

## CANCEL Self Test

The CANCEL self test prints a configuration label (Figure 18).

### To perform the CANCEL Self Test, complete these steps:

1. Turn off (O) the printer.
  2. Press and hold CANCEL while turning on (I) the printer. Hold CANCEL until the first control panel light turns off.
- A printer configuration label prints (Figure 18).

Figure 18 • Sample Configuration Label

Z Series		RZ Series	
<b>PRINTER CONFIGURATION</b>		<b>PRINTER CONFIGURATION</b>	
Zebra Technologies ZTC ZH400-300dpi ZPL ZBR2636543		Zebra Technologies ZTC R2400-200dpi ZPL ZBR2279583	
+10.....	DARKNESS	+10.....	DARKNESS
2 IPS.....	PRINT SPEED	2 IPS.....	PRINT SPEED
+000.....	TEAR OFF	+000.....	TEAR OFF
TEAR OFF.....	PRINT MODE	RFID MODE.....	PRINT MODE
CONTINUOUS.....	MEDIA TYPE	CONTINUOUS.....	MEDIA TYPE
TRANSMISSIVE.....	SENSOR SELECT	TRANSMISSIVE.....	SENSOR SELECT
THERMAL-TRANS.....	PRINT METHOD	THERMAL-TRANS.....	PRINT METHOD
500.....	PRINT WIDTH	500.....	PRINT WIDTH
39.0IN 988MM.....	MAXIMUM LENGTH	1800.....	LABEL LENGTH
2000.....	LABEL LENGTH	39.0IN 988MM.....	MAXIMUM LENGTH
39.0IN 988MM.....	MAXIMUM LENGTH	MAINT. OFF.....	EARLY WARNING
MAINT. OFF.....	EARLY WARNING	NOT CONNECTED.....	USB COMM.
NOT CONNECTED.....	USB COMM.	BIDIRECTIONAL.....	PARALLEL COMM.
BIDIRECTIONAL.....	PARALLEL COMM.	RS232.....	SERIAL COMM.
RS232.....	SERIAL COMM.	115200.....	BAUD
9600.....	BAUD	8 BITS.....	DATA BITS
8 BITS.....	DATA BITS	NONE.....	PARITY
NONE.....	PARITY	XON/XOFF.....	HOST HANDSHAKE
XON/XOFF.....	HOST HANDSHAKE	NONE.....	PROTOCOL
NONE.....	PROTOCOL	000.....	NETWORK ID
000.....	NETWORK ID	NORMAL MODE.....	COMMUNICATIONS
NORMAL MODE.....	COMMUNICATIONS	<<> 7EH.....	CONTROL PREFIX
<<> 7EH.....	CONTROL PREFIX	<<> 5EH.....	FORMAT PREFIX
<<> 5EH.....	FORMAT PREFIX	<<> 2CH.....	DELIMITER CHAR
<<> 2CH.....	DELIMITER CHAR	ZPL II.....	ZPL MODE
ZPL II.....	ZPL MODE	CALIBRATION.....	MEDIA POWER UP
CALIBRATION.....	MEDIA POWER UP	CALIBRATION.....	HEAD CLOSE
CALIBRATION.....	HEAD CLOSE	DEFAULT.....	BACKFEED
DEFAULT.....	BACKFEED	+000.....	LABEL TOP
+000.....	LABEL TOP	+0000.....	LEFT POSITION
+0000.....	LEFT POSITION	DISABLED.....	REPRINT MODE
DISABLED.....	REPRINT MODE	069.....	WEB S.
069.....	WEB S.	069.....	MEDIA S.
069.....	MEDIA S.	071.....	RIBBON S.
071.....	RIBBON S.	100.....	TAKE LABEL
100.....	TAKE LABEL	050.....	MARK S.
050.....	MARK S.	002.....	TRANS GAIN
002.....	TRANS GAIN	033.....	TRANS BASE
033.....	TRANS BASE	176.....	TRANS BRIGHT
176.....	TRANS BRIGHT	216.....	RIBBON GAIN
216.....	RIBBON GAIN	013.....	MARK GAIN
013.....	MARK GAIN	DPSWFXM.....	MODES ENABLED
DPSWFXM.....	MODES ENABLED	832 8/MM FULL.....	MODES DISABLED
832 8/MM FULL.....	MODES DISABLED	R53.16.1Z <-.....	RESOLUTION
R53.16.1Z <-.....	RESOLUTION	1.2.....	FIRMWARE
1.2.....	FIRMWARE	V37.....	XML SCHEMA
V37.....	XML SCHEMA	38.....	HARDWARE ID
38.....	HARDWARE ID	CUSTOMIZED.....	CONFIGURATION
CUSTOMIZED.....	CONFIGURATION	1100bk.....	RAM
1100bk.....	RAM	5332k.....	ONBOARD FLASH
5332k.....	ONBOARD FLASH	NONE.....	FORMAT CONVERT
NONE.....	FORMAT CONVERT	FW VERSION.....	IDLE DISPLAY
FW VERSION.....	IDLE DISPLAY	11/01/07.....	RTC DATE
11/01/07.....	RTC DATE	16:50.....	RTC TIME
16:50.....	RTC TIME	DISABLED.....	ZBI
DISABLED.....	ZBI	2.0.....	ZBI VERSION
2.0.....	ZBI VERSION	600.....	RFID VALID CTR
600.....	RFID VALID CTR	172.....	RFID VOID CTR
172.....	RFID VOID CTR	2.....	RFID READ PUR
2.....	RFID READ PUR	NO TAG FOUND.....	RFID WRITE PUR
NO TAG FOUND.....	RFID WRITE PUR	Gen2.....	RFID ERR STATUS
Gen2.....	RFID ERR STATUS	0000009.....	RFID TAG TYPE
0000009.....	RFID TAG TYPE	TM: 20080415.....	RFID HW VERSION
TM: 20080415.....	RFID HW VERSION	0132.....	RFID FW VERSION
0132.....	RFID FW VERSION	6:217 IN.....	PROG. POSITION
6:217 IN.....	PROG. POSITION	6:217 IN.....	NONRESET CNTR
6:217 IN.....	NONRESET CNTR	6:217 IN.....	RESET CNTR1
6:217 IN.....	RESET CNTR1	6:217 IN.....	RESET CNTR2
6:217 IN.....	RESET CNTR2	15.790 CM.....	NONRESET CNTR
15.790 CM.....	NONRESET CNTR	15.790 CM.....	RESET CNTR1
15.790 CM.....	RESET CNTR1	15.790 CM.....	RESET CNTR2
15.790 CM.....	RESET CNTR2	SELECTED ITEMS.....	PASSWORD LEVEL
SELECTED ITEMS.....	PASSWORD LEVEL	MM 13186.07TE0050110.79400-001.J.VH1	
MM 13186.07TE0050110.79400-001.J.VH1			

## PAUSE Self Test

This self test can be used to provide the test labels required when making adjustments to the printer's mechanical assemblies or to determine if any printhead elements are not working. Figure 19 shows a sample printout.

### To perform a PAUSE self test, complete these steps:

1. Turn off (O) the printer.
2. Press and hold PAUSE while turning on (I) the printer. Hold PAUSE until the first control panel light turns off.
  - The initial self test prints 15 labels at the printer's slowest speed, and then automatically pauses the printer. Each time PAUSE is pressed, an additional 15 labels print. Figure 19 shows a sample of the labels.

Figure 19 • PAUSE Test Label



- While the printer is paused, pressing CANCEL alters the self test. Each time PAUSE is pressed, 15 labels print at 6 in. (152 mm) per second.
- While the printer is paused, pressing CANCEL again alters the self test a second time. Each time PAUSE is pressed, 50 labels print at the printer's slowest speed
- While the printer is paused, pressing CANCEL again alters the self test a third time. Each time PAUSE is pressed, 50 labels print at 6 in. (152 mm) per second.
- While the printer is paused, pressing CANCEL again alters the self test a fourth time. Each time PAUSE is pressed, 15 labels print at the printer's maximum speed.
- To exit this self test at any time, press and hold CANCEL.

## FEED Self Test

Different types of media may require different darkness settings. This section contains a simple but effective method for determining the ideal darkness for printing bar codes that are within specifications.

During the FEED self test, labels are printed at different darkness settings at two different print speeds. The relative darkness and the print speed are printed on each label. The bar codes on these labels may be ANSI-graded to check print quality.

The darkness value starts at three settings lower than the printer's current darkness value (relative darkness of -3) and increase until the darkness is three settings higher than the current darkness value (relative darkness of +3).

Depending on the dot density of the printhead, seven labels are printed at each of the following speeds:

- 203 dpi printers: 2 ips, 6 ips, and 10 ips
- 300 dpi printers: 2 ips, 6 ips, 8 ips
- 600 dpi printers: 2 ips, 4 ips

### To perform a FEED self test, complete these steps:

1. Print a configuration label to show the printer's current settings.
2. Turn off (O) the printer.
3. Press and hold FEED while turning on (I) the printer. Hold FEED until the first control panel light turns off.

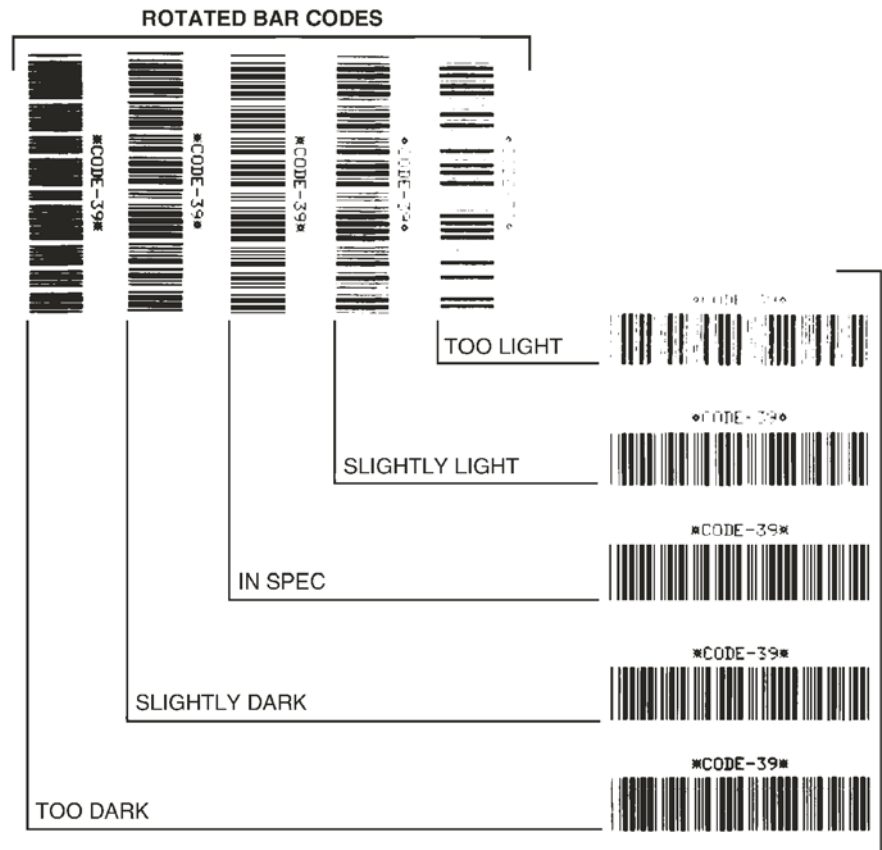
The printer prints a series of labels (Figure 20) at various speeds and at darkness settings higher and lower than the darkness value shown on the configuration label.

Figure 20 • FEED Test Label



- See [Figure 21](#) and [Table 21](#). Inspect the test labels and determine which one has the best print quality for your application. If you have a bar code verifier, use it to measure bars/spaces and calculate the print contrast. If you do not have a bar code verifier, use your eyes or the system scanner to choose the optimal darkness setting based on the labels printed in this self test.

**Figure 21 • Bar Code Darkness Comparison**



**Table 21 • Judging Bar Code Quality**

Print Quality	Description
<b>Too dark</b>	Labels that are too dark are fairly obvious. They may be readable but not “in-spec.” <ul style="list-style-type: none"> <li>• The normal bar code bars increase in size.</li> <li>• The openings in small alphanumeric characters may fill in with ink.</li> <li>• Rotated bar code bars and spaces run together.</li> </ul>
<b>Slightly dark</b>	Slightly dark labels are not as obvious. <ul style="list-style-type: none"> <li>• The normal bar code will be “in-spec.”</li> <li>• Small character alpha numerics will be bold and could be slightly filled in.</li> <li>• The rotated bar code spaces are small when compared to the “in-spec” code, possibly making the code unreadable.</li> </ul>

**Table 21 • Judging Bar Code Quality (Continued)**

Print Quality	Description
<b>“In-spec”</b>	<p>The “in-spec” bar code can only be confirmed by a verifier, but it should exhibit some visible characteristics.</p> <ul style="list-style-type: none"> <li>• The normal bar code will have complete, even bars and clear, distinct spaces.</li> <li>• The rotated bar code will have complete, even bars and clear, distinct spaces. Although it may not look as good as a slightly dark bar code, the bar code will be “in-spec.”</li> <li>• In both normal and rotated styles, small alphanumeric characters look complete.</li> </ul>
<b>Slightly light</b>	<p>Slightly light labels are, in some cases, preferred to slightly dark ones for “in-spec” bar codes.</p> <ul style="list-style-type: none"> <li>• Both normal and rotated bar codes will be in spec, but small alphanumeric characters may not be complete.</li> </ul>
<b>Too light</b>	<p>Labels that are too light are obvious.</p> <ul style="list-style-type: none"> <li>• Both normal and rotated bar codes have incomplete bars and spaces.</li> <li>• Small alphanumeric characters are unreadable.</li> </ul>

5. Note the relative darkness value and the print speed printed on the best test label.
6. Add or subtract the relative darkness value from the darkness value specified on the configuration label. The resulting numeric value is the best darkness value for that specific label/ribbon combination and print speed.
7. If necessary, change the darkness value to the darkness value on the best test label.
8. If necessary, change the print speed to the same speed as on the best test label.