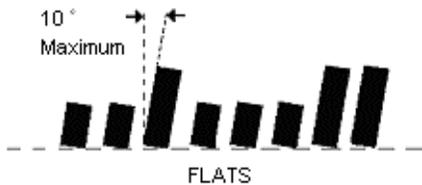
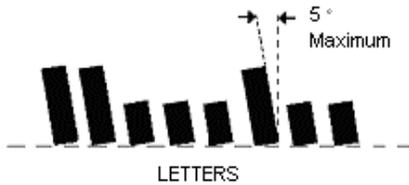


Bar Tilt Problem



DMM Section C840 6.1

Note: Individual bars can rotate left or right.

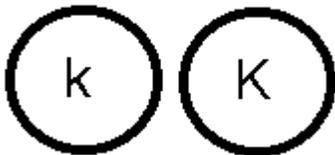


The combined effects of positional skew (slant or tilt of the entire barcode baseline) and rotational skew (slant or tilt of the individual barcode bars) must be limited to a maximum rotation of the bars of ± 5 degrees from a perpendicular to the bottom edge of the piece.

DMM Section C840 6.2

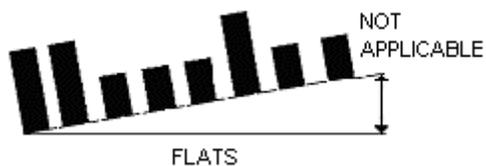
For flat mailings, the requirement is limited to a maximum of ± 10 degrees.

Pattern Skew Problem



DMM Section C840 6.1

Note: This is a Global instance which affects the entire barcode and not a portion of the barcode.



The combined effects of positional skew (slant or tilt of the entire barcode baseline) and rotational skew (slant or tilt of the individual barcode bars) must be limited to a maximum rotation of the bars of ± 5 degrees from a perpendicular to the bottom edge of the piece.

DMM Section C840 6.2

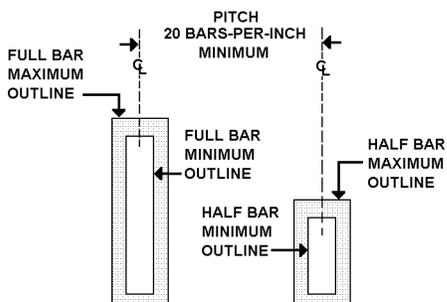
There is no positional skew requirement for flats.

Bar Pitch is Too Close



DMM Section C840 4.0 d

Measured over any 1/2 inch, horizontal spacing of the bars must be 22 ± 2 bars per inch, and pitch (a bar and a space) must average at least 0.0416 inch but no more than 0.05 inch.



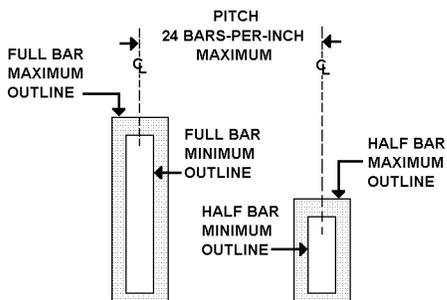
Note: MERLIN measures this parameter from the left-most edge of the barcode bar to the left-most edge of the following barcode bar and the reading is taken through the whole barcode in increments of 0.5 inches from barcode bar to barcode bar and any discrepancies are reported with the per-bar condition. Also, MERLIN measures in the same format the entire barcode and the condition is reported with a global measurement result.

Bar Pitch is Too Far Apart



DMM Section C840 4.0 d

Measured over any 1/2 inch, horizontal spacing of the bars must be 22 ± 2 bars per inch, and pitch (a bar and a space) must average at least 0.0416 inch but no more than 0.05 inch. The clear vertical space between bars must not be less than 0.012 inch or more than 0.04 inch.



Note: See prior error condition for more information.

Background Reflectance is Low



DMM Section C840 5.1

A background reflectance of at least 50% in the red portion and 45% in the green portion of the optical spectrum must be produced in the following locations when measured with a USPS or USPS-licensed

envelope reflectance meter:

- The barcode clear zone of a card-size or a letter-size piece barcoded in the lower right corner.
- The area surrounding the barcode (within 1/8 inch of the leftmost and rightmost bars and 1/25 inch above and below the barcode) of a card-size, letter-size, or flat-size piece barcoded in the address block and of a flat-size piece barcoded elsewhere.

The background of paper where the barcode is placed should be uniform in color where white and pastel colors are preferred.

Print Reflectance difference is low



DMM Section C840 5.2

A print reflectance difference (PRD) of at least 30% in the red and green portions of the optical spectrum is required between the background material of the mailpiece and the barcode, when measured with a

USPS or USPS-licensed envelope reflectance meter. (PRD equals the reflectance of the background minus the reflectance of the ink.)

Barcode Clearance Problem



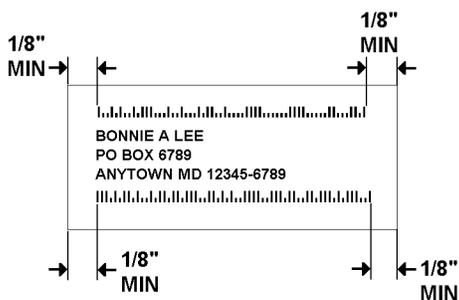
DMM Section C840 2.4c, C840.2.5 c, d, and e

When the insert showing through the window is moved to any of its limits inside the envelope, the entire barcode must remain within the barcode clear zone, and a clear space must be maintained that is at least

1/8 inch between the barcode and the left and right edges of the window, at least 1/25 inch between the barcode and the top edge of the window and at least 3/16 inch between the barcode and the bottom edge of the piece.



The minimum clearance between the barcode and any information line above or below it within the address block must be at least 1/25 inch, and the separation between the barcode and top line or bottom line of the address rightmost bars and any adjacent printing must be at least 1/8 inch.



If a window envelope is used, the clearance between the leftmost and rightmost bars and any printing or window edge must be at least 1/8 inch, and the clearance between the barcode and the top and bottom window edges must be at least 1/25 inch. These clearances must be maintained during the insert's range of movement in the envelope.

If an address label is used, a clear space of at least 1/8 inch must be left between the barcode and the left and right edges of the address label, and the clearance between the barcode and the top and bottom edges of the address label must be at least 1/25 inch.

Connected Bars



DMM Section C840 4.0d

The clear vertical space between bars must not be less than 0.012 inch or more than 0.04 inch.

Note: This error condition may cause MERLIN to report "Unrecognized Barcode" error conditions.



Barcode Will Not Decode



DMM Section C840 1.0

POSTNET (**POSTal Numeric Encoding Technique**) is the USPS-developed barcode method to encode ZIP Code information on mail that can be read for sorting by automated machines. A POSTNET barcode can represent a 5-digit ZIP Code (32 bars), a 9-digit ZIP+4 code (52 bars), or an 11-digit delivery point code (62 bars). The information content of the barcode is based on the combination of tall (full) bars and short (half) bars. A tall bar represents "1", and a short bar represents "0". When separated into groups of five, these bars sequentially represent each of the digits of the ZIP Code (or ZIP+4 code or delivery point code) for the delivery address, plus an additional digit designated as the correction digit. The correction digit is derived from adding the numbers in the ZIP Code (or ZIP+4 code or delivery point code) and determining which single-digit number must be added to that sum to make the total a multiple of ten. The first and the last bars of the barcode are frame bars and must always be full bars.

Barcode Error Reference Guide

August 2002

MERLIN

POSTNET PLANET

	0	
	1	
	2	
	3	
	4	
	5	
	6	
	7	
	8	
	9	

MERLIN is also capable of analyzing PLANET (Postal Alpha-Numeric Encoding Technique). Like POSTNET, PLANET consists of tall and short bars. While each POSTNET digit consists of two tall and three short bars, a PLANET digit contains three tall and two short bars. Therefore, PLANET digits are simply the complement of POSTNET digits.

All PLANET barcodes include a five bar checksum digit (or correction character). This digit is always the number which, when added to the sum of the other digits in the barcode, results in a total that is a multiple of 10.

Invalid Delivery Point Barcode



DMM Section C840 1.4

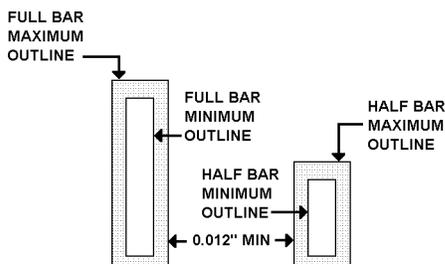
A delivery point barcode (DPBC) is formed by adding 10 bars (representing two additional digits) to the ZIP+4 barcode. The correct DPBC must be derived from a CASS-certified delivery point code address matching process. This error code may also appear in conditions in which a digit is printed incorrectly or the check sum digit is incorrect.

Bar space is too close



DMM Section C840 4.0 d.

The clear vertical space between bars must not be less than 0.012 inch or more than 0.04 inch.



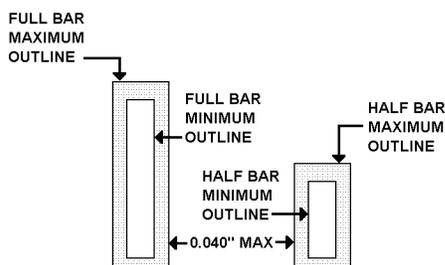
MERLIN calculates the bar space requirement by performing the following measurement: Left edge of the current bar – Right edge of the previous bar. The left edge of a bar is defined as the leftmost pixel of the line scan and the right edge of a bar is defined as the right most pixel of the line scan. The minimum distance is the bar space measurement. This process is accomplished for all bar spaces in a barcode and the values are compared to the max and min values allowed for bar space.

Bar space is too far apart



DMM Section C840 4.0 d

The clear vertical space between bars must not be less than 0.012 inch or more than 0.04 inch.



OTHER ERROR CONDITIONS

In addition to the error codes, there are three other messages that the MERLIN barcode evaluation process reports and they are as follows:

UNRECOGNIZED BARCODE

This condition is present when neither the barcode analysis engine nor the barcode reader engine produces a favorable read result. The possible causes for this error condition are:

- Erroneous check digit
- Incorrect barcode symbology (incorrect POSTNET representation of tall and short bar combination)
- More than 62 bars present
- Frame bars not present
- Improper bar height
- Improper barcode clearance zone
- Connected bars
- Any barcode parameter that renders the barcode unrecognizable



The sample barcode image appears to be properly printed. But, a careful analysis indicates that the image is of a barcode that has more than 62 bars. This barcode will produce an “Unrecognized Barcode” error condition message in the POSTNET Barcode Readability Report and no barcode image will be provided.

RECOGNIZED BUT NOT ANALYZED BARCODE

In this error condition, MERLIN knows that there is a barcode but the barcode analysis engine does not have an image available for performing the barcode analysis. The reader engine was able to read it.



The sample barcode image has a barcode tilt problem. The barcode reader engine is able to read it, but the barcode analysis

engine is not able to analyze it. This error condition is reported as “Recognized but not Analyzed Barcode” in the POSTNET Barcode Readability Report.

REPORT IMAGE CAN'T BE DISPLAYED

This error condition is reported if a barcode analysis failed, but due to internal MERLIN communication the system lost synchronization. The image associated with the error can not be included in the report. The associated readability errors that the barcode produced are included at the bottom in the POSTNET Barcode Readability Report.

DMM Transformation

The New DMM 100, A Customer's Guide to Mailing

It's here! A *Domestic Mail Manual* that is easy to use and understand. We are launching the first stage of a multi-part project to redesign the *Domestic Mail Manual* (DMM). The new DMM is based on the ways that customers use the mail and focuses on the key decisions customers make in doing business with the USPS.

The new DMM will look a lot different than it does now. We're breaking it into a series of smaller manuals and adding charts, illustrations, tips, and real-life examples to help customers understand our products and services.

The new DMM will be divided into different pieces for different kinds of customers:

- DMM 100 for retail customers (A Customer's Guide to Mailing; available now).
- DMM 200 for beginning and small bulk mailers, small businesses, and nonprofit organizations.
- DMM 300 for professional mailers.
- DMM 400 for labeling lists, hazardous materials, and other special information.

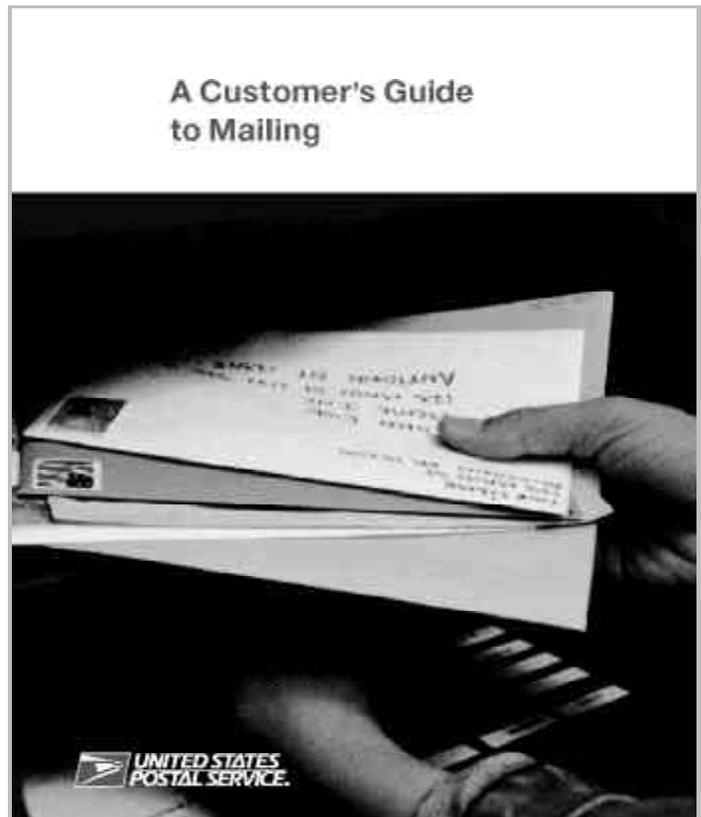
Why Redesign the DMM?

The current DMM is the legal document that supports our domestic mailing standards. The complexity of the current DMM can be frustrating for both employees and customers, and it discourages some potential customers from using the Postal Service.

In writing and publishing mailing standards, we have emphasized compliance with the law, the engineering requirements of our equipment, and the operational flow of mail through our system. While these are important objectives, there has been no comparable attempt to present mailing standards in a way that's easy for customers and employees to follow.

A Focus on Customers and Employees

The information in the DMM is complicated, in that we offer many mailing alternatives to many kinds of customers. The new DMM series clarifies these alternatives for different employee and customer groups such as retail customers, nonprofit organizations, small



businesses, Postal Service administrators. The series structures information in new ways by clarifying options, using commonsense language, and applying a variety of navigational devices. We believe that this new approach to the DMM will:

- Empower customers to make decisions about mailing without needing to consult an expert.
- Provide consistent, clear information that employees can use to explain USPS products and services to retail and business customers.

What Does the New DMM Look Like?

This month we are launching the first in the series, DMM 100, *A Customer's Guide to Mailing*. We've reproduced pages from DMM 100 on the following pages to highlight some of the new features. Distribution information follows on page 33.

A Customer's Guide to Mailing: Key Features

Customer Focus ●

The new DMM is based on the needs of our retail customers and answers the questions that customers ask in our retail stores.

Tables and Charts ●

Technical information is provided in a way that is easy to understand.

What Are You Mailing?

Knowing the shape of your mail helps you select the right services.



Postcard
Rectangular mailpiece
no thickness



Letter
Small rectangular mailpiece
no thicker than 1/4 inch



Large Envelope
Rectangular mailpiece
no thicker than 1/4 inch



Package
A three-dimensional mailpiece
contained in a box, flat
envelope, or tube, weighing up
to 70 pounds

		Length	Height
Postcard	minimum	4 inches	3-1/2 inches
	maximum	6 inches	4-1/4 inches
Letter	maximum	6 inches	3-1/2 inches
	minimum	9-1/2 inches	6-1/8 inches
Large Envelope	minimum	11-1/2 inches	6-3/8 inches

Package

Weight cannot exceed 70 pounds.
Length + girth (distance around the thickest part of package) cannot exceed 130 inches.

See page 17 for APO/FPO restrictions.

Some shapes, such as tubes and bags, are eligible, but require additional postage. Mail that is too dense or too soft to be processed by machines may also require additional postage.

Tips ●

Tips give customers extra information and advice about mailing options. They also link to tools such as Net.Post Online Services and the rate calculators.

Shape ●

Mailpiece shape is a natural way for customers to think about mailing.

A Customer's Guide to Mailing: Key Features

Examples

Real world examples provide a model for making decisions about mailing with special services like Registered Mail or insurance. The customer in Example 1 needs to send a piece of heirloom jewelry. She considers three options and decides on the best one. In Example 2, the customer is mailing an important document.

Examples of Smart Choices

These examples show how mailing services can be combined to meet your needs.

Example 1: Sending a Valuable Item

Jane's niece is getting married next month, and Jane wants to send a piece of heirloom jewelry to the bride. The jewelry has a lot of sentimental value, so Jane wants to be sure that it will arrive safely. She considers three possible options:

Option A: Express Mail	Express Mail	\$15.00
Express Mail automatically includes insurance up to \$100 and will get the jewelry to Jane's niece overnight. Jane will also receive an mailing receipt and confirmation that the package has been delivered and has been signed for by the niece.		
Option B: First-Class Mail with Registered Mail	First-Class Mail (Flat) Registered Mail	\$0.75 + \$2.75 = \$3.50 <small>(for \$200 item's value)</small>
First-Class Mail offers delivery at a low cost and can be combined with Registered Mail, a service that provides the highest level of mail security during transit. Insurance is included up to \$200 in material, but not on the entire letter.		
Option C: First-Class Mail with Insurance	First-Class Mail (Flat) Insurance	\$0.75 + \$5.25 = \$6.00 <small>(for \$200 item's value)</small>
First-Class Mail offers delivery at a low cost and can be combined with insurance for up to \$5,000. Insured Mail will cover the jewelry's material value should the piece get lost or damaged, but it can't cover its sentimental value.		

Jane's Decision

Jane decides that speed is key, so she chooses First-Class Mail and, because the jewelry has greater sentimental than monetary value, she decides to add Registered Mail services; she can feel confident that her heirloom will be as secure as possible during transit.



Example 2: Sending an Important Document

Maria recently sold her car and needs to transfer the title to the new owner. She wants to be absolutely certain that the new owner gets the title to complete the sale. Maria considers these options:

Option A: Express Mail	Express Mail	\$19.00
Express Mail will arrive at many locations the day after it is mailed. Express Mail also provides Maria with proof that she mailed the title. It's able to track it online or by phone, and notification that it was delivered. She can also request a copy of the recipient's signature.		
Option B: Priority Mail with Confirmation Service	Priority Mail Delivery Confirmation	\$3.95 + \$0.45 = \$4.40
Priority Mail will get the title to its destination in 1 to 3 days. Maria could add Delivery Confirmation, which lets her obtain delivery information online or by phone. If she uses Signature Confirmation she gets the same delivery information, plus the full printed name of the recipient by return.		
Option C: First-Class Mail with Certified Mail and Return Receipt	First-Class Mail Certified Mail Return Receipt	\$0.37 + \$2.70 + \$1.75 = \$4.82
First-Class Mail will get the title to its destination in 1 to 3 days. Certified Mail with Return Receipt will give Maria proof that she mailed the title and will return a card to her with the date the title was delivered and the signature of the person who received it.		

Maria's Decision

Maria wants a hard copy signature returned to her to prove that the title was delivered, and she wants to get the fastest from the post. She decides that First-Class Mail with Certified Mail and Return Receipt is the best option.