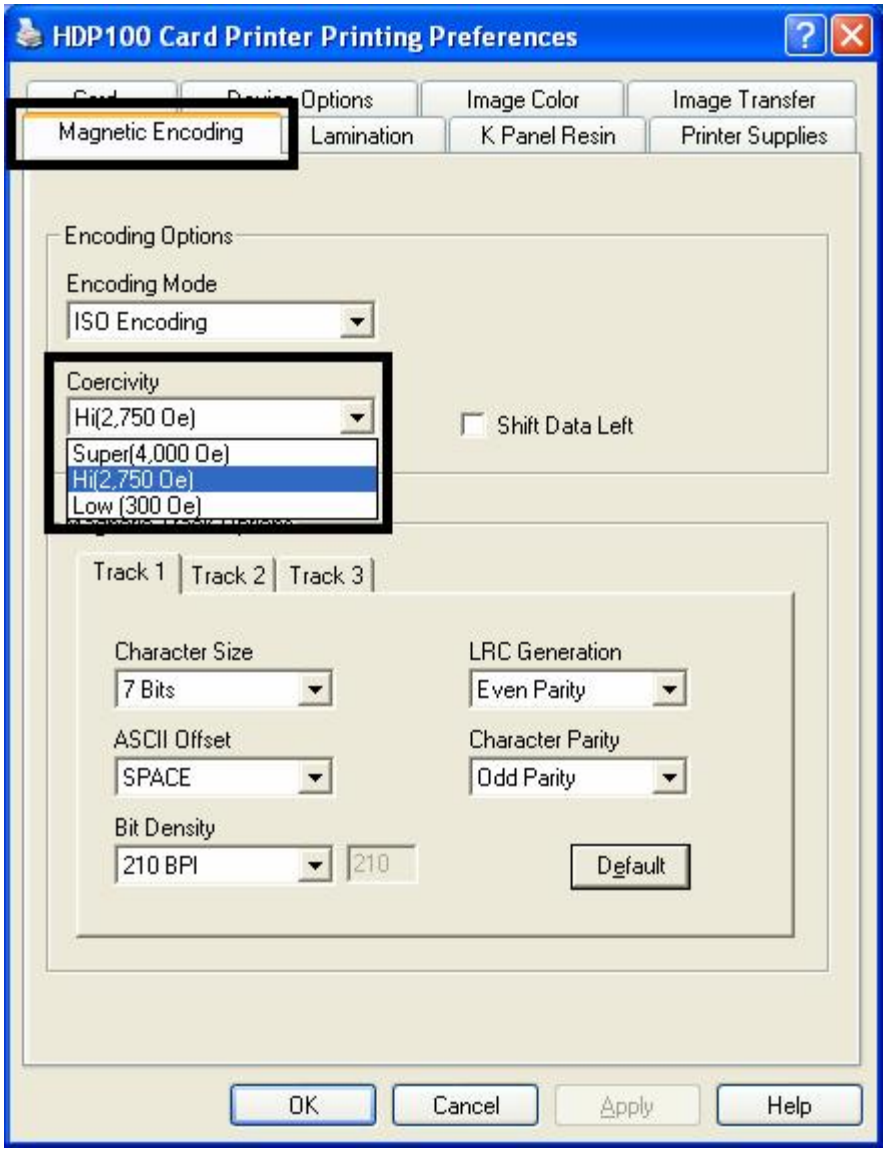


Resolving a Magnetic Verify Error (continued)

Step	Procedure
2	Check to ensure that the cards are loaded properly, as follows: The Magnetic Stripe should be down and away from the front. **Or** If facing the Hopper, the Magnetic Stripe should be down and to the right side.
3	a. Press on the **Resume** button. b. If the error continues, go to step 4.
4	Verify the Driver settings if cards are loaded properly. See the Using the Magnetic Encoding tab (HDP600) procedure.
5	Verify that data is being encoded to the Magnetic Stripe. a. Clear any Error Messages from the LCD by unplugging the Printer and reapplying power. b. Remove the failed card. c. Use a Magnetic Stripe reader or magnetic developer spray to determine if data is being written to the Magnetic Stripe. d. If data is not being written to the Magnetic Stripe, • Open the front Cover. • Remove the Magnetic Module Cover screw. • Remove the Magnetic Module Cover. • Verify that the Magnetic Module is seated securely into the Magnetic Module docking station. e. If the Magnetic Module is properly seated, replace the magnetic head (as needed). (**Note:** See the current HDP600 Service Manual for related instructions in the Parts Replacement Section.) f. If data is being written to the Magnetic Stripe, the Magnetic Offset may need to be adjusted. See the Setting the Magnetic TOF procedure.

Resolving a Magnetic Verify Error

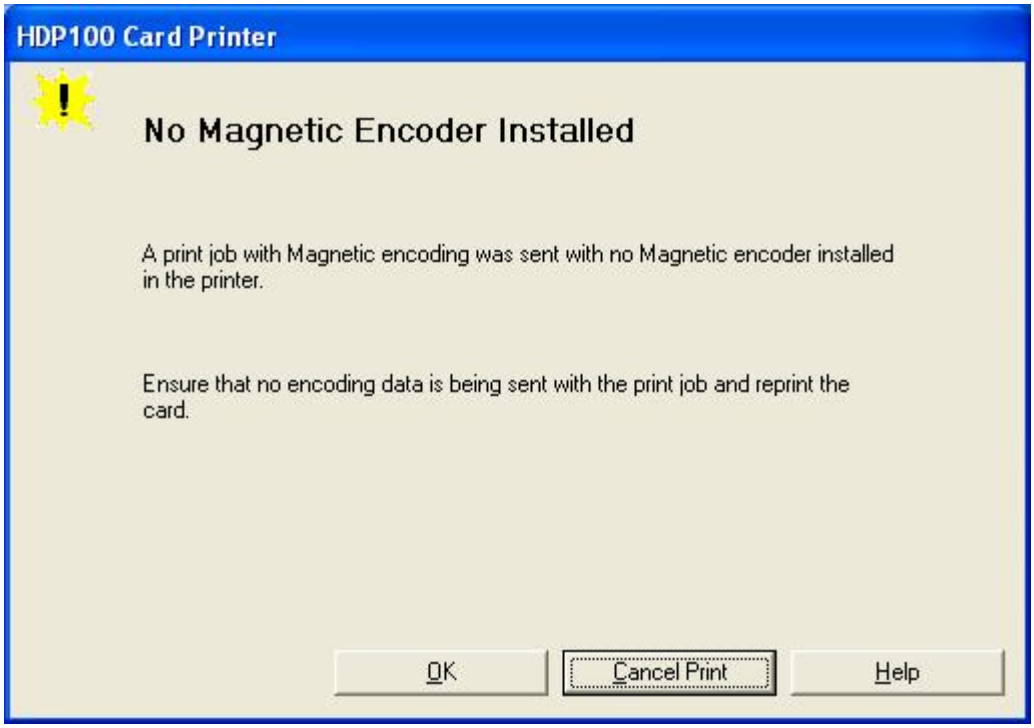
Step	Procedure
6	Verify that the coercivity of the cards matches the Driver Settings.



Resolving a No Magnetic Encoder Installed Error

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

Step	Procedure
1	Review the following information. • **Symptom:** There is no Magnetic Encoder installed. • **Printer Error State:** A print job with Magnetic encoding was sent with no Magnetic encoder installed in the Printer. • **LCD Error Display:** No Mag Module • **Driver Monitor Error Display:** No Magnetic Encoder Installed



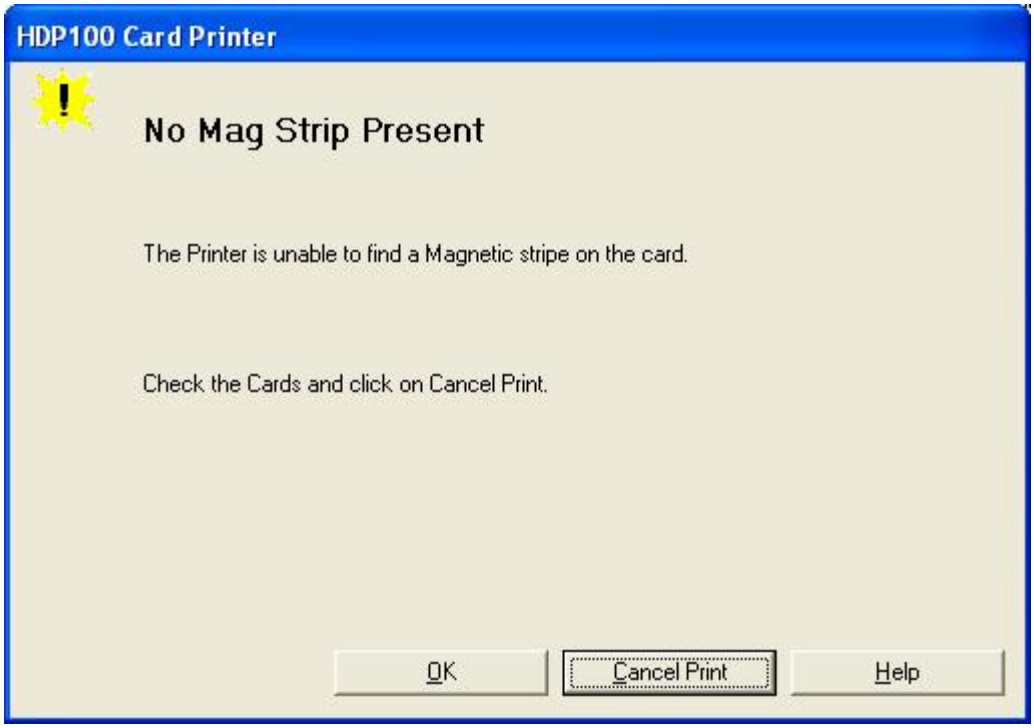
Resolving a No Magnetic Encoder Installed Error

Step	Procedure
2	Press the **Cancel Print** button on the Driver Monitor Error Display Message.
3	Reboot the Printer by cycling the power.
4	Verify that the Printer has a Magnetic Encoder installed. a. Open the front Cover. b. Remove the Magnetic Module Cover screw. c. Remove the Magnetic Module Cover. d. Verify that the Printer has a Magnetic Module installed. (**Note:** If the Printer is equipped with a Magnetic Encoder Module, ensure that it is seated securely into the Magnetic Module docking station. If the issue persists, replace the Magnetic Module. See the HDP600 service manual for replacement procedures.)
5	If the Printer has no Magnetic Encoder Module, verify that the encoding data was sent in error, check the appropriate software user's manual for encoding instructions.

Resolving a No Magnetic Strip Present Error

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

Step	Procedure
1	Review the following information. • **Symptom:** There is no Magnetic Strip present. • **Printer Error State:** The Printer is unable to find a Magnetic stripe on the card. • **LCD Error Display:** No Magnetic Strip Present • **Driver Monitor Error Display:** No Magnetic Strip Present

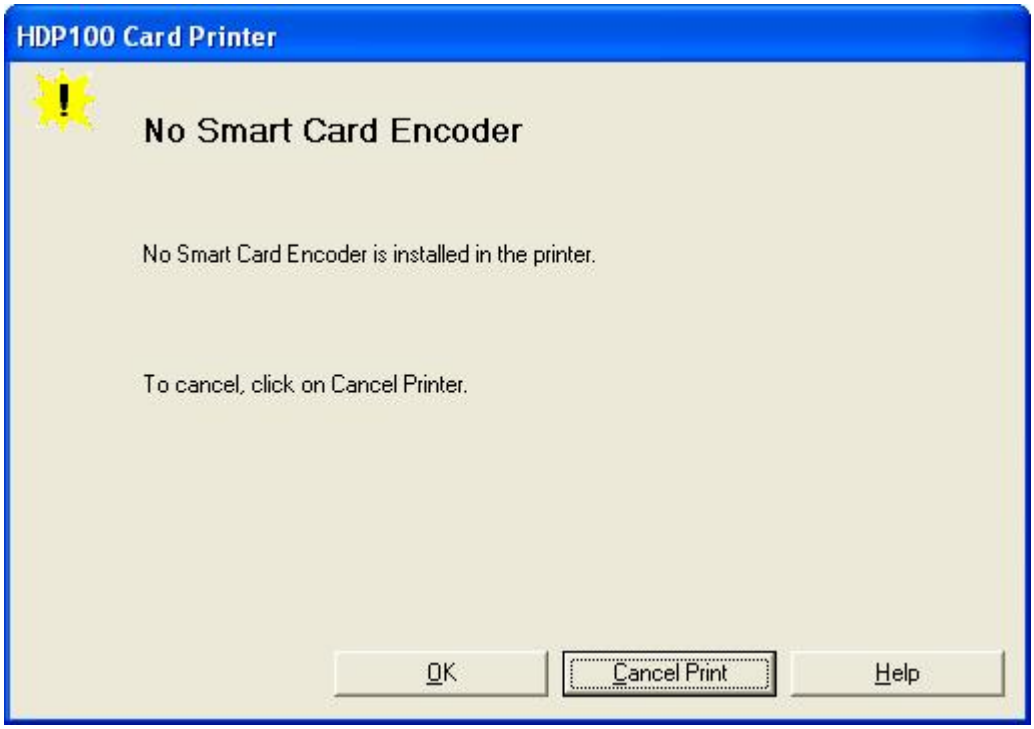


E-card Encoding Errors

Resolving a No Smart Card Encoder Error

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

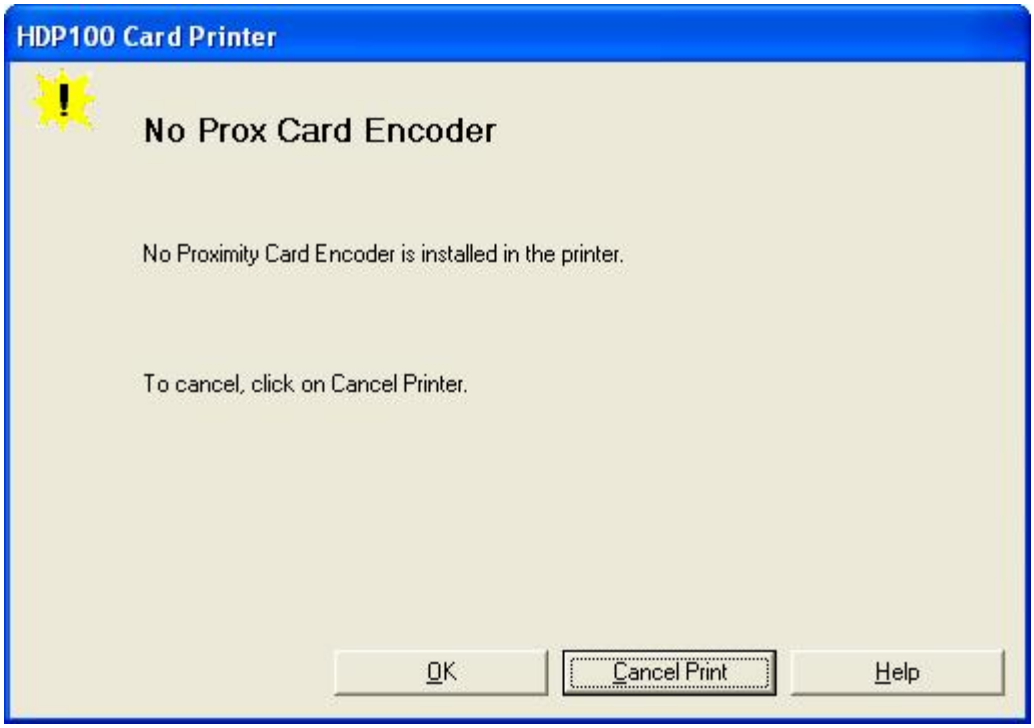
Step	Procedure
1	Review the following information. • **Symptom:** There is no Smart Card Encoder installed. • **Printer Error State:** No Smart Card Encoder is installed in the Printer. • **LCD Error Display:** No Smart Encoder • **Driver Monitor Error Display:** No Smart Card Encoder



Resolving a No Prox Card Encoder Error

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

Step	Procedure
1	Review the following information. • **Symptom:** There is no Prox Card Encoder installed. • **Printer Error State:** Not Proximity Card Encoder is installed in the Printer. • **LCD Error Display:** No Prox Encoder • **Driver Monitor Error Display:** No Prox Card Encoder

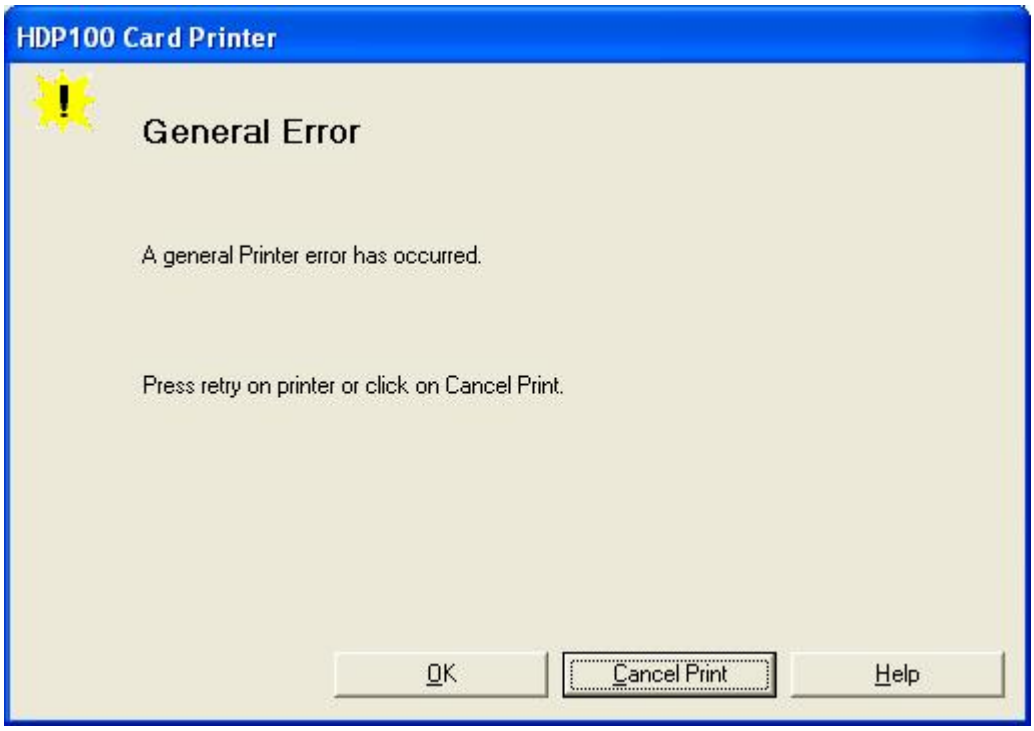


Film Errors

Resolving a Film Not Installed Error

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

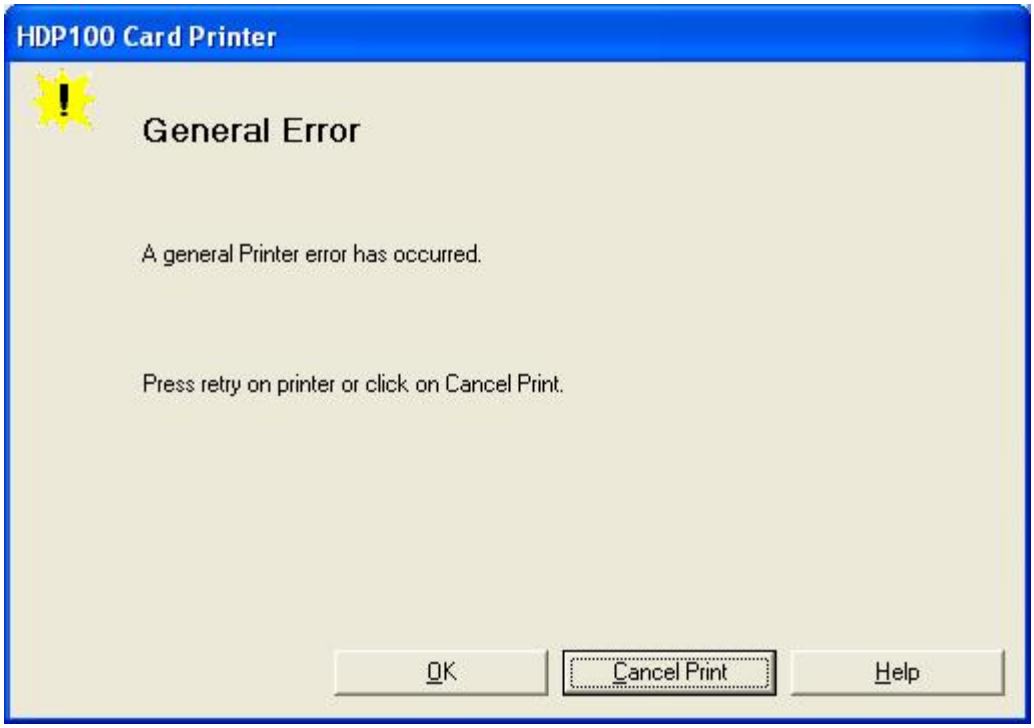
Step	Procedure
1	Review the following information. • **Symptom:** The Transfer Film is not installed. • **Printer Error State**: The Transfer Film is not installed. • **LCD Error Display:** No Film • **Driver Monitor Error Display**: Transfer Film Not Installed



Resolving a Film Sensor Not Calibrated Error

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

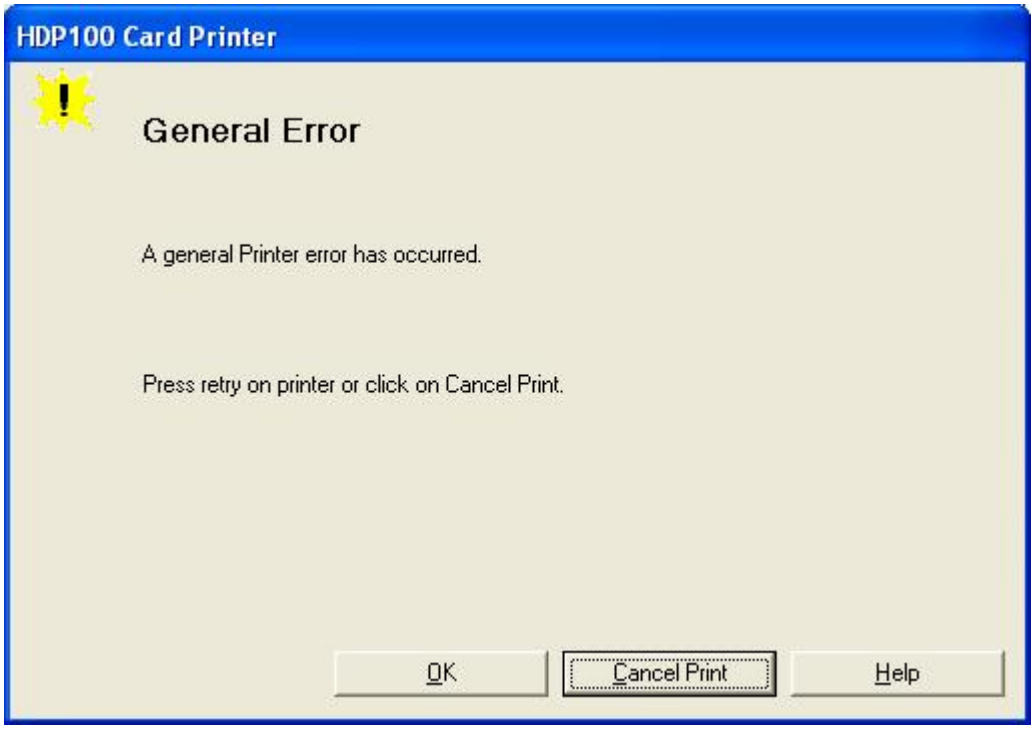
Step	Procedure
1	Review the following information. • **Symptom:** The Transfer Film Sensors are not calibrated. • **Printer Error State**: The Transfer Film Sensors must be calibrated before the transfer film will align properly. • **LCD Error Display:** Transfer Film Sensor Not Calibrated • **Driver Monitor Error Display**: Transfer Film Sensor Not Calibrated



Resolving a Film Out Error

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

Step	Procedure
1	Review the following information. • **Symptom:** The Transfer Film has run out. • **Printer Error State**: The Transfer Film has run out. • **LCD Error Display:** Film Out • **Driver Monitor Error Display**: Transfer Film Out



Printing Process Errors

Resolving a Ribbon Sensor Error (Ribbon Miscue)

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

Step	Procedure
1	Review the following information. • **Symptom:** The Printer rolls through Ribbon and errors out • **Printer Error State**: The Printer cannot find the next panel on the Ribbon. • **LCD Error Display:** Ribbon Miscue • **Driver Monitor Error Display**: Ribbon Sensor

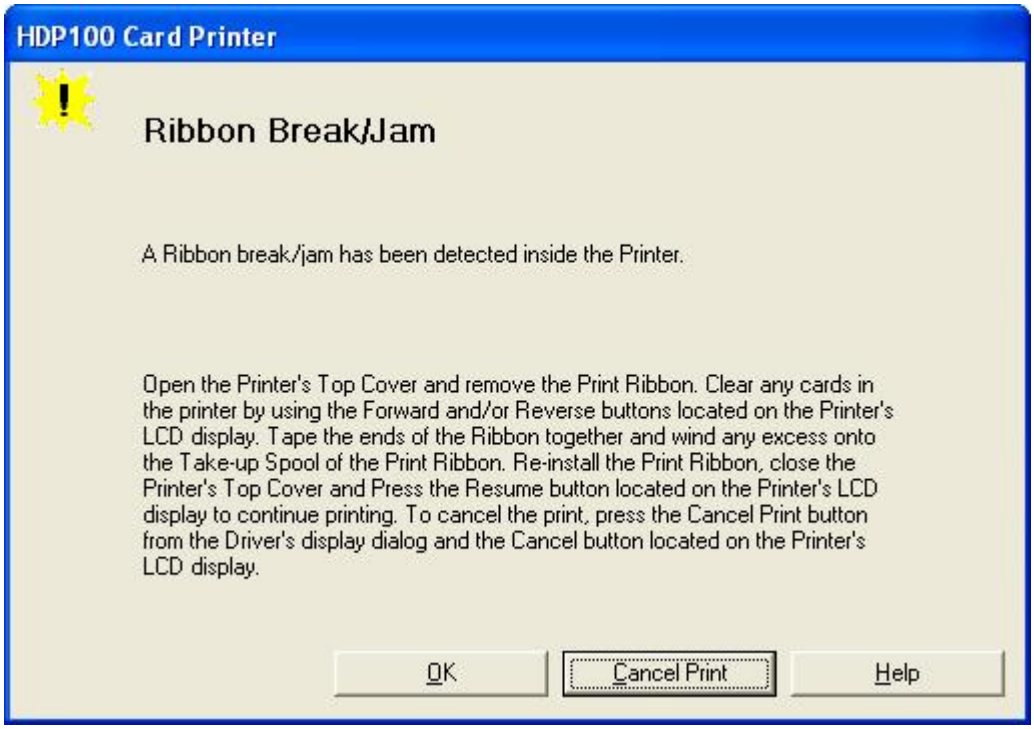
Resolving a Ribbon Sensor Error (Ribbon Miscue)

Step	Procedure
2	Open the front Cover and remove the Ribbon. a. Check that the Ribbon is in good condition and not wrinkled or broken. b. If Ribbon is broke or wrinkled, repair the Ribbon and wind up the take-up roll 4-color panels past the damaged area.
3	Press on the **Resume** button. If the issue persists, continue to Step 4.
4	Replace the Ribbon. a. Press on the **Resume** button. b. If the issue persists, continue to Step 5.
5	Press the **Cancel Print** button on the Driver Monitor Error Display Message.
6	Reboot the Printer by cycling the power.
7	Using the driver calibration tab calibrate the Ribbon Sensor. If the issue persists, continue to Step 8.
8	Replace the Ribbon Sensor.

Resolving a Ribbon Break/Jam Error

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

Step	Procedure
1	Review the following information. • **Symptom:** The Print Ribbon has become jammed or has broken in the Printer • **Printer Error State:** The Ribbon Supply Encoder Sensor has unexpectedly stop receiving information from the Ribbon Encoder • **LCD Error Display:** Ribbon Break/Jam • **Driver Monitor Error Display:** Ribbon Break/Jam



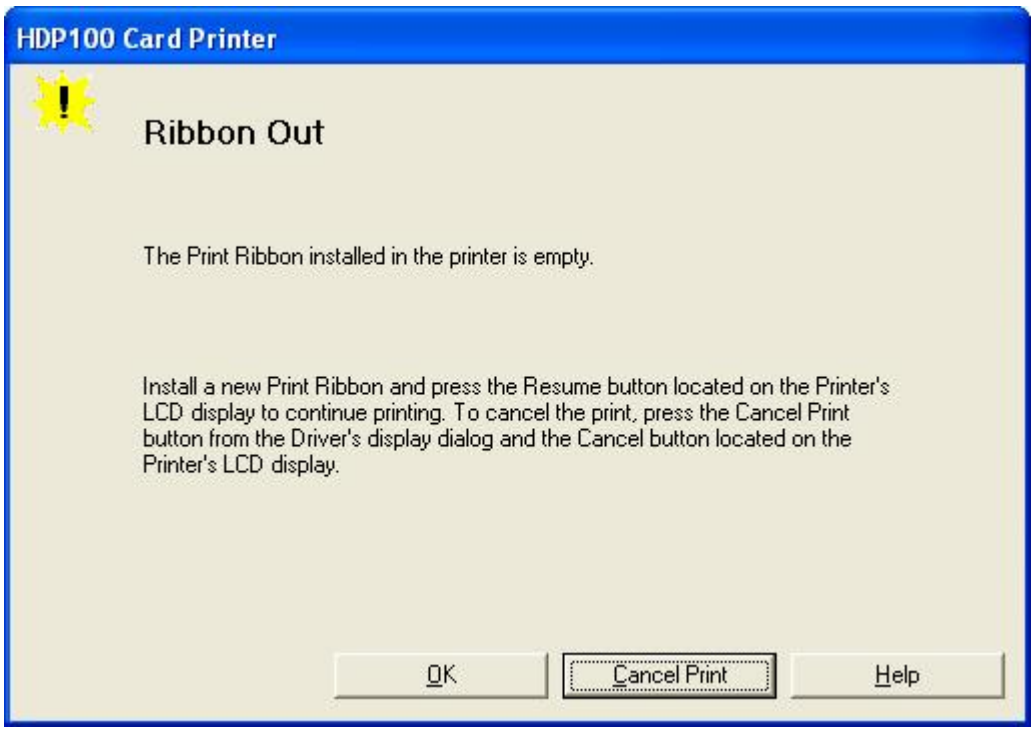
Resolving a Ribbon Break/Jam Error (continued)

Step	Procedure
2	Open the front Cover and remove the Ribbon. • If Ribbon is broken, continue to Step 3. • If Ribbon is in good condition, continue to Step 6.
3	Adjust the print offset. See the Aligning the Print Offset procedure. If the issue persists, continue to Step 4.
4	Repair the Ribbon and wind up the take-up roll 4 color panels past the damage area. a. Press on the **Resume** button. b. If the issue persists, continue to Step 5.
5	Use the Fargo Diagnostic utility to cycle the Printhead to ensure proper printhead operation. See the **Card** tab (**Diagnostic** button) in the Printer Driver. • If the Printhead does not cycle properly, see Resolving the Headlift Motor / Sensor Error. • If the Printhead functions properly, continue to Step 6.
6	Replace the Ribbon. a. Press on the **Resume** button. b. If the issue persists, continue to Step 7.
7	Remove the rear Cover in order to check that the Ribbon Encoder Sensor is securely connected to the J-4 Main Board connection and to the Encoder Sensor. a. Press on the **Resume** button. b. If the issue persists, replace the Encoder Sensor.

Resolving a Ribbon Out Error

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

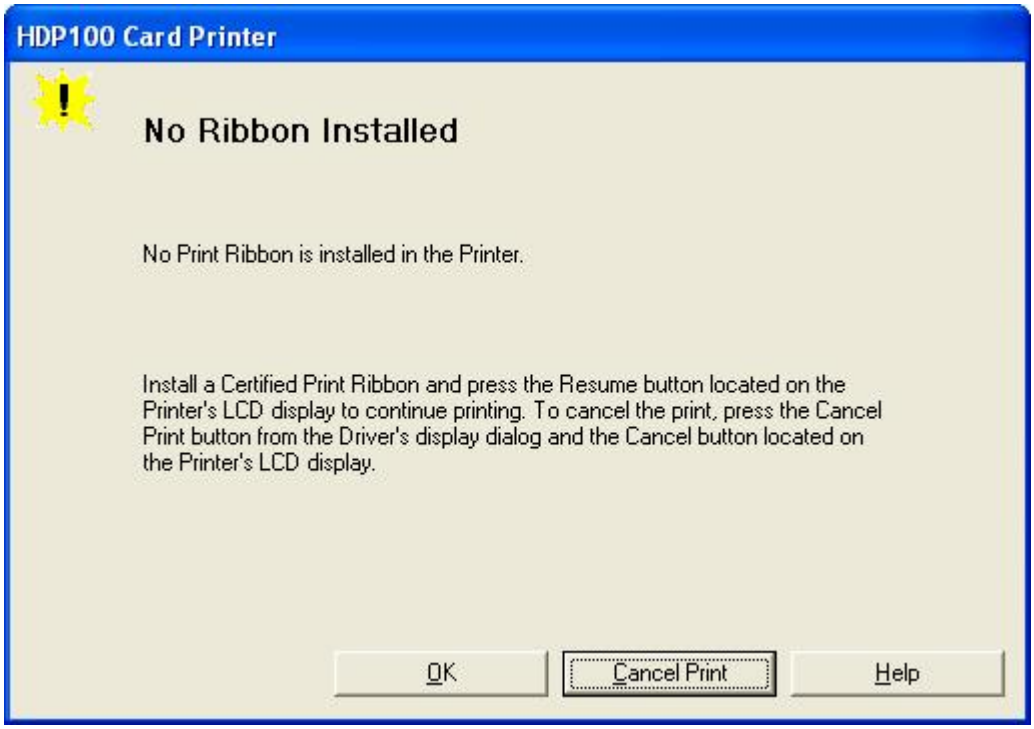
Step	Procedure
1	Review the following information. • **Symptom:** Printer will not print. • **Printer Error State:** The Ribbon Sensor has detected the End Of Ribbon mark • **LCD Error Display**: Ribbon Out • **Driver Monitor Error Display:** Ribbon Out
2	Replace the Ribbon a. Press on the **Resume** button.



Resolving a No Ribbon Installed Error

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

Step	Procedure
1	Review the following information. • **Symptom:** The Printer errors are out as soon as it receives data from PC • **Printer Error State:** The Printer RFID Sensor is not receiving a signal from the Ribbon • **LCD Error Display:** No Ribbon • **Driver Monitor Error Display:** No Ribbon Installed



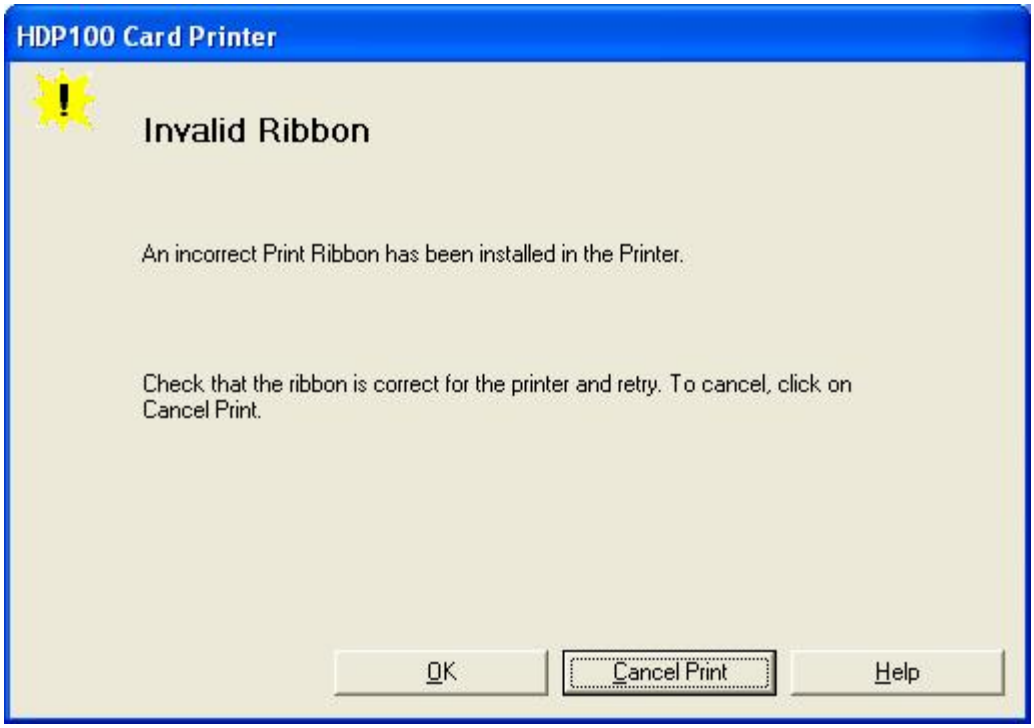
Resolving a No Ribbon Installed Error

Step	Procedure
2	Verify that a Ribbon is installed in the Printer. a. Press on the **Resume** button. b. If the issue persist, continue to Step 3.
3	Remove the rear Cover and check that the Ribbon RFID cable is securely connected to the Main Board (J-5) and the RFID Sensor. • If the connections are loose, reattach them. • Press on the **Resume** button. • If the connections are good or if the issue persists, continue to Step 4.
4	Replace the Ribbon RFID Sensor.

Resolving a Invalid Ribbon Error

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

Step	Procedure
1	Review the following information. • **Symptom:** Printer errors out as soon as it receives data from the PC • **Printer Error State:** The Ribbon installed does not match the Printer model. • **LCD Error Display**: Invalid Ribbon • **Driver Monitor Error Display**: Invalid Ribbon



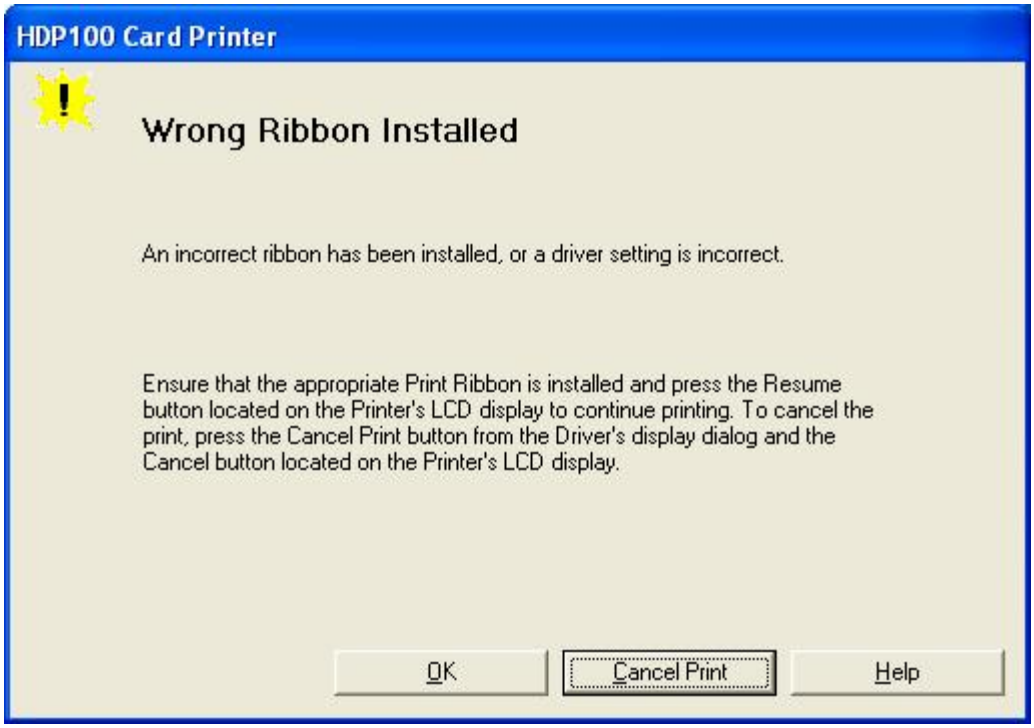
Resolving a Invalid Ribbon Error

Step	Procedure
2	Verify that the Ribbon installed is designed for the correct Printer model.
3	Press on the **Resume** button. If the issue persists, continue to Step 4.
4	Remove the rear Cover and check that the Ribbon RFID cable is securely connected to the Main Board (J-5) and the RFID Sensor. • If the connections are loose, reattach • Press on the **Resume** button. • If the connections are good or if the issue persists, continue to Step 5.
5	Replace the Ribbon RFID Sensor.

Resolving a Wrong Ribbon Error

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

Step	Procedure
1	Review the following information. • **Symptom:** Printer errors out as soon as it receives data from the PC • **Printer Error State:** The Ribbon installed does not match the Printer Driver information • **LCD Error Display:** Wrong Ribbon • **Driver Monitor Error Display:** Invalid Ribbon



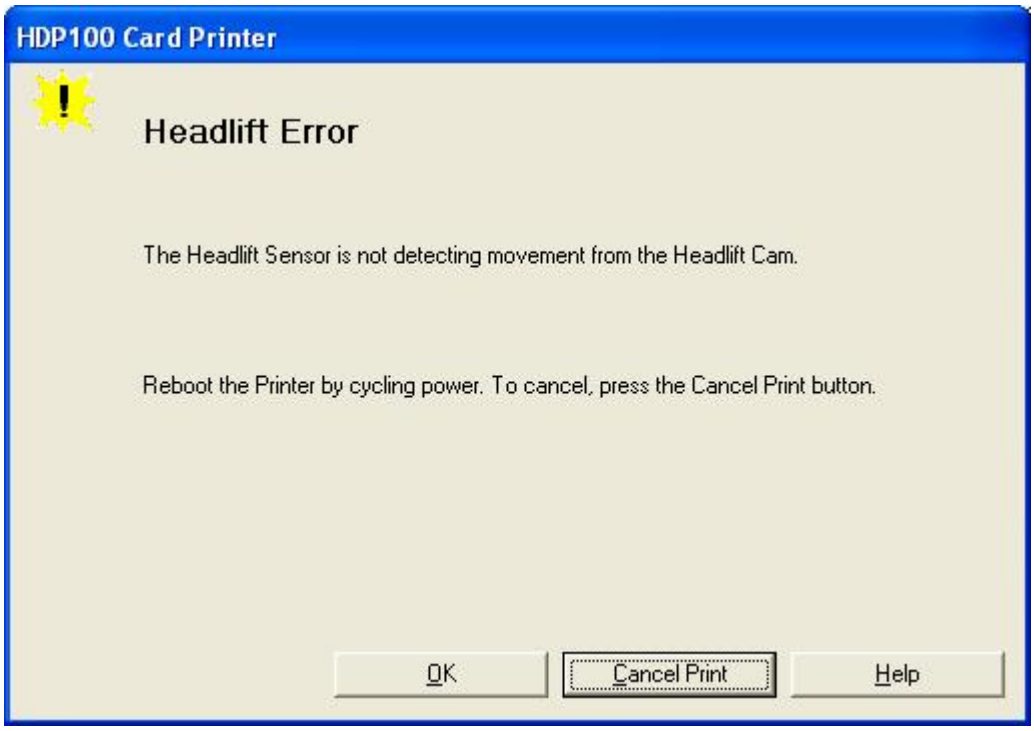
Resolving a Wrong Ribbon Error

Step	Procedure
2	Verify the Driver settings are correct. a. Open the Printer Control Panel from the Computer. • If using Windows 98SE, Me, right click on the HDP600 Card Printer Icon and select **Properties**. • If using Windows 2000/XP, right click on the HDP600 Card Printer and select **Printing Preferences**. b. Click on the Device Option tab. c. Click on the **auto select** button. d. Check that the Ribbon type matches the Ribbon selected.
3	Press on the **Resume** button. If the issue persists, continue to Step 4.
4	Remove the rear Cover and check that the Ribbon RFID cable is securely connected to the Main Board (J-5) and the RFID Sensor. • If the connections are loose, reattach it. • Press on the **Resume** button. • If the connections are good or if the issue persists, continue to Step 5.
5	Replace the Ribbon RFID Sensor.

Resolving a Headlift Motor or Sensor Error

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

Step	Procedure
1	Review the following information. • **Symptom:** The Printhead continuously cycles or does not cycle at all • **Printer Error State:** Headlift Sensor is not detecting movement from the Headlift Cam. • **LCD Error Display:** Headlift Error • **Driver Monitor Error Display:** General Error
2	Press the **Cancel Print** button on the Driver Monitor Error Display Message.



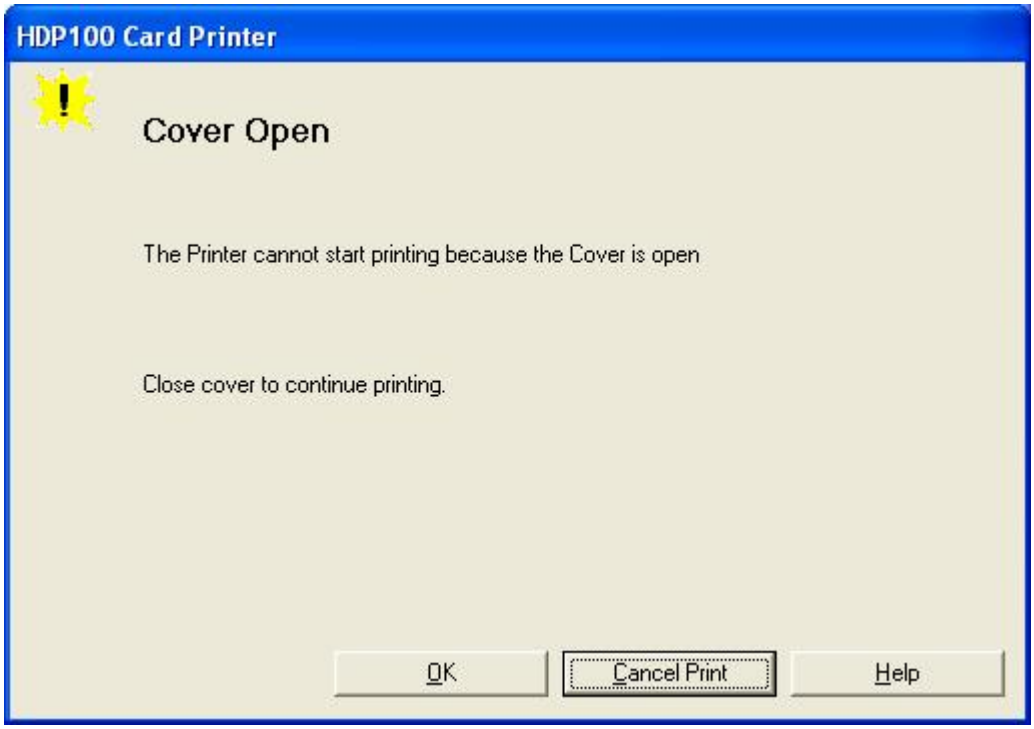
Resolving a Headlift Motor or Sensor Error

Step	Procedure
3	Reboot the Printer by cycling the power.
4	Cycle the Headlift Motors. a. Use the Fargo Diagnostic utility to cycle the Printhead to ensure proper printhead operation. See the **Card** tab (**Diagnostic** button) in the Printer Driver. b. Verify that the Headlift Motor turns. c. If the Motor does not turn or jams, continue to Step 5.
5	Check the Headlift Motor Main Board Connection (J20). a. Unplug the Printer. b. Remove the back Cover. c. Verify that connection J20 is properly connected to the Main Board. d. If the Motor does not turn, continue to Step 7.
6	Test the Headlift Sensor. a. Remove the back Cover. b. Attach the positive lead from a Digital Voltmeter to Pin 1 of J9. Attach the negative lead to the Pin 3 of J9. • If **open**, the Sensor should read 0.17 to 0.9 VDC. • If **closed**, the Sensor should read 4.9 to 5.5 VDC. c. Replace the Sensor if the voltages do not read correctly. (**Note:** See the current HDP600 Service for related instructions in the Parts Replacement Section.) d. If the Motor does turn, continue to Step 7.
7	Replace the Headlift Motor. (**Note:** See the current HDP600 Service Manual for related instructions in the Parts Replacement Section.) a. If the Motor does turn, continue to Step 8.
8	Replace the Main Board.

Resolving the Cover Open Error Message

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

Step	Procedure
1	Review the following information. • **Symptom:** The Printer errors immediately after sending a print job, or the Rollers do not operate by pressing the buttons on the front panel (when the Cover is open). • **Printer Error State:** The front Cover Sensor detects that the Cover is open • **LCD Error Display:** Cover Is Open • **Driver Monitor Error Display:** None



Resolving the Cover Open Error Message

Step	Procedure
2	Check for debris, as follows: a. Open the front Cover and check that no debris has accumulated in the lid Sensor opening. Use compressed air to clean the opening id as needed. b. If the Sensor still does not work, continue to Step 3.
3	Check that the Sensor tab on the front Cover is not damaged. a. Open the front Cover and examine the Lid Sensor tab for damage, if the Sensor tab is damaged, replace the front Cover. (**Note:** See the current HDP600 Service Manual for related instructions in the Parts Replacement Section.) b. If the Sensor still does not work, continue to Step 4.
4	Replace the Main Board. (**Note:** See the current HDP600 Service Manual for related instructions in the Parts Replacement Section.)

Resolving the Blank Output issues

All Troubleshooting procedures assume that only factory-authorized supplies are in use in the Printer.

Step	Procedure
1	Review the following information. • **Symptom:** A card is ejected blank (that should be printed). • **Printer Error State:** None • **LCD Error Display:** None • **Driver Monitor Error Display:** None
2	Run a self-test. See Running the Self-Test.
3	Look for an image on the Ribbon. a. After a self-test has been run, open the top Cover. b. Remove the Print Ribbon from the Printer. c. Visually inspect the set of panels that were last used by the Printer. d. If an image is noticeable on the used Ribbon, continue to Step 4. e. If an image is not noticeable on the used Ribbon, continue to Step 5.

Resolving the Blank Output issues (continued)

Step	Procedure
4	Adjust the placement. a. Reset the Printer to clear any Error Messages by removing the power and reapplying it. b. Open the Printer Control Panel from the Computer. • If using Windows 98SE, Me, right click on the HDP600 Card Printer Icon and select **Properties**. • If using Windows 2000/XP, right click on the HDP600 Card Printer and select **Printing Preferences**. c. Click on the Image Transfer tab. d. Click on the **Settings** button. e. Adjust the Image Placement Setting by +5. f. Click on the **OK** button. g. Print a self-test. h. After adjusting the Image Placement, if a white border appears on the card, adjust the image placement back toward its original value in increments of 2 until the white edge is gone. i. If still having blank card issues, continue to Step 5.
5	Check the Printhead connections. a. Remove the Printer power and USB cables. b. Turn the Printer over to gain access to the base plate. c. Remove the one (1) thumbscrew from the Printhead Cover plate and remove the Cover plate. d. Depress the Printhead locking tabs and remove the Printhead. e. Check to ensure that Power and Data Cables (that connect to the Printhead) are properly seated. f. Remove the Back Cover. g. Ensure that the Printhead Power/Data Cable is properly seated on J16 on the Main Board. h. If still having blank card issues, continue to Step 6.

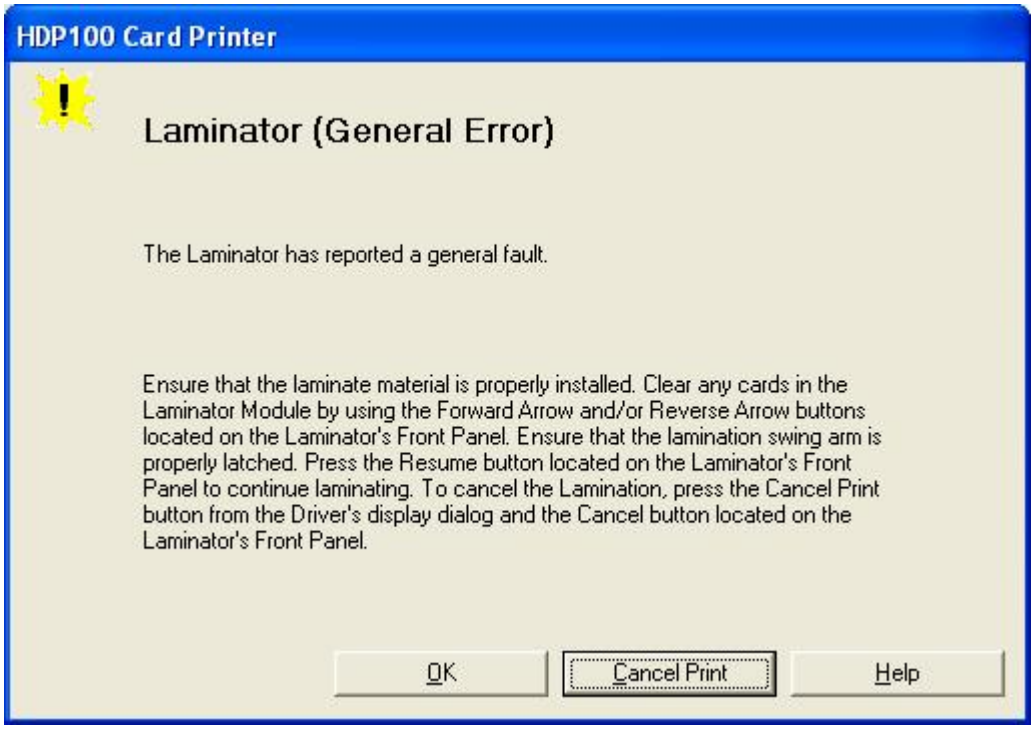
Resolving the Blank Output issues

Step	Procedure
6	Ensure that the proper voltage is being applied to the Printhead. a. Remove the back Cover. b. Using a Digital Voltmeter, connect the negative lead to ground. c. Probe Pins 1 to 5 of the Printhead power connection on J16. d. Ensure that a voltage between 22 to 23 VDC is read on each pin. • If less than 22 volts is read on any of the pins, replace the Printhead. • If still having issue with blank cards, replace the Main Board. (See the current HDP600 Service Manual for instructions on replacing the Main Board in the Parts Replacement Section.)

Card Lamination Errors

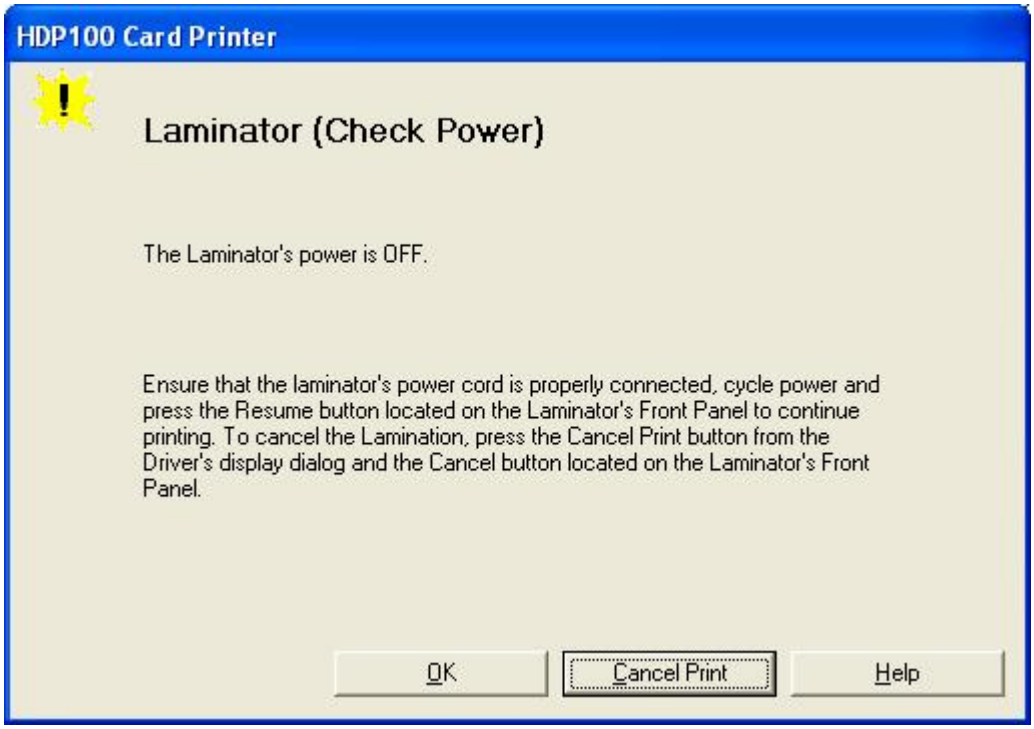
Resolving a Laminator (General Error)

Step	Procedure
1	Review the following information. • **Symptom:** The Laminator has reported a general fault. • **Printer Error State:** The Laminator has reported a general fault. • **LCD Error Display:** Laminator (General Error) • **Driver Monitor Error Display:** Laminator (General Error)



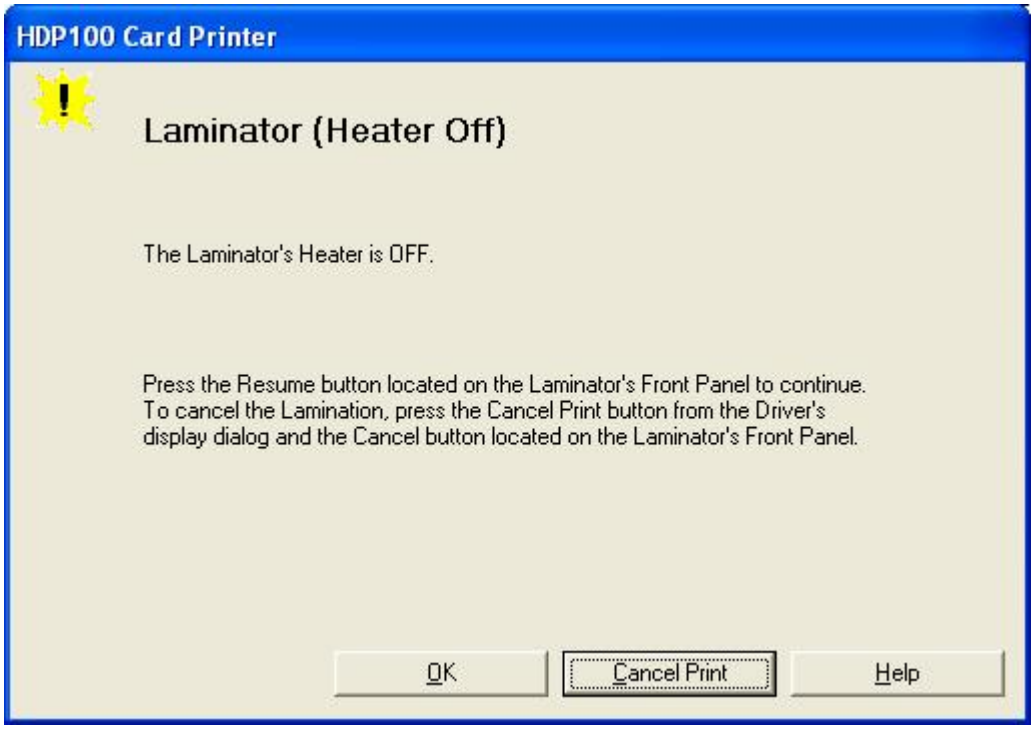
Resolving the Laminator (Check Power) Error

Step	Procedure
1	Review the following information. • **Symptom:** The Laminator's power is OFF. • **Printer Error State:** The Laminator's power is OFF. • **LCD Error Display:** Laminator (Check Power) • **Driver Monitor Error Display:** Laminator (Check Power)



Resolving the Laminator (Heater Off) Error

Step	Procedure
1	Review the following information. • **Symptom:** The Laminator's Heater is OFF. • **Printer Error State:** The Laminator's Heater is OFF. • **LCD Error Display:** Lam Heater Off • **Driver Monitor Error Display:** Laminator (Heater Off)

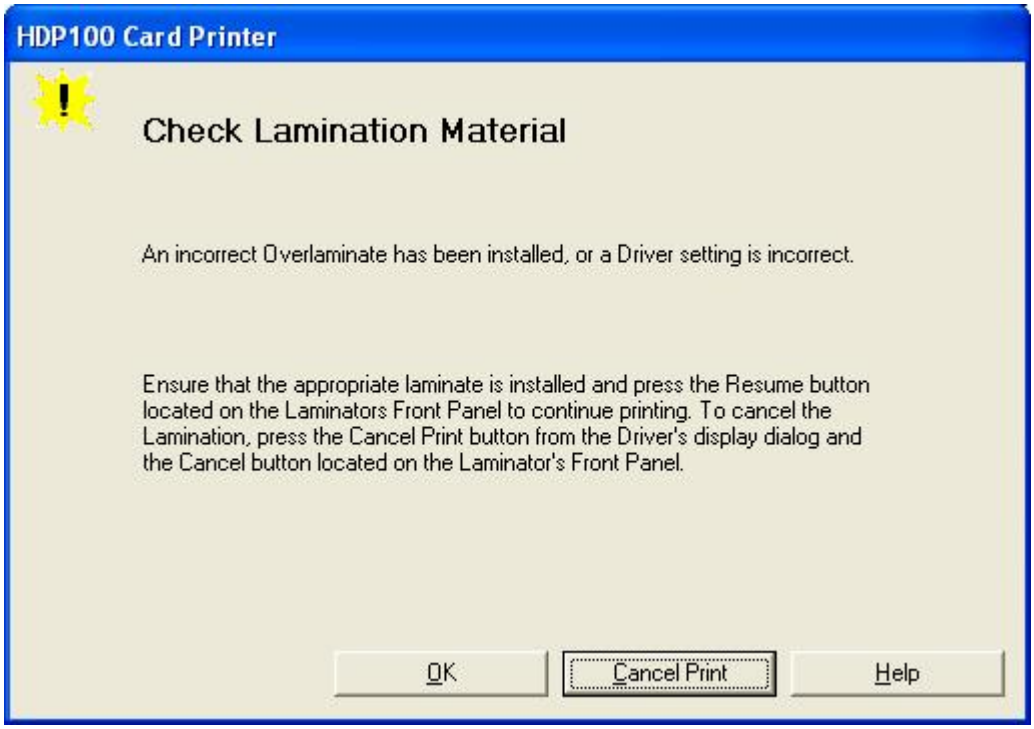


Resolving the Wrong Overlaminate Installed Error

Step	Procedure
1	Review the following information. • **Symptom:** An incorrect Overlaminate has been installed, or a Driver setting is incorrect. • **Printer Error State:** An incorrect Overlaminate has been installed, or a Driver setting is incorrect. • **LCD Error Display:** Wrong Overlaminate Installed • **Driver Monitor Error Display:** Wrong Overlaminate Installed

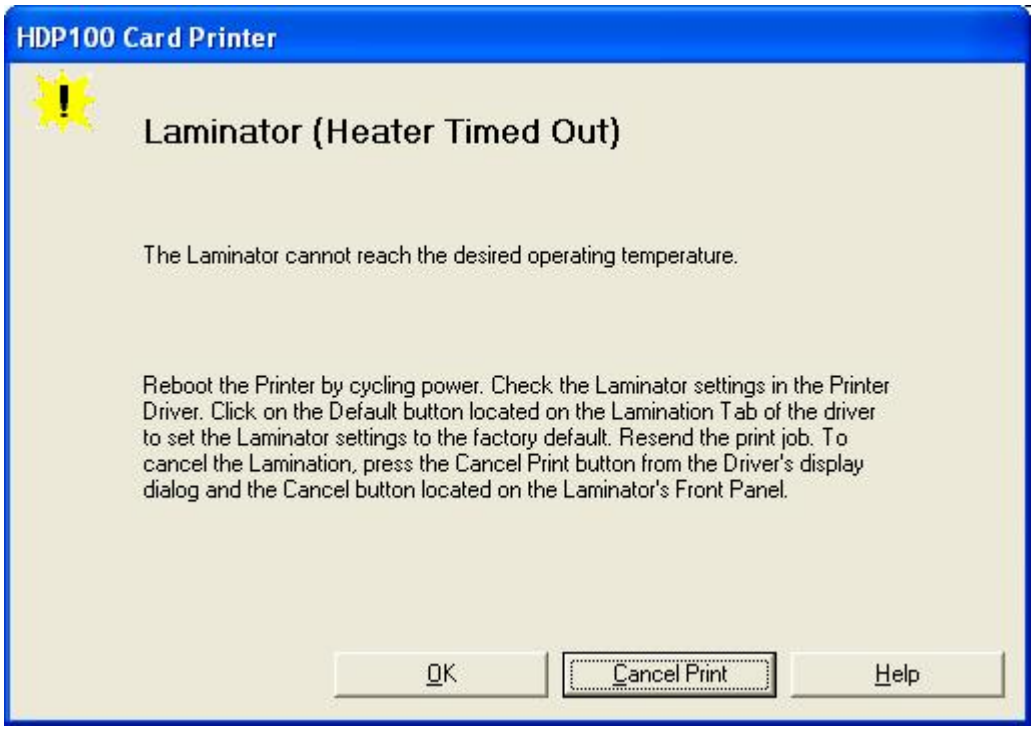
Resolving Check Lamination Material Error

Step	Procedure
1	Review the following information. • **Symptom:** An incorrect Overlaminate has been installed, or a Driver setting is incorrect. • **Printer Error State:** An incorrect Overlaminate has been installed, or a Driver setting is incorrect. • **LCD Error Display:** Check Lam Material • **Driver Monitor Error Display:** Check Lamination Material



Resolving LAM Heater Times Out Error

Step	Procedure
1	Review the following information. • **Symptom:** An incorrect Overlaminate has been installed, or a Driver setting is incorrect. • **Printer Error State:** An incorrect Overlaminate has been installed, or a Driver setting is incorrect. • **LCD Error Display:** Lam Heat Timeout • **Driver Monitor Error Display:** Check Lamination Material

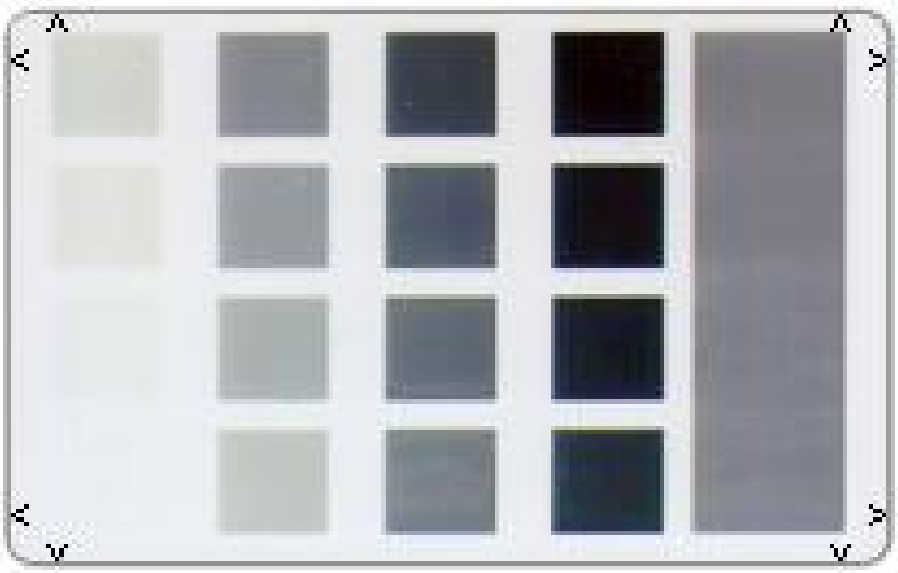


Printing a Test Image

Step	Procedure
1	Choose **Print Test Image** to select a preset test image. (**Note:** These images help to determine if the Printer is functioning properly.)
2	Scroll to the desired test image from the **Select Test Image** options and press the **Select** button.

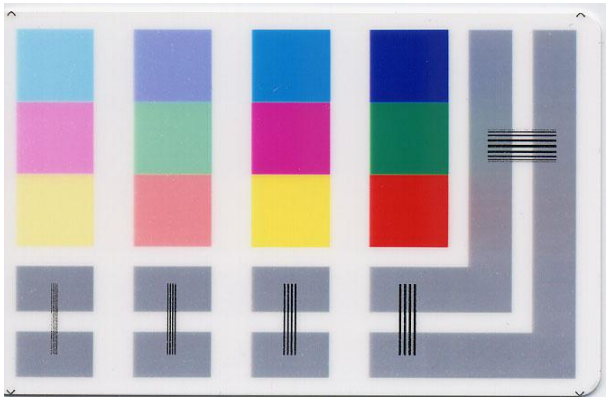
Reviewing the Gray/Align YMC/K Self-Test

Step	Procedure
1	Use this card to determine Image Placement and confirm that the Printer is working properly. See Printer Adjustments. (**Note:** The image consists of sixteen (16) gray scale boxes and alignment arrows. The gray boxes are composed from a composite of YMC color panels.)



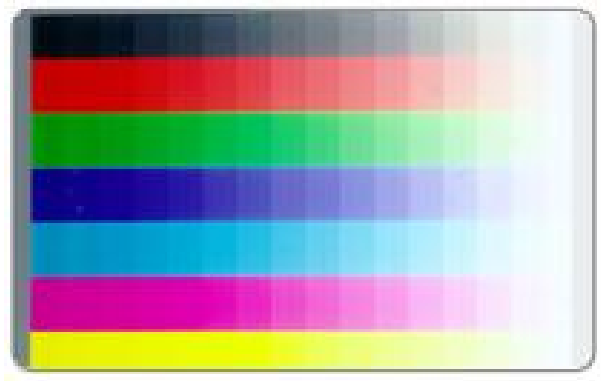
Reviewing the Color/Resin YMCK Self-Test

Step	Procedure
1	Use this card to determine Image Placement and confirm that (a) the image colors are properly reproduced and (b) the Resin Panel is printing properly. (**Note:** The Image consists of twelve spot colors, YMC and RGB, as well as gray density bars and thin resin lines.)



Reviewing the Color Bars YMC Self-Test

Step	Procedure
1	Use this card to confirm that image colors are properly reproduced. Image consists of sixteen graduated steps of RGB and YMCK. (**Note:** This print will provide maximum image size, giving complete card Coverage on a CR-80 sized card.)



Reviewing the Card Count Self-Test

Step	Procedure
1	Use this card to view counts for Card Count (CC), Pass Count (PC), Transfer Count (TC) and Lamination Count (LC). • The **Card Count** is the total number of cards the Printer has produced. **Pass Count** is the total number of print passes made by the Printhead. (**Note:** A pass is measured each time a single Ribbon panel is printed or passes beneath the Printhead.) • The **Transfer Count** is the total number of times the Printer transfers an image to a card.

Reviewing the Magnetic Test option

Step	Procedure
1	Use this option only applies if a Magnetic Encoding Module is installed in the Printer. (**Note:** The Printer will feed, encode and eject a card. Be sure to have high coercivity cards installed when running this test.)

Reviewing the Lamination Color/Resin YMCK+L Self-Test

Step	Procedure
1	Use this card to determine Lamination Placement and confirm that (a) the image colors are properly reproduced and (b) the Resin Panel is printing properly. (**Note:** The Image consists of twelve spot colors, YMC and RGB, as well as gray density bars and thin resin lines.)