

Adjust Printhead Balance and Pressure

Printhead toggle position (balance) and printhead pressure affect print quality. If the pressure is too light or uneven, the labels and ribbon may slip.



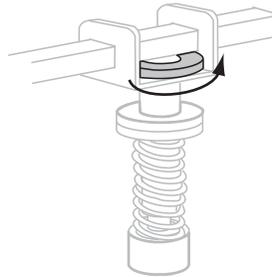
Important • Print quality depends on the labels and ribbon used as well as the toggle position and pressure. Make sure that your labels and ribbon are right for your application.

Adjust Printhead Balance

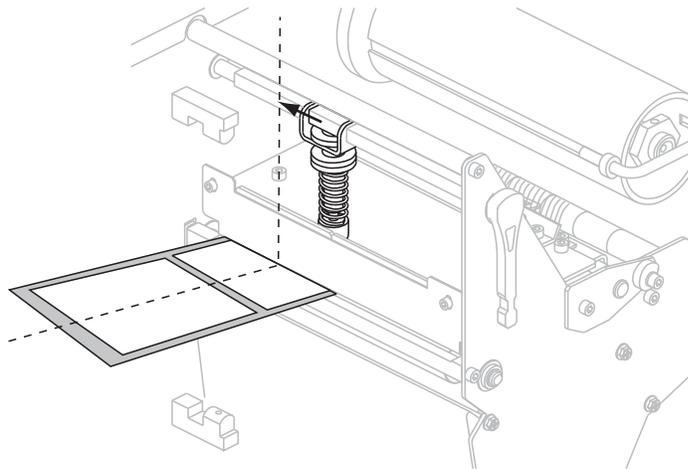
You may need to adjust the printhead balance by moving the toggle if printing is too light on one side of the labels.

To position the toggle, complete these steps:

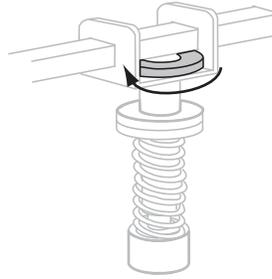
1. Print some labels at 2.4 in. (61 mm) per second by running the *PAUSE Self Test* on page 137.
2. While printing labels, use the control panel to lower the darkness setting until the labels are printing gray instead of black. See *Adjust Print Darkness* on page 88 for instructions.
3. Loosen the locking nut at the top of the toggle assembly.



4. Position the toggle over the center of the labels by sliding it to the left or right.



5. Tighten the locking nut.



6. Print additional labels at 2.4 in. (61 mm) per second by again running the *PAUSE Self Test* on page 137.

7. Do both sides of the label print at the same level of gray?

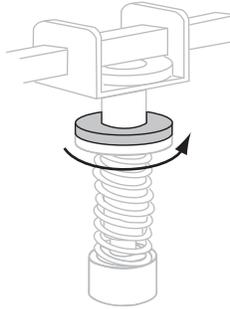
If...	Then...
Yes	The toggle is positioned correctly. Increase the darkness setting to the optimum level for the media being used.
No	<ul style="list-style-type: none"> <li data-bbox="529 842 1211 873">a. Loosen the locking nut at the top of the toggle assembly. <li data-bbox="529 879 1373 911">b. Slide the toggle slightly toward the side of the label that printed lighter. <li data-bbox="529 917 1398 982">c. Print additional labels at 2.4 in. (61 mm) per second by again running the <i>PAUSE Self Test</i> on page 137. <li data-bbox="529 989 846 1020">d. Tighten the locking nut. <li data-bbox="529 1026 1409 1058">e. Repeat this step until both sides of the label print at the same level of gray. <li data-bbox="529 1064 1360 1125">f. Increase the darkness setting to the optimum level for the media being used.

Printhead Pressure Adjustment

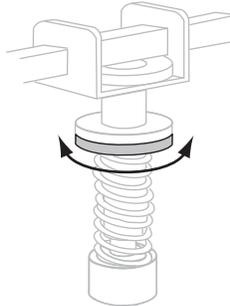
You may need to increase the printhead pressure if you are using thick media or if the ribbon slips during printing. To maximize printhead life, use the lowest pressure that produces the desired print quality without allowing the ribbon or media to slip.

To change printhead pressure, complete these steps:

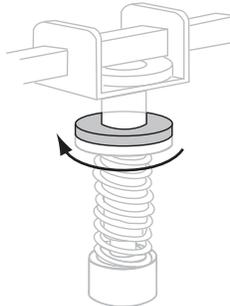
1. Loosen the upper knurled nut on the toggle assembly.



2. Adjust spring pressure by moving the lower knurled adjusting nut.
 - To increase printhead pressure, move the lower knurled nut downward.
 - To decrease printhead pressure, move the lower knurled nut upward.



3. To lock the toggle pressure, tighten the upper knurled nut against the lower knurled nut.



4. Print some labels at 2.4 in. (61 mm) per second by running the *PAUSE Self Test* on page 137.
5. Verify that the labels printed correctly and that the ribbon is not slipping. Readjust the spring pressure if necessary.
6. If necessary, use the control panel to adjust the darkness setting. See *Adjust Print Darkness* on page 88 for instructions.

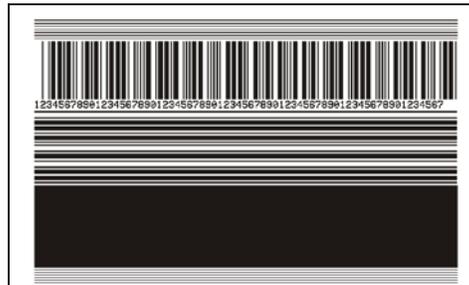
PAUSE Self Test

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 29 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 29 shows a sample of the labels.

Figure 29 • 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.

Standard Printer Parameters

Table 10 shows parameters in the order in which they are displayed when you press NEXT/SAVE PLUS (+) after entering Setup mode.

Table 10 • Printer Parameters (Page 1 of 19)

Parameter	Action/Explanation
	<p>Adjust Print Darkness</p> <p>Darkness (burn duration) settings depend on a variety of factors, including ribbon type, media type, and the condition of the printhead. You may adjust the darkness for consistent high-quality printing.</p> <p> Important • Set the darkness to the lowest setting that provides good print quality. If the darkness is set too high, the ink may smear, the ribbon may burn through, or the printhead may wear prematurely.</p> <p>If printing is too light or if there are voids in printed areas, increase the darkness. If printing is too dark or if there is spreading or bleeding of printed areas, decrease the darkness.</p> <p>The <i>FEED Self Test</i> on page 138 can be used to determine the best darkness setting. You may want to adjust darkness while performing the <i>PAUSE Self Test</i> on page 137. Because the darkness setting takes effect immediately, you can see the results on labels that are currently printing. Darkness settings also may be changed by the driver or software settings.</p> <p>Default: +10</p> <p>Range: 0 to 30</p> <p>To change the value shown:</p> <ol style="list-style-type: none"> 1. Press PLUS (+) to increase darkness. 2. Press MINUS (-) to decrease darkness.

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).

The speed at which labels are printed during this print quality test depend on the dot density of the printhead.

- 300 dpi printers: 7 labels are printed at the 2 ips and 8 ips print speeds.
- 203 dpi printers: 7 labels are printed at the 2 ips and 12 ips print speeds.

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 30) at various speeds and at darkness settings higher and lower than the darkness value shown on the configuration label.

Figure 31 • Bar Code Darkness Comparison

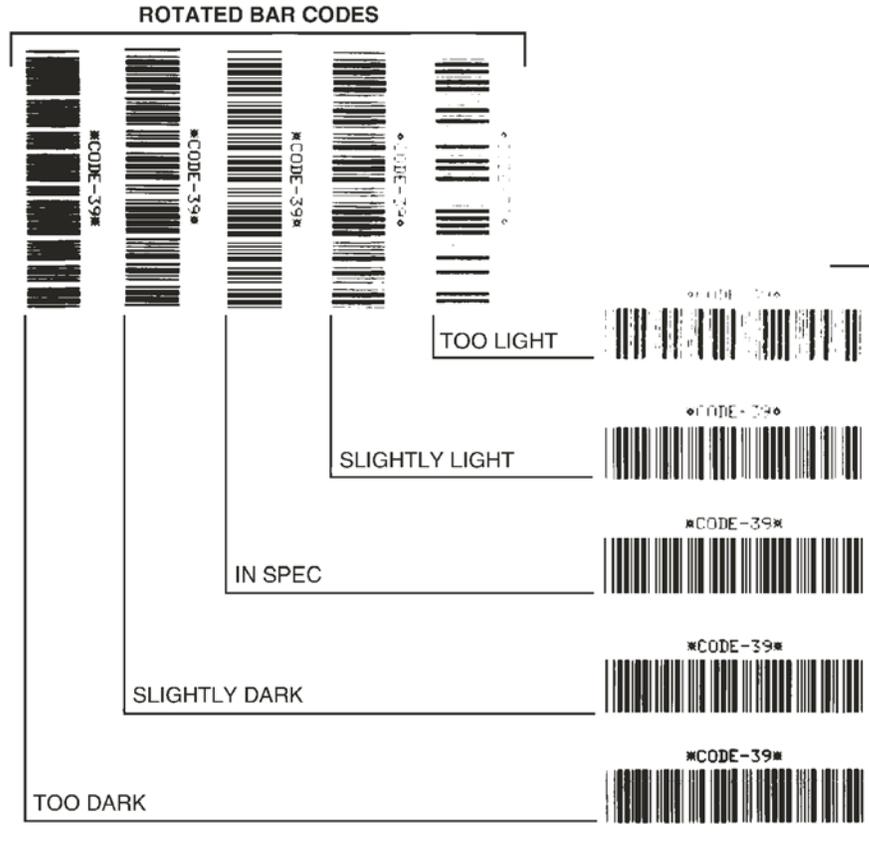


Table 18 • Judging Bar Code Quality

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

Table 18 • Judging Bar Code Quality (Continued)

Print Quality	Description
“In-spec”	<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"> • The normal bar code will have complete, even bars and clear, distinct spaces. • 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.” • In both normal and rotated styles, small alphanumeric characters look complete.
Slightly light	<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"> • Both normal and rotated bar codes will be in spec, but small alphanumeric characters may not be complete.
Too light	<p>Labels that are too light are obvious.</p> <ul style="list-style-type: none"> • Both normal and rotated bar codes have incomplete bars and spaces. • Small alphanumeric characters are unreadable.

5. Note the relative darkness value printed on the best test label.
6. Add or subtract the relative darkness value from the darkness value specified on the configuration label.
7. If necessary, change the darkness value to the darkness value on the best test label. See *Adjust Print Darkness* on page 88.