Replacing a Partially Used Transfer Ribbon

To remove used transfer ribbon, perform the following steps.

1. Cut the ribbon from the take-up roll.
2. Remove the take-up roll and discard used ribbon.
3. Remove the supply roll and tape the end of any fresh ribbon to prevent it from unwrapping. When reinstalling a partially used supply roll, tape the cut end onto the empty take-up roll.

Adjusting the Print Width

Print width must be set when:

- You are using the printer for the first time.
- There is a change in media width.

Print width may be set by:

- The Windows printer driver or application software such as ZebraDesigner™.
- The five-flash sequence in *Feed Button Modes* on page 106.
- Controlling printer operations with ZPL programming; refer to the Print Width (**^PW**) command (consult your *ZPL Programming Guide*).
- Controlling printer operations with EPL Page Mode programming, refer to the Set Label Width (**q**) command (consult your *EPL Programmer's Guide*).

Adjusting the Print Quality

Print quality is influenced by the heat (density) setting of the printhead, the print speed, and the media in use. Experiment with these settings to find the optimal mix for your application. Print quality can be set with the Zebra Setup Utility's 'Configure Print Quality' routine.

Note • Media manufactures may have specific recommendations for speed settings for your printer and the media. Some media types have lower maximum speeds than your printer's maximum speed.

The relative darkness (or density) setting can be controlled by:

- The six-flash sequence in *Feed Button Modes* on page 106. This will overwrite any ZPL and EPL programmed darkness/density settings.
- The Set Darkness (**~SD**) ZPL command (consult your *ZPL Programming Guide*).
- The Density (**D**) EPL command (consult your *EPL Programmer's Guide*).

If you find that the print speed needs to be adjusted, use:

- The Windows printer driver or application software such as ZebraDesigner™.
- The Print Rate (**^PR**) command (consult your *ZPL Programming Guide*).
- The Speed Select (**S**) command (consult your *EPL Programmer's Guide*).

Print Quality Problems

No print on the label.

- The media may not be direct thermal media when printing without ribbon (i.e. thermal transfer). The media may not be direct thermal media. See the test procedure *Determining Thermal Media Types* on page 39.
- For thermal transfer printers, the media may not be outside wound or approved for use in the G-Series printer. See the following ribbon test procedures: *Ribbon Test with Adhesive* on page 42 and *Ribbon Scratch Test* on page 43.
- Is the media loaded correctly? Follow the instructions for *Loading Roll Media* on page 15 in the Getting Started section. For printing using transfer ribbon, see *Loading Transfer Ribbon* on page 19.

The printed image does not look right.

- The printhead is dirty. Clean the printhead.
- The printhead is under temperature.
- Adjust the print darkness and/or print speed.
  - Use the **^PR** (speed) and **~SD** (darkness) commands referenced in the ZPL Programming Guide.
  - Use the **D** (darkness/density) and **S** (speed) commands in the *EPL Programmer's Guide*.
  - Manually adjust print darkness with the six-flash sequence of *Feed Button Modes* on page 106.
  - The Windows printer driver or application software may change these settings and may require a change to optimize print quality.
- The media being used is incompatible with the printer. Be sure to use the recommended media for your application, and always use Zebra-approved labels and tags.
- Verify that the printer power supply in use is rated at 100 Watts of DC output.
- The printhead has worn out. The printhead is a consumable item and will wear out due to friction between the media and printhead. Using unapproved media may shorten life or damage your printhead. Replace the printhead.
- The platen may need cleaning or replacement. The platen (driver) roller maybe losing traction due to:
  - Foreign objects attached to its surface,
  - The rubbery smooth surface has become polished and slippery, or
  - There is damage to the normally smooth and flat print surface such as box knife cuts.

Power On Modes	
With the printer power on and top cover closed, press and hold the Feed button for several seconds. The green status LED will flash a number of times in sequence. The explanation at the right (Action) shows what happens when you release the key after the start specific number of flashes and before the next flash sequence starts.	
Flash Sequence	**Action**
*	**Configuration Status** - Prints a detailed printer configuration status label. The label can be used to verify printing, assist printer to computer communication configuration, maintenance, troubleshooting, and help us with customer care communications.
* **	**Standard Auto Media Calibration** - The printer detects and sets media type and media length, and it adjusts the media sensors for optimal performance with the installed media (equivalent ZPL command **~JC**). The printer will feed one to four labels while calibrating. *Note: Users familiar with the Zebra EPL desktop printer use this Feed mode to replace power-up AutoSensing calibration* (equivalent EPL command **XA**).
* ** ***	**Serial Port Configuration** - *Applies only to printers with serial interface ports.* To reset the serial port communication parameters, except for Flow Control. Press and release the Feed button while the LED rapidly flashes amber and green. For autobaud synchronization: Send the **^XA^XZ** command sequence to the printer while the LED rapidly flashes amber and green. When the printer and host are synchronized, the LED changes to solid green. NOTE: No labels will print during autobaud synchronization.
* ** *** ****	**Factory Defaults** - Resets the printer to the factory default settings (equivalent to ZPL command **^JUN**). See *Appendix: ZPL Configuration* on page 119 for a description of the primary configuration settings and their associated ZPL commands. Some configuration settings are not returned to their initial 'out of box' settings. Other settings are exclusively set, viewed and controlled by programming are also reset. The performs a standard media calibration and then.a memory defragmentation routine. **Once the printer has entered the Factory Default mode**, the status light will turn amber for three (3) seconds. During that time you may do two things: Do nothing and the printer will reset the factory defaults automatically as described above OR press and hold the feed button to enter a factory default reset modes for printers with a network (Ethernet, Wi-Fi or Bluetooth) printer option (equivalent ZPL command **^JUF**). Releasing the button after the first flash resets the network factory options only (equivalent ZPL command **^JUN**). Releasing the button after the second flash sequence (two flashes) will reset the printer defaults only. Releasing the button after the third flash sequence (three flashes) will reset both printer and network settings (equivalent ZPL commands **^JUN** and **^JUF**)
* ** *** **** *****	**Print Width Adjustment** - Prints a succession of boxes starting at the minimum print width and ending in the printer's maximum print width in 4mm increments. Press the Feed button once when the printer has reached the desired maximum print width. Note that the printer driver and applications can override this setting.
* ** *** **** ***** ******	**Print Darkness (Density) Adjustment** - Prints a succession of bar code simulation patterns starting at the minimum darkness (print density/heat) and ending in the printer's maximum darkness in increments of four (4) using the ZPL darkness setting range values. Press the Feed button once the pattern is clear and legible. Do not continue to increase the darkness setting or bar code line widths may become distorted reducing readability. Note that the printer driver and applications can override this setting.
* ** *** **** ***** ****** *******	**Manual Media Calibration** - The printer runs extensive tests to detect and set media type and media length, and then it adjusts the media sensors for optimal performance with the installed media (equivalent ZPL command **~JG**). Manual calibration is recommended whenever you are using pre-printed media, print on the liner or if the printer will not correctly auto calibrate. A graphical profile of the media sensing will print. See *Manual Calibration* on page 102 for more details and considerations.
If the Feed button remains pressed after 7th flash sequence cycle finishes, the printer exits the configuration mode when the Feed button is released.	

Printer Settings

The user selectable and programmable Printer settings are shown in the table below.

Printer Settings		
COMM. (user selectable COM port settings)		
Setting	**Default Value**	**Optional Values**
BAUD	9600	300 600 1200 9600 14400 19200 28800 32400 57600 115200
DATA BITS	8	7 8
PARITY	NONE	NONE EVEN ODD
FLOW	DTR & XON / XOFF	XON / XOFF DTR & XON / XOFF DSR / DTR RTS / CTS
MEDIA (display only)		
Setting	**Default Value**	**Optional Values**
MEDIA	GAP	GAP MARK RECEIPT
RIBBON	YES	YES NO
PRINT (display only)		
Setting	**Default Value**	**Optional Values**
SPEED	6 IPS	2 IPS 3 IPS 4 IPS 5 IPS 6 IPS
ZPL Darkness	10.0	0.0 - 30.0

Table 2 • ZPL Commands and Configuration Receipt Callout Cross-Reference

Command	Listing Name	Description
~SD	DARKNESS	*Default:* **10.0**
^PR	PRINT SPEED	*Default:* **6 IPS** / 152.4 mm/s (max.)
~TA	TEAR OFF	*Default:* **+000**
^MN	MEDIA TYPE	*Default:* **GAP/NOTCH**
	SENSOR TYPE	*Default:* **WEB**
	SENSOR SELECT	*Default:* **AUTO** (**^MNA** - Auto-Detect)
^MT	PRINT METHOD	*Default:* **NONE**
^MT	PRINT METHOD	**THERMAL-TRANS** or **DIRECT-THERMAL**
^PW	PRINT WIDTH	*Default:* **832 (dots)**
^LL	LABEL LENGTH	*Default:* **1225** (dots) (the value constantly re-calibrates with automatic Web-Gap detection for label media)
^ML	MAXIMUM LENGTH	*Default:* **39.0IN 989MM**
—	USB COMM.	*Connection Status: Connected / Not Connected*
—	PARALLEL COMM.	*Connection Available:* **BIDIRECTIONAL**
^SCa	BAUD	*Default:* **9600**
^SC,b	DATA BITS	*Default:* **8 BITS**
^SC,,c	PARITY	*Default:* **NONE**
^SC,,,,e	HOST HANDSHAKE	*Default:* **DTR & XON/XOFF**
^SC,,,,,f	PROTOCOL	*Default:* **NONE**
	SER COMM. MODE	Default: AUTO
	CUTTER TYPE	*Option Present:* **LINER/TAG FULL** *(cut)*
^CT / ~CT	CONTROL CHAR	*Default:* <~> **7EH**
^CC / ~CC	COMMAND CHAR	*Default:* <^> **5EH**
^CD / ~CD	DELIM./CHAR	*Default:* <,> **2CH**
^SZ	ZPL MODE	*Default:* **ZPL II**
^MFa	MEDIA POWER UP	*Default:* **NO MOTION**
^MF,b	HEAD CLOSE	*Default:* **FEED**
~JS	BACKFEED	*Default:* **DEFAULT**
^LT	LABEL TOP	*Default:* **+000**
^LS	LEFT POSITION	Default: **+0000**
~JD / ~JE	HEXDUMP	*Default:* **NO** (**~JE**)

From this point in the Configuration Receipt listing, the printout has sensor settings and values are displayed to troubleshoot sensor and media operations. These are typically used by Zebra Tech Support to diagnose printer problems.