

LOWE'S COMPANIES, INC.

BAR CODING GUIDELINES

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PREFACE

In the spring of 1990, Lowe's Companies began the installation of bar code scanning equipment to all sales registers. Since that time, point of sale scanners have been installed in all store locations. Bar code scanning has proven to be a practical way to identify products at the item level. Point of sale bar code scanning provides quicker, more efficient checkout, with inventory being tracked more accurately and more timely than was previously possible.

During 1992, Lowe's bar coding program was expanded to include scanning at point of receipt within our distribution centers and store locations. Since October 1992, all Lowe's vendors are required to apply Interleaved 2 of 5 Shipping Container Codes to all shipping containers containing a standard multiple of the same product.

As our program progresses, we plan to move forward to also support UCC/EAN-128 Serialized Shipping Container symbology within our distribution centers and store locations. The use of bar code scanning to facilitate receipt of products is a very different bar code application versus the use of bar code scanning to process consumer sales (UPC codes). For this reason, Lowe's Bar Coding Guidelines are broken into two sections: **Point of Sale** and **Point of Receipt**

Successful bar code applications require strict adherence to standards. Lowe's Companies has worked closely with other retailers and manufacturers to develop and adopt specific standards for our industry. The American Hardware Manufacturer's Association publishes a guideline on bar coding for the Hardlines Industry. This guideline has the support of the Builder's Hardware Manufacturer's Association, Hand Tools Institute, Home Center Institute, National Lawn and Garden Distributor's Association, National Wholesale Hardware Association, Southern Wholesale Hardware Association, and the National Forest Products Association. As Lowe's bar coding program will adhere to these guidelines, it is strongly recommended that you obtain a copy of these guidelines as soon as possible. The publication is available from the AHMA at 847-605-1025.

Lowe's also follows and enforces the bar coding guidelines as specified by the Uniform Code Council (UCC) and EAN International (European Article Number). The UCC and EAN are non-profit organizations which govern bar coding standards. The UCC governs coding standards in the United States and EAN governs internationally. There is a one time fee for this service and the amount is based upon your company's sales volume. You will receive several bar coding manuals upon joining the UCC or EAN. It is necessary for you to contact the UCC (800-543-8137) or EAN (telephone number will be based upon individual country) to apply for a manufacturer's number which should be embedded within your bar code. Information about the Uniform Code Council can be obtained from their web site at www.uc-council.org. The web site includes information for each country's office, including location and phone number.

The telephone numbers for some commonly requested countries are listed below:

United States

800-543-8137

Central America (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua & Panama)

502.362.53.75

China

86.10.62.02.45.28

Hong Kong

852.2.861.28.19

Malaysia

60.3.293.12.44

Singapore

65.338.87.87

Taiwan

886.2.393.9145

Should you have questions, contact Lowe's Bar Code Coordinator at 336-658-4000.

POINT OF SALE GUIDELINES

Lowe's Companies supports three bar code types (symbolologies) for use at point of sale. Universal Product Code Version A (UPC-A) accounts for well over 99% of all bar codes in Lowe's system and represents the overwhelming choice for all U.S. manufacturers and retailers. Lowe's also supports and accepts UPC Version E (UPC-E) and European Article Number (EAN) bar code symbolologies.

UPC-A Bar Code



UPC-A is a 12-digit numeric bar code used to uniquely identify a consumer package. It consists of:

(A) Manufacturer's ID Number (6 or 8 digits) assigned uniquely to each member company by the UCC.

(B) Item Number assigned and controlled by your company to identify each of your items. The item number must be unique for each item type (size, color, model, etc.).

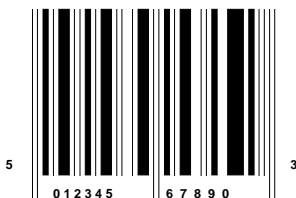
(C) 1-digit Check Digit located in the twelfth position of the code. The check digit is derived from a standard arithmetic formula based upon the first 11 digits of the code (see Page 16). It is used as a numeric check to verify the integrity of the other eleven digits when scanned or manually key entered.

UPC-E Bar Code



The UPC-E bar code is simply a zero suppressed version of UPC-A. Use of the 8-digit UPC-E code is dependent upon applying for and receiving a number systems character of "0" and a manufacturer's ID number capable of being zero suppressed using a standard arithmetic formula. Its purpose is to accommodate smaller-sized consumer packages limited in the amount of space available for applying a bar code symbol.

EAN-13 Bar Code



The EAN bar code is the European equivalent of the UPC code. The EAN code is 13 or 8 digits long and includes a country of origin identifier. Use of the EAN code is typically limited to manufacturers located or conducting the majority of their business outside the United States.

REQUIREMENTS

"UPC" will be used synonymously for UPC-A, UPC-E, EAN-8, and EAN-13 bar codes for the remainder of this document. Minor UPC mistakes can lead to major problems. Following are a few important points to remember concerning the production, placement, and detail of the UPC code:

1. **Selling Units** - Each selling unit (individual product or case) which is intended for retail sale to consumers should be marked with a unique UPC code. See details in Unique Codes. All shipping units containing multiples of the same product that are not sold by the case, should be marked with an I 2 of 5(UPC SCC) Shipping Container Code (See Point of Receipt Guidelines). **THIS IS VERY IMPORTANT! - NEVER PUT THE INDIVIDUAL PRODUCT BAR CODE ON THE OUTSIDE OF A MULTI-PACK.**
2. **Unique Codes** - If a product can be sold either by the piece or by the case, do not place the individual bar code on the outside of the case. The case bar code should be a different bar code and should be the only one visible on the outside of the case. **THIS IS VERY IMPORTANT! NEVER PUT THE SAME UPC CODE ON A CASE OF PRODUCT AS WELL AS ON THE INDIVIDUAL PRODUCT CONTAINED WITHIN THE CASE.**
3. **Mark Your Products** - The preferred method for representing the UPC code for your product is to incorporate the UPC code into the graphic design for the package or printing the UPC code directly on the package itself. This eliminates the need for manual application of any type (i.e. stick on labels). The use of printed and manually applied UPC code labels is discouraged as it is more labor intensive, creates more opportunity for label tampering/fraud, and requires much consideration as to how the labels will be applied (adhesive, staple, location, etc.). Special consideration will be given to products that, by their nature, can not have the UPC code incorporated into the graphic design for the package.
4. **Size of Symbol** - All magnifications should be based on the nominal (or 100%) size of 1.020" x 1.469" (including the required quiet zone). The nominal size UPC symbol has an "X" dimension of 13 mils (thousandths of an inch). The "X" dimension is the width of the narrow element. This can be reduced down to 80% (which is an "X" dimension of 10.4 mils) or increased up to 200% (which is an "X" dimension of 26 mils). Truncation (shortening the height of the bars) is allowed only when absolutely necessary in order to fit the bar code onto the product. Even so, the bars should not be reduced to a height of less than 1/2" tall. Truncation for the purpose of graphic designs is not acceptable.
5. **Quiet Zone** - Allot enough white space on both sides of the symbol itself. This allocation must be at least 3/32 of an inch on both the right and left sides of the symbol. Otherwise, the bar code cannot be scanned.
6. **Contrast of Symbol** - Lowe's scanners, as do most point of sale scanners, employ red lasers. This means that our scanners are blind to red, and most shades of purple and blue. Do not use these colors when producing bar code symbols.
7. **Human Readables** - Print all digits beneath the bar code symbol on all products (UPC-A 12-digits; UPC-E 8-digits; EAN-8 8-digits, EAN-13 13-digits).
8. **Verify Before Printing** - Manufacturers are well advised to have any prospective bar code symbol scanned to verify it is accurate and scannable prior to acceptance. Failure of a bar code to scan will result in package changes later at your expense.
9. **Label Quality** - Products which may be stored or displayed outside (such as plants, lumber, etc.) should have labels which can withstand exposure to sun and water without fading or falling off the product.

REQUIREMENTS (continued)

10. Location of Symbol - The location of your bar code is very important. The UPC code must be easily accessible. Generally, boxed goods should have the UPC code on the top or sides of the product. Carded goods should be coded on the front or back. Lawn and Garden bagged goods should be labeled with the UPC code on at least two and preferably four places on heavy bag products (opposing corners and sides of the bag). Products with lengths exceeding 8 feet (moulding, lumber, pipe, etc.) should be coded on BOTH ends of the product. Keep in mind ALL bar code tags must be securely attached.

11. Data - Submit the bar code information to **Lowe's merchandising** within 30 days prior to product shipment. The data should include:
 - * Lowe's 5-digit item number
 - * your model number and product description
 - * all digits of the bar code number; i.e., for UPC-A include all 12 digits
 - * quantity (The quantity should reflect the number of consumer selling units. For example, if the product is sold by the piece or by the case, a bar code must be defined for the individual piece with a quantity of 1 associated with that bar code, and an additional bar code must be assigned for the entire case with the quantity indicating the number of pieces within the case.)

This information must be entered in Lowe's data system in order for the codes to be scannable.

12. Verify Before Shipping - Test scan your UPC codes prior to shipment. This will help ensure there are no quality problems with the code, the check digit is correct, and the bar code has been applied to the correct product.

13. ANSI Standards - The print quality of all bar codes should meet ANSI Bar Code guidelines. Lowe's requires all symbols to have a Grade "C" rating which ensures the best print quality and scanning performance. Contact the UCC for the ANSI Bar Coding Print Quality guidelines

BAR CODING NONCOMPLIANCE

Vendors will be held accountable for noncompliance with Lowe's bar coding requirements.
See page 19 for more information.

GENERAL UPC GUIDELINES
AS ESTABLISHED BY THE UNIFORM CODE COUNCIL

- Φ New Products - A new UPC number should be used only when a product is initially introduced or an existing product is substantially changed.
- Φ Price Changes - A price change by the manufacturer or distributor and regional price differences are not sufficient reasons for assigning a new UPC to a product.
- Φ Unique Products - When products are identical except in color, they must have a separate, unique UPC code for each color. The same would hold true for different sizes of the same product (i.e.; 2x4x8' board, 2x4x10' board, etc.), or different package quantities of the same product (1 LB box of nails, 5 LB box of nails, etc.)
- Φ Add On Codes - The UPC symbol should not include a reference to data codes, place of manufacture, or other information sometimes included on consumer packages.
- Φ Multiple UPCs - A manufacturer should not assign a different UPC number to the same product. For example, product XYZ manufactured by the same company but at different locations should be assigned the same UPC regardless of place of manufacture. Competing manufacturers for the same item will have different UPC numbers for their item due to the uniqueness of their manufacturer's ID number.
- Φ Multipack Consumer Units - Products sold in multipacks must carry a **unique** UPC for the smallest consumer sale unit and a **different** UPC number for each aggregation. For example, a package of 4 light bulbs - 70 watt must have its own unique UPC code. If the same manufacturer offers for sale (at the consumer level) a package of 6 light bulbs-70 watt, that consumer unit must carry a different UPC code. The quantity assigned to each UPC must reflect the number of consumer selling units (see discussion on Quantity for more information).
- Φ Re-use of UPC Numbers - A UPC number should not be reused for a minimum period of 4 years after the last shipment to any distributor. The general rule is that manufacturers should be sure that pipelines are empty and all retailer's stock exhausted before re-using the UPC.
- Φ Promotional Packs - Products modified for seasonal or promotional reasons must carry a unique UPC code. For example, if a manufacturer offers a special promotional package containing (within or affixed to the original product) a free item, this consumer package should have a unique UPC code.

LFT ITEMS AND BAR CODES

The following bar coding guidelines should be used for labeling product Lowe's sells by the foot, (i.e. pipe, rope, chain, millwork, etc.), and linking the quantity for those bar codes in Lowe's data system.

PRODUCTS SOLD BY LFT

1. Instruct the vendor to apply a UPC bar code which represents the number of feet for the selling unit. The UPC should be communicated to Lowe's along with the number of feet within the product the UPC is applied to. This will allow the product to be identified when scanned at point-of-receipt, during inventory, and at point-of-sale.
2. If the product is shipped in a master container or on a pallet, instruct the vendor to apply an I 2 of 5 bar code to each multi-pack level. The I 2 of 5 should be communicated to Lowe's along with the number of feet within the packaging level the I 2 of 5 is applied to. This will allow the product to be received quickly and accurate at point-of-receipt and verified during inventory.
3. The UPC should be added to Lowe's data system for the number of selling units the bar code represents. For example, if the product is 10 feet of plumbing pipe, the UPC should be added for a quantity of 10. Having the number of selling units entered as the quantity will assist with receiving issues. **At point-of-sale, the UPC is scanned for identification purposes only. The cashier is prompted to enter the number of feet being purchased for all LFT items.** If the UPC is used during inventory, the number of feet remaining on the unit should be used for the inventory counts.
4. The I 2 of 5 should be added to Lowe's data system for the number of selling units within the shipping container. For example, if the vendor is shipping five 10-foot pieces of pipe, the I 2 of 5 should be added for a quantity of 50. The I 2 of 5 would be used during receiving and inventory to scan the 50 feet of pipe within the shipping unit.

EXCEPTION:

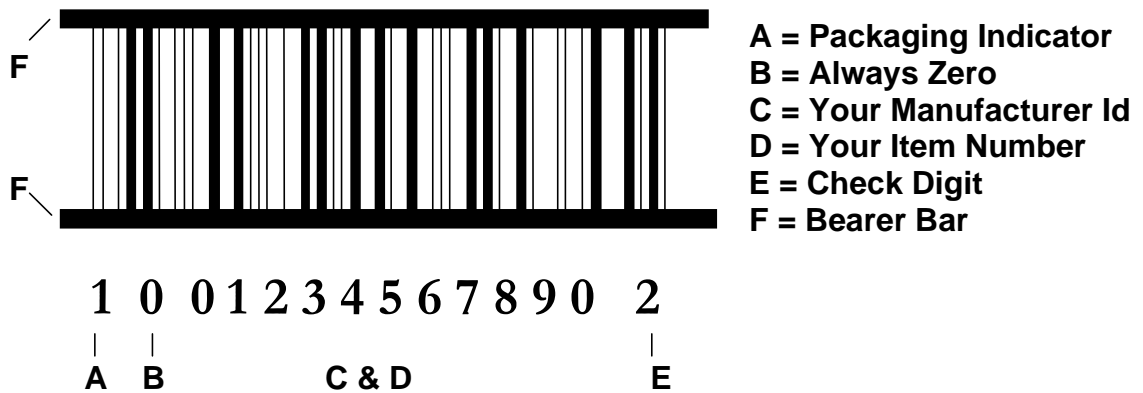
1. Product such as carpet, vinyl flooring, and random length lumber do not apply to the guidelines mentioned above. For these product categories, there is not a standard number of selling units per roll or bundle.
2. Please contact the Bar Code Coordinator on how to handle these product categories.

POINT OF RECEIPT GUIDELINES

Lowe's currently requires the Interleaved 2 of 5 (UPC Shipping Container Code) for use at point of receipt. In the future, Lowe's will also support the UCC/EAN-128 Serialized Shipping Container Code (see Page 12).

The Interleaved 2 of 5 bar code (I 2 of 5) is designed to identify products which are unitized in standard packs at the inner, master, or pallet levels. That is, each shipping container or packaging level that always contains the same quantity of the same product requires an I 2 of 5 bar code. It is not designed to identify nonstandard or mixed shipping units. Lowe's cross-references your 14-digit I 2 of 5 number in our computer system to an internal item number and the quantity of selling units within the shipping container. These two fields are referenced with each scan of the I 2 of 5 code.

Steps in Defining Your I 2 of 5 Code



There are ten basic steps in defining your I 2 of 5 bar code. *For each step, a screwdriver with a UPC of 012345 11114 3 will be used to illustrate how to define the I 2 of 5 code for this product.*

1. Determine the levels of packaging for a given product and confirm the product will always be shipped with the same quantity within each packaging level. *For example, the screwdriver will be assigned an inner pack quantity of 6 (meaning there are 6 selling units within the inner pack), and a master carton assigned a quantity of 36 (meaning there are 36 selling units within the master carton).*
2. Obtain your product's UPC bar code number. *For example, the screwdriver's UPC is 012345 11114 3. If you are using an EAN or UPC-E bar code on your selling units, contact Lowe's Bar Code Coordinator for instructions on defining your I 2 of 5 bar code.*
3. Drop the last digit or check digit from the UPC number. This UPC number should be imbedded within the I 2 of 5 code for the given product. *For example, drop the last digit, 3, from the screwdriver's UPC number 012345 11114. As explained in Steps 4-6, additional numbers will be added in front of the UPC number (012345 11114), and a new check digit will be calculated as the last digit of the I 2 of 5 code.*
4. 1st digit of the I 2 of 5 = Packaging Indicator of 1 through 8. It is optional to you as to which of the 1 through 8 numbers you use for the various levels of packaging; i.e., assigning a 1 to an inner sleeve, a 2 to an inner carton, a 3 to the master carton, and a 4 to the pallet for a given product. *For example, for the screwdriver you may choose to use 1 as the Packaging Indicator for the inner pack of 6, and use 2 as the Packaging Indicator for the master carton of 36. Again, any of the numbers 1 through 8 could be used for the inner pack and then any of the remaining numbers used for the master carton. It is optional to you. Remember, the UPC number is imbedded within the I 2 of 5; therefore, the Packaging Indicator as well as the check digit are unique per packaging level for a given product. See Page 10 for discussion on quantity changes and the Packaging Indicator.*

STEPS IN DEFINING YOUR I 2 OF 5 BAR CODE (continued)

Also, you can use 1 through 8 for the Packaging Indicator for each of your products. For example, you can use a Packaging Indicator of 1 for one product that you are packaging 20 selling units, and you may use 1 as the Packaging Indicator for a different product in which you are packaging 12 selling units.

If you have more than eight ways of packaging a given product, or you are shipping the same quantity of an assortment of product that represents only one Lowe's item number, contact Lowe's Bar Code Coordinator for assistance.

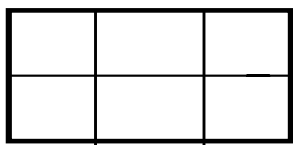
5. 2nd digit of the I 2 of 5 - The 2nd digit of the I 2 of 5 with imbedded UPC codes will always be zero. Add a zero to the front of the UPC bar code number, minus the check digit on the UPC as explained in Step 3. *For example, add a zero to the front of the screwdriver's UPC number 0012345 11114.*
6. 3rd - 8th (or 10th depending on the length of the mfg ID) digits of the I 2 of 5 - This is your manufacturer's number as used within the UPC code (see Page 3). *For example, the manufacturer's number for the screwdriver is 012345.*
7. 9th or 11th (depending on the length of the mfg ID) - 13th digits of the I 2 of 5 - This is your item number as used within the UPC code (see Page 3). *For example, the item number as assigned for the screwdriver is 11114.*

For example, the 2nd through 13 digits of the I 2 of 5 for the screwdriver would be 0012345 11114.

8. 14th digit of the I 2 of 5 = The Check Digit is derived from a standard arithmetic formula based upon the first 13 digits of the I 2 of 5 code (see Page 16). The I 2 of 5 check digit WILL BE DIFFERENT than that of the UPC code because of the additional digits in front of the code. *See the following example of the screwdriver check digits at the product level (UPC has a check digit of 3), the inner pack (I 2 of 5 has a check digit of 0), and for the master carton (I 2 of 5 has a check digit of 7).*
9. Bearer Bars = The horizontal thick lines which touch the vertical bars of the I 2 of 5 code are required by Lowe's. They insure that the scanner reads the entire bar code and provides a quick identification of the code as the I 2 of 5. If you are printing on corrugated cardboard, the bearer bars should be .19" and on all four sides. If you are printing on anything else, the bearer bars must be two times, preferably three times, the width of the narrow bar within the I 2 of 5. The bearer bars must intersect with the top and bottom of the vertical bars.
10. Human Readables = Print all 14 digits beneath the bar code symbol. The spacing between the numbers enhance readability but are not a requirement when printing the 14 digits.

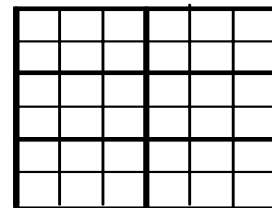
Example of I 2 OF 5 Bar Codes for a Product: UPC # **012345 11114 3** is assigned to **1** screwdriver. The screwdriver is packed in a case of **6**. And, it is also packed in a master carton of **36**.

Case of 6 Screwdrivers



I 2 of 5 # **1 00 12345 11114 0**
Quantity for this I 2 of 5 = **6**

Carton of 36 Screwdrivers



I 2 of 5 # **2 00 12345 11114 7**
Quantity for this I 2 of 5 = **36**

POINT OF RECEIPT GUIDELINES

REQUIREMENTS

I 2 of 5 bar coding mistakes can lead to major inventory problems and impact the entire replenishment cycle. The following are a few important points to remember concerning the production, placement, and detail of the I 2 of 5 (UPC Shipping Container Code):

1. Shipping Containers - Each level of packaging (inner, master, or pallet) containing the same quantity of the same product should be marked with a unique I 2 of 5 code. All other cases should be marked with a 4 x 6 label/placard indicating "MIXED CONTENTS" without an I 2 of 5 bar code on the outside of the shipping unit.
2. Shipping Quantity - If a ship quantity changes in the future, a NEW packaging indicator and check digit must be assigned, and the new I 2 of 5 code must be communicated to Lowe's prior to shipment of the product. See the discussion on Quantity reflecting the number of consumer selling units.
3. Size of Symbol and Label - The size of the code and label should be proportional to the size of the carton. Keep in mind, the minimum size for an I 2 of 5 code is 3/4" by 3" which is a "X" dimension of 25 mils (thousandths of an inch). The "X" dimension is the width of the narrow element. Any exception to the minimum size must be approved by Lowe's Bar Code Coordinator.
 - Pallet labels should be larger than case or master carton labels. The minimum size of a pallet label is 4" x 6". Keep in mind this is the size of the label, not necessarily the size of the bar code.
4. Wide to Narrow Ratio - The ratio between the width of the wide elements and the width of the narrow elements should be 2.5:1 to 3.0:1 which means the wide bars are 2 1/2 to 3 times wider than the narrow bars.
5. Quiet Zone - Allot enough white space on both sides of the symbol itself. This allocation must be at least 3/32 of an inch on both the right and left sides of the symbol. Otherwise, the bar code cannot be scanned.
6. Contrast of Symbol - Lowe's scanners, as do most point of sale scanners, employ red lasers. This means that our scanners are blind to red, and most shades of purple and blue. Do not use these colors when producing bar code symbols.
7. Human Readables - Print all 14 digits beneath the bar code symbol.
8. Verify Before Printing - Manufacturers are well advised to have any prospective bar code symbol scanned to verify it is accurate and scannable prior to acceptance. Failure of a bar code to scan will result in package changes later at your expense.
9. Label Quality - Products which may be stored or displayed outside (such as plants, lumber, etc.) should have labels which can withstand exposure to sun and water without fading or falling off the product.

POINT OF RECEIPT GUIDELINES

REQUIREMENTS (continued)

10. **ANSI Standards** - The print quality of all bar codes should meet ANSI Bar Code guidelines. Lowe's requires all symbols to have a Grade "C" rating which ensures the best print quality and scanning performance. Contact the UCC for the ANSI Bar Coding Print Quality guidelines.
11. **Location of Symbol** - Lowe's recommends the I 2 of 5 label be printed on or applied to the lower right-hand corner of two adjacent sides of the shipping container; one label on the long side and one label on the narrow side. It should be placed 1.25" from the bottom of the vertical symbol bars to the bottom of the carton. And, it should be placed no closer than 0.75" from the edge of the container. If you are shipping standard pallets, the I 2 of 5 labels should face outside to reduce handling at point of receipt.
12. **Data** - Submit the bar code information to Lowe's prior to shipment. The data should include:
 - Lowe's 5-digit item number
 - your model number and product description
 - all digits of the UPC bar code number
 - all 14 digits of the I 2 of 5 bar code number
 - quantity for the I 2 of 5 code (The quantity should reflect the number of consumer selling units contained within the shipping container. For example, if the product is sold by the piece, the quantity would reflect the number of pieces contained within the shipping container. Another example would be where Lowe's sells a product by the foot. If there are 300 feet of rope on a spool, and Lowe's sells it by the foot, the correct quantity is 300 even though the vendor may consider it to be one spool. It is necessary for you to find out Lowe's selling units, i.e., eaches, bundle, foot, box, pair, etc. before printing your I 2 of 5 codes and communicating the data to Lowe's.)

Please provide this information to merchandising 30 days prior to product shipment to eliminate any discrepancies. This information must be entered in Lowe's data system in order for the codes to be scannable.

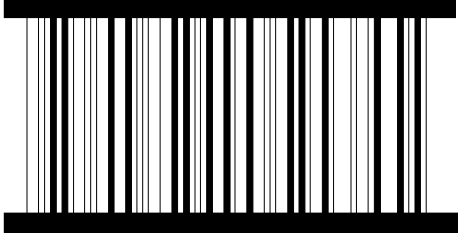
NOTE: If you are a vendor currently participating in PCM/data synchronization, the barcode/GTIN information should be registered into the PCM application in order for Lowe's to buy/sell your product(s). If you have any questions in regards to PCM/data synchronization, please contact <http://lowespcm.ecusthelp.com> or visit www.loweslink.com for additional information on data synchronization.

13. **Verify Before Shipping** - Test scan your I 2 of 5 codes prior to shipment. This will help ensure there are no quality problems with the code, the check digit is correct, and the bar code has been applied to the correct shipping container.
14. **Re-use of I 2 of 5 Numbers** - An I 2 of 5 number should not be reused for a minimum period of 4 years after the last shipment to any distributor. The general rule is that manufacturers should be sure that pipelines are empty before re-using the I 2 of 5.

POINT OF RECEIPT GUIDELINES

15. Label Format - The following is an example of a shipping label containing an I 2 of 5 Bar Code.
(actual size of an I 2 of 5 bar code is not shown, see discussion on Size of Label)

COUNTRY OF ORIGIN:	HONG KONG
MODEL NO:	Z841-XKBJSM
DESCRIPTION:	EMB. SAN STOCKING
QUANTITY:	36 EACH



The image shows an I 2 of 5 bar code, which consists of vertical bars of two different heights. The bars are arranged in a sequence that encodes the number 10012345678902. The bars are flanked by two thick vertical bars, known as bearer bars, on each side.

1 00 12345 67890 2

Include the following information -

- Country of Origin (if manufactured outside of United States)
- Your Model Number (Do not use the wording "item number" to eliminate any confusion between the vendor model number for the product and Lowe's item.)
- Product Description
- Quantity (indicate number of consumer selling units)
- I 2 of 5 Code, including Bearer Bars; side bearer bars should also be used when printing directly on cardboard.
- 14 human readable digits printed beneath the code as shown.

BAR CODING GUIDELINES

UCC/EAN-128 SERIALIZED SHIPPING CONTAINER CODE (SSCC-18)

The UCC/EAN-128 (SSCC-18) bar code label is used by the shipper to capture the contents of a shipment. The receiver of the shipment scans the UCC/EAN-128 bar code label to identify the contents of a pallet or carton. The Advance Ship Notice (856-Ship Notice/Manifest) contains the shipment information provided by the shipper as well as the UCC/EAN-128 bar code information to uniquely identify which items are contained within a carton or pallet. The electronic Advance Ship Notice (ASN) must be transmitted to Lowe's to arrive prior to the shipment in order for Lowe's system to take advantage of the information to expedite the receipt of product.

The I2of5 (SCC-14) bar code **will not** be replaced by the UCC/EAN-128. In fact, it is a very important key to ensuring the accuracy of the ASN. For example, the shipper can scan the I2of5 bar code on the carton to build the shipment information contained within the ASN. The I2of5 bar code will always be required as an alternative method to identify the contents of the carton or pallet. The requirements for the I2of5 are outlined in this document.

Points in Defining Your UCC/EAN-128 (SSCC-18)

1. The electronic ASN is the key to this program's success since it enables you to document what you are shipping to Lowe's before it arrives. Lowe's Logistics Specialist will contact your company to request implementing the ASN (856) EDI document with Lowe's.
2. Accurate information provided in the ASN is critical. The best strategy for creating accurate ship notices is to scan the product as it is being placed on the pallet or in the shipping container.
3. An ASN application that captures the data for the ASN should utilize the scanning of bar codes (UPC-A, UPC-E, EAN-13, I2of5, UCC/EAN-128, etc) to provide accuracy in capturing the data.
4. The serial number used within the UCC/EAN-128 must be unique for at least one year.
5. Labeling of Pallets and Cartons – Depending upon the type of shipment, a UCC/EAN-128 bar code label will be required on either the pallet or carton or possibly both.
 - If the shipment is completely palletized, then the UCC/EAN-128 bar code label is only required on the pallet. However, it is acceptable to also label the carton with the UCC/EAN-128 bar code label as well.
 - If the shipment is not palletized, then the UCC/EAN-128 bar code label is required on each individual carton.
 - If the shipment is a mixture of palletized and individual cartons, then a UCC/EAN-128 bar code label can be applied to the pallet without individual UCC/EAN-128 bar code labels on the cartons contained on the pallets. The individual cartons not palletized would need a UCC/EAN-128 bar code label applied to the carton. (Note that in this example it may be easier for all cartons being loaded on the shipment to be labeled with the UCC/EAN-128 bar code label.)
6. "Ship To" Information
 - If shipping a crossdock purchase order, the Ship To should include information on Lowe's Distribution Center and the Final Destination Code and Final Destination Text (store name and address) should include information on Lowe's Store that will actually receive the order into their inventory. The Final Destination Code is optional at this time but the Final Destination Text should be included for crossdock purchase orders.
 - If shipping to a single Lowe's store or distribution center, the Ship To should include information about that location and the Final Destination Code and Test fields are not required.
7. Label location: Lowe's requires the UCC/EAN-128 label to be applied to the side of the shipping container. The label should not cover the UPC or I2of5 bar codes on the package
8. Department Number and Department Name Abbreviation: Lowe's 850 EDI Purchase Order document will contain the Department Number and Department Name Abbreviation, it should be included on the UCC/EAN-128.
9. Ship To Postal Code: The minimum length allowed for the Ship To Postal Bar Code is 8 digits; including 420 as the application identifier with a 5-digit postal code. The maximum length allowed for the Ship To Postal Bar Code using the 420 identifier on the UCC-128 bar code label is 20 characters. This will accommodate both 9-

BAR CODING GUIDELINES

digit postal codes as well as Canadian alpha-numeric postal codes. Lowe's does not currently require the country code to be included in this section.

10. See section on Label Specifications for information on the label formatting requirements.

11. See section on check digit calculation for information on creating the check digit for the UCC/EAN-128.

Note, this label is being reviewed and may be modified in the near future. It is not required if providing a Summary ASN. See the 856 Implementation Guide for more information on the two types of ASN's that Lowe's can receive.

BAR CODING GUIDELINES

UCC/EAN-128 Label Specifications

Size: 4" x 6" label, white

Ship From

Title: FROM
Block Height: 1" Block Width: 1.25"
Data Content: Ship From name and address

Ship To

Title: SHIP TO POST
Block Height: 1" Block Width: 2.5"
Data Content: Ship to Postal Barcode

Carrier Routing Bar Code (optional)

Title: SHIP TO POST
Block Height: 1" Block Width: 2.5"
Data Content: Ship to Postal Bar Code
Bar Code (min. 8, max 20 chars)
Positions 4 + Ship to Postal Code
Bar Code Height: min. 0.5" X Dim: min. 0.010"
Code Set: C

Carrier

Title: CARRIER
Block Height: 1" Block Width: 1.5"
Data Content: Carrier Name,
PRO Number (PRO: xxxxxxx),
SCAC Bill of Lading Number (B/L: xxxxxxx)

Trading Partner Data

Title: PO
Block Height: 1" Block Width: 4"
Data Content: PO Number
Department Number
Department Name Abbreviation
Font: .16"-.20"; format as shown




Final Destination Code (optional)

Title: FOR (for final destination store number)
Block Height: 1" Block Width: 2.5"
Data Content: Lowe's 4 digit store number
Bar Code (6 digits)
Positions 1-2 Application Identifier 91
Positions 3-6 4 digit final destination store number
Bar Code Height: min. 0.75" X Dim: min. 0.020"
Code Set: C

Final Destination Text (required for crossdock)

Title: not applicable
Block Height: 1" Block Width: 1.5"
Data Content: Final Destination
Store Name and Address

* Please note, this label is being reviewed and may be modified in the near future. It is not required if providing a Summary ASN. See the 856 Implementation Guide for info.

FROM Good Time Supplier 1155 Battery St San Francisco CA 94111	TO Lowe's Companies RDC 955 955 Lowe's Lane Mount Vernon, TX 75457
SHIP TO POST (420) 75457 	CARRIER Best Freight PRO: 2895769860 B/L: 853930
PO: 12345 Dept #: 14 Dept Name: TOOL	
FOR (91) 0513 	Lowe's Store 513 8520 S.Hampton Rd. Dallas TX 75232
SSCC-18 (00) 0 0052177 513895717 2 	

SSCC-18 Bar Code

Title: SSCC-18
Block Height: 2.0" Block Width: 4.0"
Data Content: Serial Shipping Container Code
Bar Code Height: min. 1.25" X Dim: Min. 0.020"- 0.025"
Code Set: C
Print human readable digits either above or below the SSCC-18 bar code

SSCC-18 Bar Code Structure (20 digits)

Application Identifier = (00)
Positions of SSCC-18 bar code:
1 = Extension Digit (0-9 assigned by Vendor)
2 = 0 if mfg id # assigned by UCC;
= 1-9 if mfg id # assigned by EAN
3 thru 8 = 6-digit mfg id #
9 thru 17 = 9-digit serial id # -must be unique for one year
18 = Modulo 10 check character
Quiet Zones = 10 times X Dimension or 0.25"
ANSI Symbol Grade should equal or exceed 2.5/10/670, where
- minimum print quality grade = 2.5
- measurement aperture is 0.01" (0.254 mm)
- inspection wavelength is 670 nm ± 10 nm

HOW TO CALCULATE THE UPC-A CHECK DIGIT

0 12345 11114 ?

1. Starting at the left, sum all the characters in the ODD positions (that is, first from the left, third from the left, and so on), starting with the number system character. $0 + 2 + 4 + 1 + 1 + 4 = 12$
2. Multiply the sum obtained in Step 1 by 3. $3 \times 12 = 36$
3. Again, starting at the left, sum all the characters in the EVEN positions. $1 + 3 + 5 + 1 + 1 = 11$
4. Add the product of Step 2 to the Sum of Step 3. $36 + 11 = 47$
5. The modulo-10 check digit value is the smallest number which when added to the sum of Step 4 produces the next highest multiple of 10. In this example, the next highest multiple of 10 in Step 4 is 50. Adding 3 to 47 equals 50; therefore, 3 is the check digit for this bar code. Note: If the sum in Step 4 is a multiple of 10, the check digit would be zero. $(3 + 47 = 50)$ *check digit is 3*

UPC = 0 12345 11114 3

HOW TO CALCULATE THE I 2 OF 5 (SCC-14) CHECK DIGIT

2 00 12345 11114 ?

1. Starting at the left, sum all the characters in the ODD positions (that is, first from the left, third from the left, and so on), starting with the package indicator. $2 + 0 + 2 + 4 + 1 + 1 + 4 = 14$
2. Multiply the sum obtained in Step 1 by 3. $3 \times 14 = 42$
3. Again, starting at the left, sum all the characters in the EVEN positions. $0 + 1 + 3 + 5 + 1 + 1 = 11$
4. Add the product of Step 2 to the Sum of Step 3. $42 + 11 = 53$
5. The modulo-10 check digit value is the smallest number which when added to the sum of Step 4 produces the next highest multiple of 10. In this example, the next highest multiple of 10 is 60. Adding 7 to 53 equals 60; therefore, 7 is the check digit for this bar code. Note: If the sum in Step 4 is a multiple of 10, the check digit would be zero. $(7 + 53 = 60)$ *check digit is 7*

I 2 OF 5 = 2 00 12345 11114 7

HOW TO CALCULATE THE SSCC-18 CHECK DIGIT

(00) 0 0052177 513895717 ?

1. Do not include the Application Identifier (00) in the check digit calculation.
2. Starting at the left, sum all the characters in the ODD positions (that is, first from the left, third from the left, and so on), starting with the package type. $0 + 0 + 2 + 7 + 5 + 3 + 9 + 7 + 7 = 40$
3. Multiply the sum obtained in Step 2 by 3. $3 \times 40 = 120$
4. Again, starting at the left, sum all the characters in the EVEN positions. $0 + 5 + 1 + 7 + 1 + 8 + 5 + 1 = 28$
5. Add the product of Step 3 to the Sum of Step 4. $120 + 28 = 148$
6. The modulo-10 check digit value is the smallest number which when added to the sum of Step 5 produces the next highest multiple of 10. In this example, the next highest multiple of 10 is 150. Adding 2 to 148 equals 150; therefore, 2 is the check digit for this bar code. Note: If the sum in Step 5 is a multiple of 10, the check digit would be zero. $(2 + 148 = 150)$ *check digit is 2*

SSCC-18 = (00) 0 0052177 513895717 2

**Summary of
General EAN.UCC Specification Section 2.1
Numbering & Symbol Marking of Trade Items
Version 4.0 January 2003**

Definition & Principle

A trade item is any item (product or service) upon which there is a need to retrieve pre-defined information.

The EAN/UCC-8, UCC-12, EAN/UCC-13, and EAN/UCC-14 Identification Numbers are used to identify trade items. Each can be considered a Global Trade Item Number when stored in the GTIN format, a 14 digit reference field. A trade item may be a single, non-breakable unit or a standard and stable grouping of a series of single items. Trade items consisting of a single unit are identified with a Global Trade Item Number (GTIN). Standard groupings of identical or different units, each identified with a GTIN, are identified with a separate GTIN.

Basic Principles for the Identification of trade items include;

- Each trade item that is different from another must be allocated a separate, unique GTIN.
- The GTIN does not carry any information related to the trade item. The brand owner responsible for assigning the GTIN must communicate this information by Electronic Data Interchange (EDI) or other means to all business partners.
- An assigned GTIN must never be changed as long as the item is not modified so that it needs to be discriminated from the initial trade item for ordering, stocking or billing. Exceptions to this rule may occur only when regulatory or legal requirements mandate a change.

Trade Items Scanned at Point-of-Sale

A trade item that is intended to cross the Point-of-Sale in a retail outlet must carry a bar code symbology of the EAN/UPC symbology family. Therefore, these trade items support only EAN/UCC-8, UCC-12, or EAN/UCC-13 Identification Numbers.

A sunrise date of January 2005 has been set for the global use of the EAN/UCC-13 Identification Number at point of sale scanning. This is because many North American users cannot yet accommodate EAN/UCC 13 identification numbers in their [12-digit] database files.

Allocating the Numbers

General rule

A separate unique GTIN is required whenever any of the pre-defined characteristics of an item are different in any way that is relevant to the trading process. The guiding principle is if the consumer is expected to distinguish a new trade item from an old trade item and purchase accordingly, a new GTIN should be assigned to the new trade item. However, any law or regulation that contradicts these rules shall supercede these rules.

Responsibility

Branded Items

The Brand Owner, the organization that owns the specification of the trade item regardless of where and by whom it is manufactured, is normally responsible for the allocation of the Global Trade Item Number.

The Brand Owner is the organization that owns the trade item specification and may be;
the manufacturer or supplier (the company manufactures the trade item or has it manufactured, in any country, and sells it under its own brand name.)

the importer or wholesaler (the importer or wholesaler has the trade item manufactured, in any country, and sells it under its own brand name or the importer or wholesaler changes the trade item.)

the retailer (the retailer has the trade item manufactured, in any country, and sells it under its own brand)

**Summary of
General EAN.UCC Specification Section 2.1
Numbering & Symbol Marking of Trade Items
Version 4.0 January 2003(continued)**

Exceptions and Non branded items

Non-Branded Items. Items without a brand name and generic items (not private label) are still assigned Global Trade Item Numbers by their manufacturer.

Customer Specific Items. When a trade item is made specifically for one trade customer and is orderable only by this customer, it is permissible for a GTIN to be assigned by the customer. In this case the GTIN should be formed from the customer's EAN.UCC company prefix.

Other Exceptions. If the Brand Owner does not assign a GTIN, the importer or another intermediary can assign a trade item a temporary GTIN. This may be used until a GTIN is assigned in the normal way. Alternatively a retail organization can assign an internal number, for use within its own stores only, to an item that does not yet have a GTIN assigned to it.

**Guidelines for Allocating GTIN's
Management of Uniqueness**

The GTIN must be allocated uniquely. It is recommended that the GTIN does not contain any intelligence or parsable strings.

Basic predefined characteristics of a trade item are;

The Brand Name

The Trade Item Type and Variety

The Net Quantity of Trade Item

If the Trade Item is a Grouping, the number of elementary items contained, and their subdivision in sub packaging units, the nature of the grouping (carton, pallet, box-pallet, flat pallet....)

A modification to any of the basic elements that characterize a trade item will usually lead to a change in the GTIN.

Price is not a relevant criteria for changing a GTIN except when the price is printed directly on the trade item. Pre-pricing is discouraged as a trade practice as it introduces complexity for trade item file maintenance through the supply chain. If however, the price that the consumer will pay is marked on the item, the GTIN should be changed when the price marked on the item changes. (Note: National, federal or local regulations may apply and take precedence over this rule. For example, in some industries such as health care, regulations or other requirements may dictate that any trade item changes require a new GTIN.)

Typically the gross dimensions of a trade item communicated via the Item File that do not affect net trade item quantity or measure do not impact the GTIN assignment. As a general rule if any gross dimension changes by more than 20% a new GTIN is required.

In all cases, if the GTIN for the trade item at the lowest level changes, GTINs for associated packaging at higher hierarchal levels must change.

Promotional Variants

A promotion is a temporary change to a trade item, which modifies the presentation of the trade item. It usually coexists with the same item. Promotional variants of trade items that affect the net weight or volume and logistics weight and volume of the trade item must be allocated a separate unique GTIN. Promotional variants of trade items where a price reductions is explicitly specified on the pack must be allocated a separate unique GTIN unless local trade practices or price marking legislation dictate otherwise. Each seasonal promotion of a trade item should be allocated a separate GTIN. Other promotional variants should not be allocated a separate unique GTIN. (free gift, send for offer, samples sent directly to consumer)

**Summary of
General EAN.UCC Specification Section 2.1
Numbering & Symbol Marking of Trade Items
Version 4.0 January 2003(continued)**

Trade Item Changes

Trade item changes are any changes or improvement during the life of a trade item. The “new” trade item replaces the old one. Should the Brand Owner decide to create a variant in parallel with the standard trade item, then a separate GTIN has to be allocated. Minor trade item changes or improvements do not require the allocation of a different GTIN. Ex: label artwork redesign, minor trade item description change, gross dimension change in any axis of less than 20% with content quantity or measure unchanged. This rule applies to retail consumer trade items (retail POS unit) and standard trade item groupings (orderable cases or pallets). If the trade item’s quantity or measure changes or if the consumer will be expected to distinguish between an old and new brand name or product description, then a new GTIN must be allocated.

Variants for Groupings

Trade items which are a standard and stable grouping of smaller units identified by a GTIN must be allocated a separate GTIN whenever there is a change to the GTIN of any of the units contained. For trade items containing units which are themselves promotional variants or minor trade item variants of trade items whose GTINs remain unchanged the rule is the following; If the trade item has to be distinguished for effective ordering, handling, and tracking, a separate GTIN must be allocated to the trade item.

Lead-Time in Re-Using a GTIN

A GTIN allocated to an obsolete trade item must not be re-used for another trade item until at least 48 months have elapsed from the date the original trade item was last supplied by the brand owner.

BAR CODING NONCOMPLIANCE

Vendors will be held accountable for noncompliance with Lowe's bar coding requirements. If your product(s) are not in compliance with Lowe's bar coding guidelines, it is vitally important that you take the necessary steps to correct the problem(s) Lowe's is experiencing in processing your product. Failure to comply may result in actions taken by Lowe's for the misapplication of bar codes. Mis-labeled product at the distribution centers will result in labor charges, which will be automatically debited from a vendor's next check. More detailed information about the labor charges can be found in the Vendor Compliance Policy, located in the "New Partner information" section on Loweslink.com. Fines may still apply at the discretion of the merchandising teams

The following are subject to penalty:

- Failing to apply UPC and I 2 of 5 bar codes to product as required.
- Labeling product with incorrect UPC or I 2 of 5 bar codes.
- Failing to advise Lowe's of UPC and I 2 of 5 bar code numbers and associated quantities prior to shipment.
- Providing inaccurate UPC and I 2 of 5 information to Lowe's.
- Applying poor quality, nonscannable bar codes.
- Changing an existing shipping container quantity without assigning a new I 2 of 5 bar code number.
- Applying the same UPC code to a case of product and the consumer selling unit contained within the case.
- Substituting merchandise without prior notification to the buyer of the new UPC and I 2 of 5 bar codes.

