

Hyster-Yale Group, Inc. Title: Bar Code Label Requirements	Document Control Number: 36155
Page 1 of 10 Document Author: Craig Little	Effective Date: 24-October-2017 Revision No. 5

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1.0 Objective & Scope

- 1.1 This document provides the standards for printing and applying bar code labels (a card, strip of paper, etc., marked and attached to an object to indicate its name, contents, ownership, destination, etc.) to packages shipped to Hyster-Yale Group (HYG).
- 1.2 This document applies to:
 - Americas – Berea, Greenville, Ramos Arizpe, Sulligent.
 - Europe – Craigavon, Masate, Nijmegen Manufacturing
 - Other locations as they need.

2.0 General

- 2.1 This document assists with HYG’s product cycle time reduction goals.
- 2.2 The label is designed to meet the intent of the AIAG (Automotive Industry Action Group) Standard for shipping container labels. Strict adherence to these specifications for Bar Coded Labels is needed to ensure maximum benefit for both customers and suppliers. Most of this Standard has been adapted from the AIAG B-10 Trading Partner Label Implementation Guidelines Identifier Guidelines as established by the AIAG.

3.0 Description

3.1 Size and Materials

- 3.1.1 The package Label shall be sized to fit the package appropriate to the product, however, it shall contain as a minimum, the information described in Section 6.2. The label paper shall be white in colour with black printing and application will be wrinkle free. The use of a 4.0 inch (102 mm) x 6.0 inch (152 mm) label is recommended (See examples in Appendix A).
- 3.1.2 The maximum length of any bar code symbol should not exceed 4.5 inches (114 mm).
- 3.1.3 The bar code symbol of the data element shall be directly below the human readable characters and shall be a minimum 0.4-inch (10 mm) high and a maximum of 1 inch (25 mm) high.
- 3.1.4 The maximum permitted size for a label is A4 / Letter (8 ½ by 11), using portrait orientation and allowing adequate space for “quiet zones”. See section 6.4.4.

3.2 Data Area Characteristics

- 3.2.1 The Shipping Label (A label used to identify the contents of a shipping package) shall contain the following bar coded pieces of information as a minimum:
 - 3.2.1.1 Transport Document / Bill of Lading (only required for Masate)
 - 3.2.1.2 The HYG purchase order (P.O.) number + PO line number,
 - 3.2.1.3 Quantity,
 - 3.2.1.4 Packing List Number

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- 3.2.1.5 HYG Part Number
- 3.2.1.6 If a supplier wishes to add additional information, this must first be approved by the HYG Material planner and/or Commodity manager.
- 3.2.2 All bar coded data items shall be displayed in both human readable characters and bar code 39 symbology
 - 3.2.2.1 CODE 39 - an alphanumeric bar code (sometimes called Code 3 from 9 or 3 of 9) designed to encode 26 uppercase letters, 10 digits, and 7 special characters. Each data character is made up of 5 black bars and 4 white spaces for a total of 9 elements. Each bar or space is either “wide” or “narrow” and 3 out of the 9 elements are always wide. That is what gave the code its other names – Code 3 from 9 or 3 of 9.
 - 3.2.2.2 Note, the mixed ASCII option should be used and not the full ASCII option. Complete and official specifications can be obtained by subscription at: <http://www.aimglobal.org/technologies/barcode/>
- 3.2.3 Data Identifier codes are required. A data identifier code in the first position, following the start code of the bar code symbol, “*”, is used to identify the information to follow. This character(s) and the Start / Stop codes MUST NOT be shown in the human readable line. The data identifier should be shown within parentheses in the human readable title for the appropriate data area.
- 3.2.4 The human readable characters shall be bold and a minimum of 0.125 inch (3 mm) high, shall be in Upper case and use a Sans Serif format that clearly differentiate between 0 and O.

3.3 Data Area, Titles and Borders

Each data area shall contain its data field identifier and title in the upper left hand corner, as shown in the examples. Outer borderlines are required.

3.3.1 Transport Document Number (Bill of Lading, etc.)

The data identifier for Transport Document number must be 2K.

3.3.1.1 The maximum length anticipated for the transport document/ bill of lading number is sixteen alpha/numeric characters.

3.3.1.2 The data character set shall contain 36 characters: 0 to 9, A to Z.

The 2K prefix requires the bar code to be formatted as 2KTRANSPORTDOCUMENT.

An example is 2K12345ABCDE where:

2K	Is the required data identifier
12345ABCDE	Is the required transport document/ bill of lading identifier (max. 16 alpha / numeric characters)

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3.3.2 Purchase Order Number

The data identifier to be used for purchase order number must be **14K**

- 3.3.2.1 The purchase order number shall be designated by HYG. The maximum length anticipated for the purchase order number is fifteen characters.
- 3.3.2.2 The data character set shall contain 39 characters: 0 to 9, A to Z, -, +, and space.
- 3.3.2.3 The full HYG purchase order line **MUST** be used with leading zeros never truncated. For example, line number 00001 should never be truncated to 1.

The **14K** prefix requires the bar code to be formatted as **14KPO+LineItem**.

An example is *14K0123456789+00001* where:

14K	Is the required data identifier (Bar Code prefix)
PO	Is the Purchase Order number, 0123456789 is the required 10 digit numeric Purchase Order number
+Item	+00001 is the required plus sign followed by numeric Purchase Order item number (max. 99999)

3.3.3 Shipment Quantity

The data identifier to be used for shipment quantity is **Q**.

- 3.3.3.1 The maximum length anticipated for the shipment quantity is 13 numeric characters.
- 3.3.3.2 Thousand separators must not be used
- 3.3.3.3 The data character set shall contain 11 characters: 0 to 9, and Q.

The **Q** prefix requires the bar code to be formatted as **QQuantity**.

An example is *Q123456* where:

Q	Is the required data identifier
123456	is the required numeric quantity shipped (max. number 9999999999.999)

3.3.4 Packing List Number

The data identifier for packing list number must be **11K**.

- 3.3.4.1 The maximum length anticipated for the packing list number is ten alpha/numeric characters.

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3.3.4.2 The data character set shall contain 43 characters: 0 to 9, A to Z, -, ., /, +, %, \$, and space.

The **11K** prefix requires the bar code to be formatted as **11KPACKINGSLIP**.

An example is *11K12345ABCDE* where:

11K	Is the required data identifier
12345ABCDE	Is the required packing slip identifier (max. 10 alpha / numeric characters)

3.3.5 Part Number

The data identifier for part number is **P**.

3.3.5.1 The part number shall be designated by HYG.

3.3.5.2 The maximum length anticipated for the part number is fifteen characters.

3.3.5.3 The data character shall contain 36 characters: 0 to 9, A to Z.

3.3.5.4 The full HYG part number **MUST** be used with leading zeros never truncated. For example, part number 0012345 should never be truncated to 12345.

The **P** prefix requires the bar code to be formatted as **PPARTNUMBER**.

An example is *P0123456789ABCDE* where:

P	Is the required data identifier
0123456789ABCDE	Is the required HYG part number (max. 15 alpha / numeric characters)

3.4 Bar Code Symbology

Bar code shall be of the 3-of-9 (Code 39) type and shall conform to standard Code 39 symbology. All bar code data fields shall use Code 39, which has been adopted as the preferred bar code symbology by HYG. See Appendix A for the Preferred Label Format and Appendix B for Invalid Formats.

The data character set shall contain 43 characters: 0 to 9, A to Z, -, ., /, +, %, \$, and space – see specific bar code prefixes for limitations.

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3.4.1 Code Density and Dimensions

3.4.1.1 The width of the narrow elements (“X” dimension) shall be within the range of .010 inch (0.25mm) to 0.017 inch (0.43mm). The ratio of the nominal width of the wide to narrow elements shall be 2.8:1, with an allowable range of 2.8:1 to 3.2:1.

3.4.2 Check Digits

3.4.2.1 Check digits shall not be used in the bar codes.

3.4.3 Reflectivity and Contrast

The printed bar code symbols shall meet the contrast and reflectivity requirements specified in the ISO / IEC 15416 Barcode Print Quality Test specification.

3.4.4 Quiet Zone

The minimum clear area immediately preceding and following the bar code shall be 0.25 inch (6.3mm).

3.4.5 Human Readable Dimensions

All bar codes must have human readable format directly above, and this must have a minimum height of .125 inch (3 mm).

3.4.6 Label Verification

6.4.1.1 Appendix C is intended to be used as a “Test Script” whenever a Supplier or HYG needs to verify a label is meeting all requirements.

3.5 Shipping Label Location

3.5.1 Bar code labels are required to be affixed to the shipping container.

3.6 Shipping Units

3.6.1 Bar code labels should be used to identify the total contents of a part number / purchase order combination package.

3.6.2 When a part number / purchase order combination is too large for a single package, each package should contain its own label with the quantity representing the package rather than purchase order or total shipment quantity.

3.6.3 A label must NOT cover multiple purchase orders or part number / purchase order combinations.

3.6.4 If multiple part number / purchase order combinations are shipped in the one package, the bar codes must be uniquely identifiable with the corresponding

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goods, for example by placing the goods and associated bar codes in separate plastic bags.






- 3.6.5 The label should be attached to the physical package for the goods or contained within the package.
- 3.6.6 The label should be composed of such a material that it survives the transportation and receiving processes. This includes, but is not limited to, reasonable resistance to exposure to oil, sunlight and water.

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APPENDIX A - Preferred Label Format

(Not to scale)






(2K) Transport Document / Bill of Lading ABCDEF1234567890 	
(11K) Packing List Number ABCDE12345 	
(P) Part Number ABCDE1234567890 	
Part Description FORKLIFT TRUCK PARTS	
(14K) Purchase Order and Line 9999999999+99999 	
(Q) Quantity 1000 	Unit of Measure <div style="text-align: center; font-size: 24pt; font-weight: bold;">FT</div>

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Appendix B – Examples of Invalid Formats

Human readable text is below bar code: it should be above
Human readable text contains the data identifiers and start / stop characters







(2K) Transport Document / Bill of Lading	
	
2KABCDEF1234567890	Human Readable Text is below bar code
(11K) Packing List Number	
	
11KABCDE12345	
(P) Part Number	
	
PABCDE1234567890	Human Readable text contains Data IDs and Start/ Stop characters
Part Description FORKLIFT TRUCK PARTS	
(14K) Purchase Order and Line	
	
14K9999999999+99999	
(Q) Quantity	Unit of Measure
	FT
Q1000	

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APPENDIX B – Examples of Invalid Label Formats

Bar code does not contain data identifiers or Start / Stop characters

(2K) Transport Document / Bill of Lading ABCDEF1234567890  <div style="border: 1px solid black; padding: 5px; display: inline-block; color: red; font-weight: bold;">Start character and data identifier is not in bar code</div>	
 <div style="border: 1px solid black; padding: 5px; display: inline-block; color: red; font-weight: bold;">Correct bar code</div>	
(11K) Packing List Number ABCDE12345 	
(P) Part Number ABCDE1234567890 	
Part Description FORKLIFT TRUCK PARTS	
(14K) Purchase Order and Line 9999999999+99999 	
(Q) Quantity 1000 	Unit of Measure <div style="text-align: center; font-size: 2em; font-weight: bold;">FT</div>

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APPENDIX C – Supplier Conformance Checklist

Supplier Sample Label Conformance Checklist

Supplier :			Date:	
			Completed By:	
General Label Requirements	Compliant		Concession Granted	Comments
	Yes	No		
Is label preferred size? 4.0 inch (102 mm) x 6.0 inch (152) mm	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Is label within size limits? Maximum permitted size is A4 / Letter, using portrait orientation and allowing adequate space for quiet zones	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Can Barcode be scanned?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Barcodes NOT longer than 115mm?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Barcode Height between 10 & 25mm?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quiet Zones between 6.33 & 25mm Present?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Are all fields present? Transport Document / Bill of Lading number, Packing list, Part Number, PO, Qty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Fields in correct order? Transport Document/ Bill of Lading Number, Packing list, Part Number, PO, Qty	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Black Barcode on White Label?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Title Present for Data Fields?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Borders Present on Label?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Human Readable Text Above Barcodes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Data Identifiers NOT in Human Readable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Start / Stop Char in Barcodes	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Start / Stop Char NOT in Human Readable	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Transport Document/ Bill of Lading Number Barcode Requirements	Compliant		Concession Granted	Comments
	Yes	No		
Format Correct (Number Characters / Layout etc) Maximum length is sixteen alpha/numeric characters. The data set contains characters: 0 to 9, A to Z.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Data Identifiers Present in Barcodes (2K)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Packing List Barcode Requirements	Compliant		Concession Granted	Comments
	Yes	No		
Format Correct (Number Characters / Layout etc) Maximum length is ten alpha/numeric characters. The data set contains characters: 0 to 9, A to Z, -, ., /, +, %, \$, and space.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Data Identifiers Present in Barcodes (11K)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Part Number Barcode Requirements	Compliant		Concession Granted	Comments
	Yes	No		
Format Correct (Number Characters / Layout etc) The part number shall be the HYG part number. Maximum length is fifteen characters. The data character contains only characters: 0 to 9, A to Z. Leading zeros are not truncated.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Data Identifiers Present in Barcodes (P)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
P.O. and Line Number Barcode Requirements	Compliant		Concession Granted	Comments
	Yes	No		
Format Correct (Number Characters / Layout etc) The purchase order number shall be the HYG PO number. Maximum length of the PO number plus "+" and Line Number is sixteen characters. The data character set contains only characters: 0 to 9. The full HYG PO line MUST be used with leading zeros never truncated The format must be 2100383450+00001	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Data Identifiers Present in Barcodes (14K)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Quantity Barcode Requirements	Compliant		Concession Granted	Comments
	Yes	No		
Format Correct (Number Characters / Layout etc) Maximum length for the quantity is six numeric characters. The data character set shall contain only: 0 to 9, and Q.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Data Identifiers Present in Barcodes (Q)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Final Sign Off Date	
Signed Off By	