LABELING STANDARD FOR INBOUND SHIPMENTS

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INTRODUCTION

This standard defines the labeling requirements to be followed by all suppliers that create and send shipments to Stanadyne sites. This labeling standard includes details of data requirements, label formats and barcode formats for each physical piece of a complete shipment. This standard should be followed regardless of the procurement method used to purchase the material being shipped to Stanadyne. The ANSI Linear Bar Code and Two-Dimensional Symbols Used in Shipping Receiving, and Transport Applications (ANSI MH10.8.1 - 2000) standard is used as a model for this Stanadyne standard. Optionally, the AIAG Parts Identification and Tracking Application Standard (AIAG B-4) and AIAG Trading Partners Labels Implementation guide (AIAG B-10) may be utilized. All requirements of label format, data content, symbol quality and label placement shall meet these referenced standards.

Objective & Purpose

This standard provides the minimum requirements for marking or labeling individual parts, unit packs, sub-packs, kits, and assemblies/subassemblies that are received through shipment to Stanadyne. These may be received from vendors, and or shipped from-to internal manufacturing facilities of Stanadyne.

The objective of this standard is to:

Identify Stanadyne's outer labeling requirements which are compatible with Stanadyne LLC Part Numbering

Project a uniform corporate identity to our suppliers

Ensure quality and consistency from site to site

Provide additional shipment recognition requirements of part shipments moving from supplier to Stanadyne.

Intended applications include but are not limited to, systems that automate the control of individual parts and unit packs. Such applications are:

- production operations
- product testing
- assembly process verification
- tool crib control
- inventory control
- distribution/receipt of parts
- maintenance, repair and operating supplies.

Application

Conformance to this specification is required by all Stanadyne suppliers.

Ownership Statement

This document is the property of Stanadyne LLC. Its use outside Stanadyne LLC is authorized only for responding to:

- Requests for Quotation
- For performance of work as a supplier to Stanadyne LLC

All questions must be referred to the Stanadyne LLC purchasing department.

DEFINITIONS

BUILDING BLOCK	The basic unit of the label format.
COMMON ITEM PACK	A pack which contains all like items, i.e. same part/item numbers. Also referred to as “like parts pack”.
CONTAINER	A receptacle or a flexible covering for the shipment of goods such as a box, bag, package or pallet.
DATA IDENTIFIER	A specific character string that defines the specific data that immediately follows.
ITEM	A single part or material purchased, manufactured, and/or distributed.
LABEL	A card, strip of paper, etc. marked and attached to an object to indicate its nature, contents, ownership, destination, etc.
MASTER LOAD LABEL	A label used to identify and summarize the contents of a master pack.
MASTER PACK	A unit load containing common (like parts) items.
MIXED ITEM PACK	A pack containing items with different part/item numbers.
MIXED LOAD LABEL	A label used to identify and summarize the contents of a mixed item pack.
MULTIPLE PACK	A unit load containing smaller packages (sub-packs) of items.
NON-STANDARD QUANTITY PACK	A pack which contains variable quantities for like items.
PACK, PACKAGE ,or LOAD	A unit (container) which provides protection and containment of items plus ease of handling by manual or mechanical means. Examples of containers or packs which normally are disposable include bags, cartons, cartons on pallets and pallet boxes. Examples of containers or packs which are returnable include bins (wire mesh or solid side and ends), racks (plain or with special dunnage), racks with wire mesh and ends, tubs, and drums.
PACKAGE IDENTIFIER	A string of numeric or alphanumeric characters, assigned by the supplier that is not repeated within 366 days to a given customer.
SEGMENT	Logical groupings of information based on the data needs of trading partners within a distribution channel.

SHIPPING PACK	A pack used for shipping items from one plant to another and can be any of the packs described above.
SHIPPING/PARTS IDENTIFICATION LABEL	A label used to identify the contents of a shipping container (pack).
SINGLE PACK	A container intended for the transportation and handling of one or more parts, articles, and smaller containers, or bulk material.
STANDARD QUANTITY PACK	A pack which always contains the same quantity for like items.
SUBPACK	One of the smaller packs (which may be a standard quantity or non-standard quantity pack) that make up a larger multiple pack.
SUPPLIIER/VENDOR ID	The numeric or alphanumeric code used to identify the supplier/vendor.
SYMBOLOGY	A standard means of representing data in bar code form.
TAG	A label that is hung from an object, usually with a wire placed through a reinforced eyelet in the label/tag.
UNIT LOAD	One or more transport packages or other items held together by means such as strapping, interlocking, glue, shrink wrap, or net wrap, making them suitable for transport, stacking, and storage as a unit.
X DIMENSION	The intended width of the narrow elements required by the application, or symbology specification, or both.

LABEL DESIGN

A standard shipment to Stanadyne includes the following:

Items to be shipped packed in cartons (boxes or polyethylene bags).

Packaging of cartons in consolidation, cartons or pallet (if needed)

Order definition of cartons, or consolidation carton packed and shipped against a Purchase Order line

Packaging of Order into shipping units

Shipment of packed shipping units to Stanadyne

Each level of a standard shipment has a label requirement as defined in this standard.

Layout

The layout shall consist of label segments which are logical groupings of information. Three segments shall be used. They shall be carrier segment, customer segment and supplier segment. When the size and the structure of the transport unit permit, label segments should be stacked vertically from top to bottom in the following order:

- carrier segment
- customer segment
- supplier segment

Separate sections of the label may be applied at different stages to form the complete label. Examples of labels are given in the list of figures included in this specification for illustrative purposes and do not represent all of the possible layout choices. Any label that is not used for shipping purposes is not required to provide a carrier segment as it is packed, within a consolidation shipping container which shall provide the carrier segment information.

Use of a horizontal format shall only be utilized when the size and structure of the transport unit prohibit vertical segments. Stanadyne shall approve any request for a horizontal format.

Label Types

Single Pack Label

A single pack label should be used to identify the contents of a container containing sub-packed items of a single part number for a shipment. Ship-From and Ship-To address should be used when applicable.

Sub-pack Item Label

A sub-pack item label shall be used to identify the contents of parts after a unit load is opened. The sub-pack label shall consist of a single pack label without any shipping information.

Master Load Label

A master load label should be used to identify the total contents of a multiple single pack load of the same part number. Ship-From and Ship-To address should be used when applicable.

Mixed Load Label

A mixed load label shall be used to identify a load of multiple single packs of different part numbers. Ship-From and Ship-To address should be used when applicable.

Shipping Label

Ship-From and Ship-To address should be used on any of the above label types when applicable. When a Master or Mixed load label is used for shipping unit identification, single pack labels are not required to contain this information.

LABEL FORMAT

Size and Materials

The preferred label size range is 4.0 in (101.6 mm) wide for vertical formats and 6.0 inch (152 mm) wide for horizontal formats. This preferred label size should be used unless packaging prohibits the use of this width size label as stated below. The full label height will be determined by the number of building blocks included on the label. All specifications for bar codes and text will be for the full label size unless otherwise noted.

The label material shall be white in color with black printing. Adhesive type may be any type as long as it will adhere to the surface and is free from wrinkles or distortion.

Receiving Tags

The tag size shall be the same as described in the above section plus the necessary material to add a reinforced eyelet. The tag should be durable enough to assure readability at its destination

Small Labeling Area

For any shipping container less than thirty-six (36) square inches (23226 sq mm), a small labeling area (SLA) label shall be used. Stanadyne shall approve any request for a SLA. The requirements for an SLA are summarized in Appendix A: Format For Small Labeling Area (SLA)

Building Blocks

Building blocks should be stacked vertically and separated from each other by a horizontal line.

Building Block Size

Building block height and width shall conform to ANSI MH10.8.1 – 2000 and AIAG B-10.

Building block size shall be 0.5 inch +/- .1 inch (13mm +/_ 3 mm) as determined but the printing capability of the labeler.

One double-height bar code per segment may be used to satisfy special printing and scanning requirements of symbols used on shipping container labels (SCL). Double height bar code blocks shall be 1.0 inch +/_ 0.2 inch (25mm +/_ 5 mm).

Sub-Blocks

Use of sub-blocks shall conform to ANSI MH10.8.1 – 2000 and AIAG B-10.

Text Building Block Format

Text building block format shall conform to ANSI MH10.8.1 – 2000 and AIAG B-10.

Text Dimensions

Text dimensions shall conform to ANSI MH10.8.1 – 2000 and AIAG B-10.

DATA CHARACTERISTICS

Data shall be entered in the designated areas (see figures) and shall be displayed in both readable characters and bar code symbols as shown.

Receiving Data Requirements

The minimum information provided on a receiving label shall be: Package ID (Packing List #), Purchase Order Number, Stanadyne Part Number, and Quantity. Revision Level and Supplier Lot Identification, information may be required as agreed to by Stanadyne and the supplier. All data on a label shall be placed in the designated areas and shall be displayed in both human readable characters and bar code symbols.

Data Areas and Titles

There are data areas for each label. Each data area shall be separated by thin lines and shall contain its title in the upper left hand corner. Outer border lines are not required. Titles should be printed in 0.1 in. high letters. The data area titles are specified in the label section and accompanying figure.

Data Identifier Codes

A data identifier code immediately following the start code of the bar code symbol shall be used to identify the information to follow. This character shall not be included in the human readable line, but is shown in the human readable character under the title for the appropriate section.

Additional bar code symbols should not be included. If necessary, any additional bar code symbols shall be identified with a data identifier.

The following identifier codes shall be used:

3S, 4S, 5S	Package ID (Packing List #)
K	Purchase Order Number
P	Part Number
2P	Revision Level
Q	Quantity
T	Date Code – Lot Identifier

Data Identifier Details

Package ID Area (Packing List #)

The **bar code** symbol for package id shall contain the identifier **(3S, 4S, 5S**) depending on the type of label. The package id may be up to 10 characters plus the identifier. For those suppliers using package ids greater than 10 characters, use only the first 10 characters.

The package id shall be designated by the supplier.

Purchase Order Area

The **bar code** symbol for purchase order shall contain the identifier **(K)**. The purchase order may be up to 10 characters plus the identifier.

The purchase order number shall be designated by Stanadyne LLC.

Part Number Area

The **bar code** symbol for part number shall contain the identifier **(P)**. The part number may be up to 18 characters plus the identifier.

The part number shall be designated by Stanadyne LLC. The part number shall be the Stanadyne part number as it appears on the original purchase order.

Quantity Area

The **bar code** symbol for quantity shall contain the identifier **(Q)**. The quantity may be up to 7 characters plus the identifier.

Pieces shall be the default unit of measure unless otherwise agreed upon.

Revision Level Area

The **bar code** symbol for revision level shall contain the identifier **(2P)**. The revision level may be up to 2 characters plus the identifier.

Lot Identifier Area

The **bar code** symbol for lot identifier shall contain the identifier **(T)**. The quantity may be up to 6 characters plus the identifier. The significance of the date shall be mutually agreed upon between the supplier and Stanadyne for example YYMMDD, etc.

Individual Parts Data Requirements

Individual data part labeling is not covered or specified within this standard. It is noted however that any information contained on a part labeled with a bar code shall match the receiving label data. For example, part number, unit serialization number, revision level, lot coding, etc. shall contain an identical value. The encoding symbology may be different than specified in this standard to facilitate the labeling of individual parts.

BAR CODE Requirements

Symbology

Bar codes shall be the 3-of-9 (Code 39) type with Data Identifiers. Every effort shall be made to conform to the AIM Uniform Symbology Specification Code 39.

A leading space character shall not be used. The Code 39 symbology check character option shall not be used.

The bar code symbol shall be directly below the human readable characters and shall be a minimum of 0.5 in high (13 mm).

The range of the width of the narrow element (X dimension) shall be from 0.010 inch (0.25 mm) to 0.017 inch (0.43 mm) as determined by the printing capability of the printer of the label.

Quiet zones should be at least 0.25 in. for best results. The maximum length of any bar code symbol should not exceed the label width less 0.5 in (0.25 in. on each side for a quiet zone) and the bar code data limit.

The wide-to-narrow ratio shall be 3:1. The bars and spaces in the resulting printed symbol(s) should be measured at between 2.8:1 and 3.2:1.

A title line shall be printed in the upper left corner of the bar cod building block or sub-block.

The total number of characters (excluding start/stop) in a building block or sub-block shall not exceed 19 characters including the DI characters.

Readability

The data encoded in the bar code symbol shall be represented in upper case human readable characters above the bar code symbol. The human readable characters shall be a minimum of 0.1 in. high. Location shall be approximately 1.0 to 1.5 inch (25 to 38 mm) from the left edge of the building block or sub-block.

Label Data Content

Single Pack Item Label

All production inventory shipped to Stanadyne shall be packed in a first level handling unit or carton. Each unit or carton must be labeled to facilitate the receiving process at the Stanadyne manufacturing site. A sample format of the carton or unit label is shown below. A description of the data elements required for the carton or unit is also shown below.

The item or carton label shall contain all information regarding the items packed, unique carton or unit identifiers and order information that the carton or unit is being transacted against. To support this operation, if multiple cartons are shipped, it is also required to number the cartons or units with a package count related to the number of cartons being shipped against the purchase order line listed on the carton. For example 3 of 5. The package count allows the receiving department to group like cartons or units to streamline the receiving operation.

	Data Element	Human Readable	Bar-code Readable	Comment & Notes
1	Ship From Company			(1)
2	Ship from Street			(1)
3	Ship from Town			(1)
4	Ship from State/Country			(1)
5	Ship to Company			(1)
6	Ship To Street			(1)
7	Ship To Town			(1)
8	Ship To State/Country			(1)
9	Purchase Order Number		K	Stanadyne PO #
10	Package ID		3S	Package ID
11	Quantity		Q	Quantity of item
12	Part Number		P	Stanadyne Part #
13	Revision Level		2P	Stanadyne Part Drawing Level (1)
14	Lot Identifier		T	Date Code (1)
15	Part Description			Stanadyne Part Description
16	Carton Count			Number of cartons against the listed PO line. Only required when more than one shipping pack is required.

YES NO (1). Included when Applicable

Figure 1: Single Pack Item Label (not to scale)

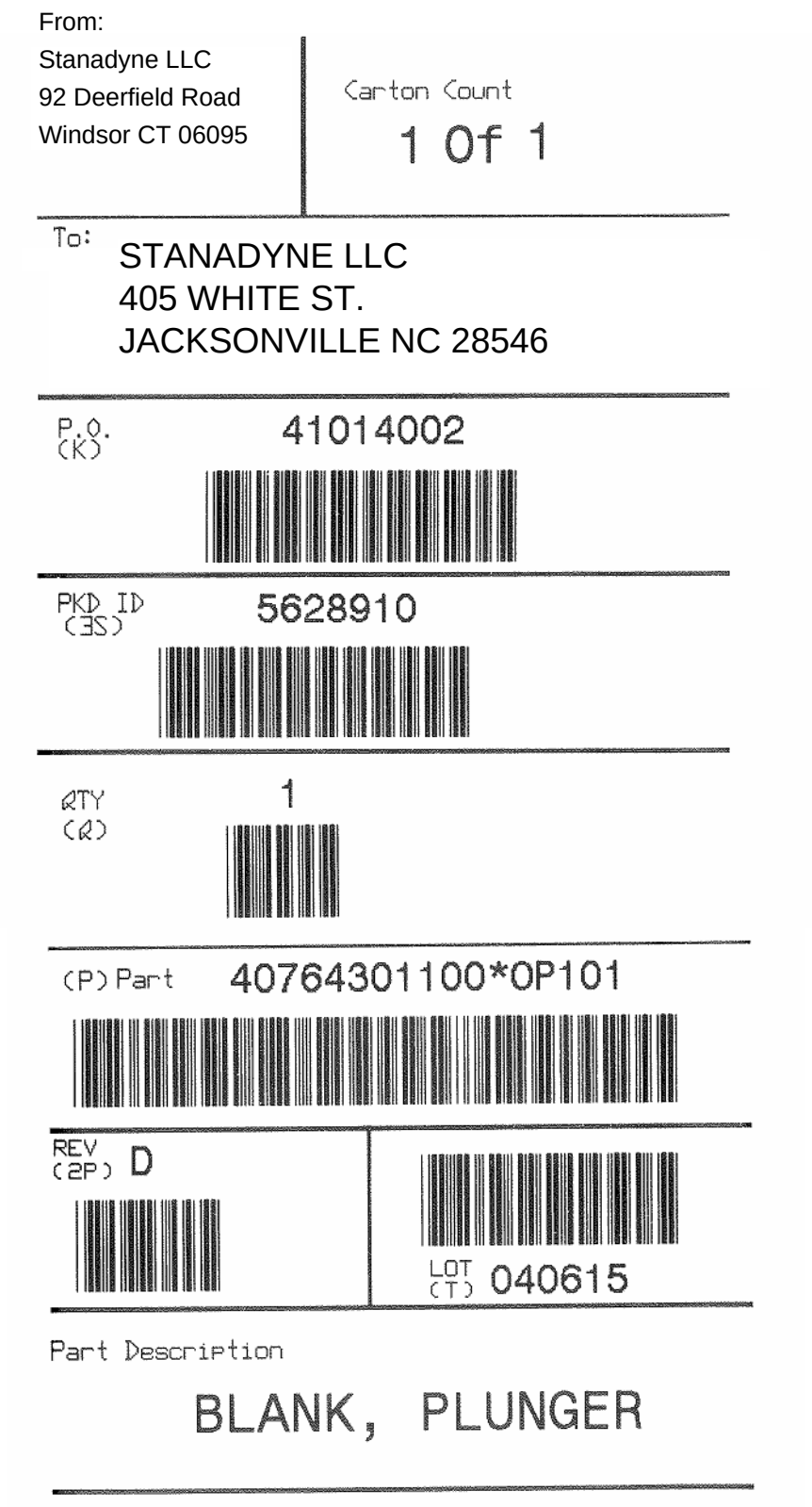
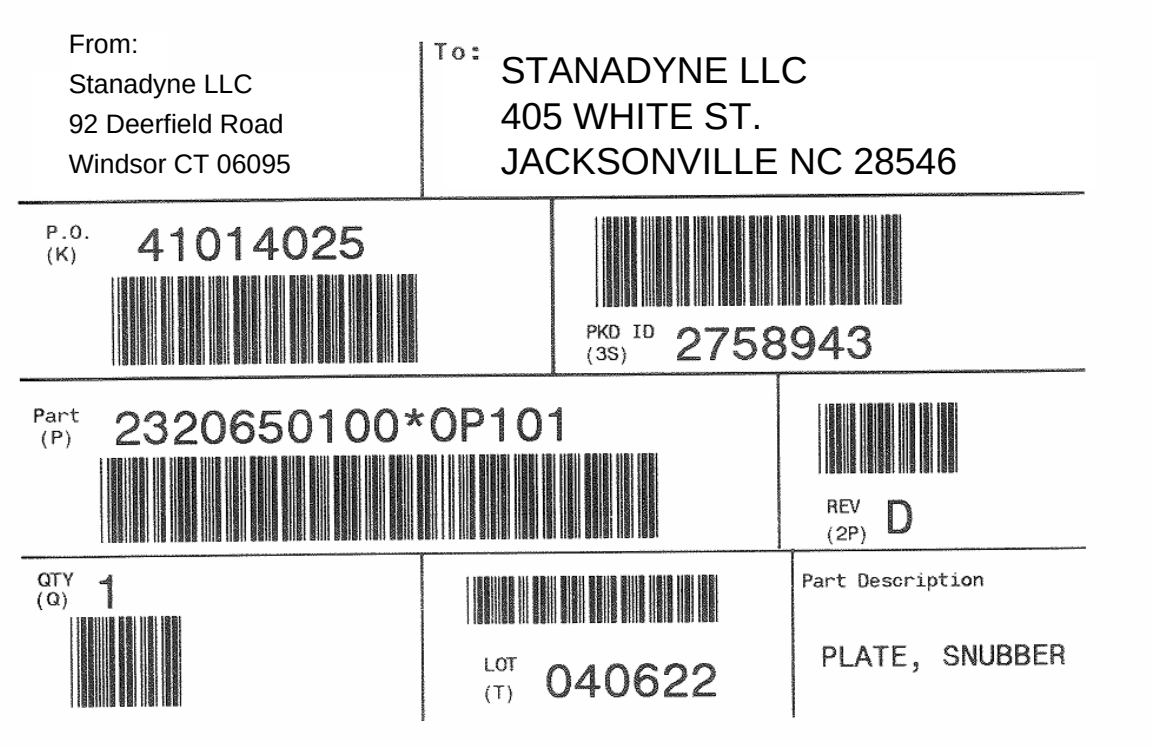


Figure 2: Single Pack Item Label (horizontal format not to scale)



Master Load Label

All cartons shipped to Stanadyne must be consolidated into shipping units. A shipping unit may be a pallet, air cargo container, or the carton itself if it is approved for shipping purposes. For a multiple single pack load, a Master Label summarizing the contents of the unit load must be attached in such a manner that when the unit load is opened, the label is discarded (e.g. attached to banding, outer wrapping, etc.). Each single pack must be individually labeled.

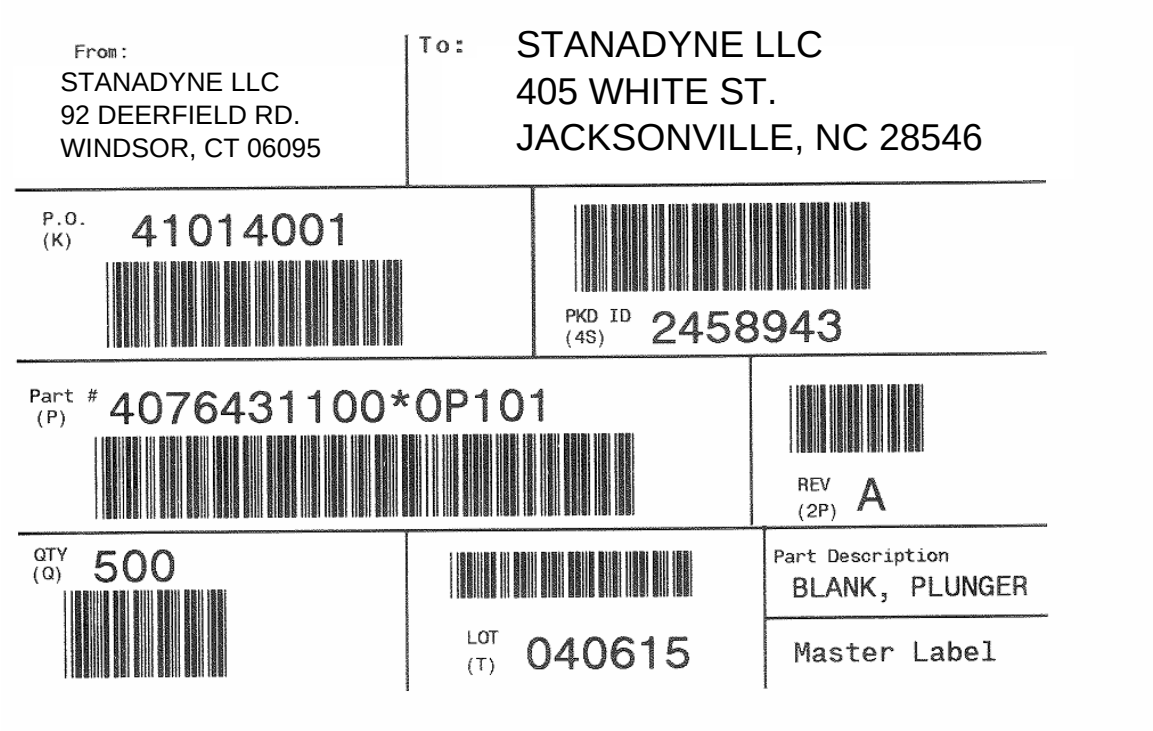
A sample of a master load label format is shown below. A description of the data elements required for the carton or unit is also shown below.

	Data Element	Human Readable	Bar-code Readable	Comment & Notes
1	Ship From Company			(1)
2	Ship from Street			(1)
3	Ship from Town			(1)
4	Ship from State/Country			(1)
5	Ship to Company			(1)
6	Ship To Street			(1)
7	Ship To Town			(1)
8	Ship To State/Country			(1)
9	Purchase Order Number		K	Stanadyne PO #
10	Package ID		4S	Package ID
11	Quantity		Q	Quantity of all items
12	Part Number		P	Stanadyne Part #
13	Revision Level		2P	Stanadyne Part Drawing Level (1)
14	Lot Identifier		T	Date Code (1)
15	Part Description			Stanadyne Part Description
16	Heading MASTER LABEL			Bold letters
17	Carton Count			Number of cartons against the listed PO line. Only required when more than one shipping pack is required.

YES NO (1). Included when Applicable

Figure 3: Master Load Label (not to scale)

Figure 4: Master Load Label (horizontal format not to scale)



Mixed Load Label

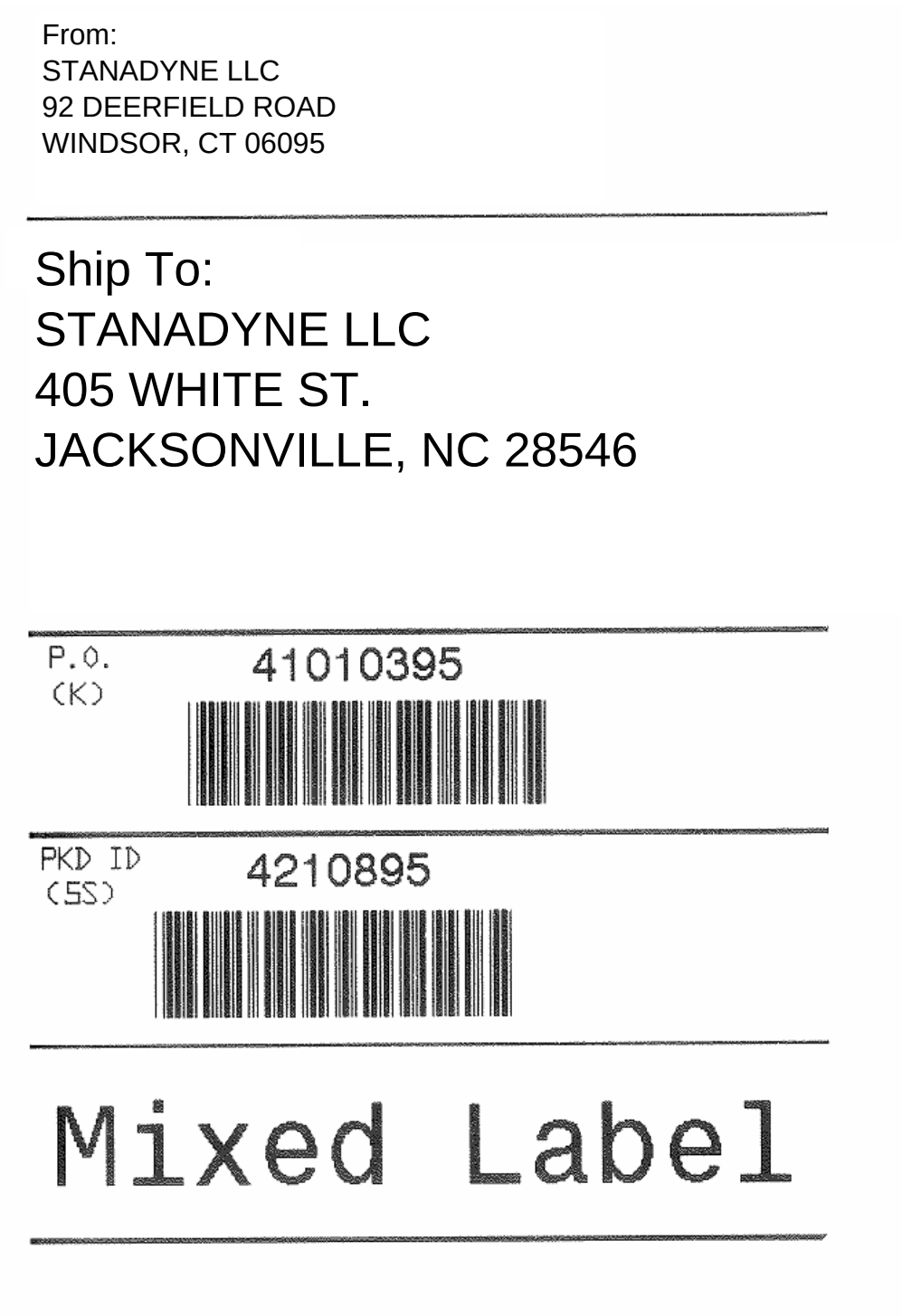
All cartons shipped to Stanadyne must be consolidated into shipping units. A shipping unit may be a pallet, air cargo container, or the carton itself if it is approved for shipping purposes. For a load of multiple single packs of different part numbers, a Mixed Load label summarizing the contents of the unit load must be attached in such a manner that when the unit load is opened, the label is discarded (e.g. attached to banding, outer wrapping, etc.). Each single pack must be individually labeled.

A sample of a mixed load label format is shown below. A description of the data elements required for the carton or unit is also shown below. It should be noted that definition for each part type is not provided. Receipt of all items requires opening the carton.

	Data Element	Human Readable	Bar-code Readable	Comment & Notes
1	Ship From Company			(1)
2	Ship from Street			(1)
3	Ship from Town			(1)
4	Ship from State/Country			(1)
5	Ship to Company			(1)
6	Ship To Street			(1)
7	Ship To Town			(1)
8	Ship To State/Country			(1)
9	Purchase Order Number		K	Stanadyne PO #
10	Package ID		5S	Package ID
11	Heading MIXED LABEL			Bold letters
12	Carton Count			Number of cartons against the listed PO line. Required for more than one shipping pack.

YES NO (1). Included when Applicable

Figure 5: Mixed Load Label (not to scale)



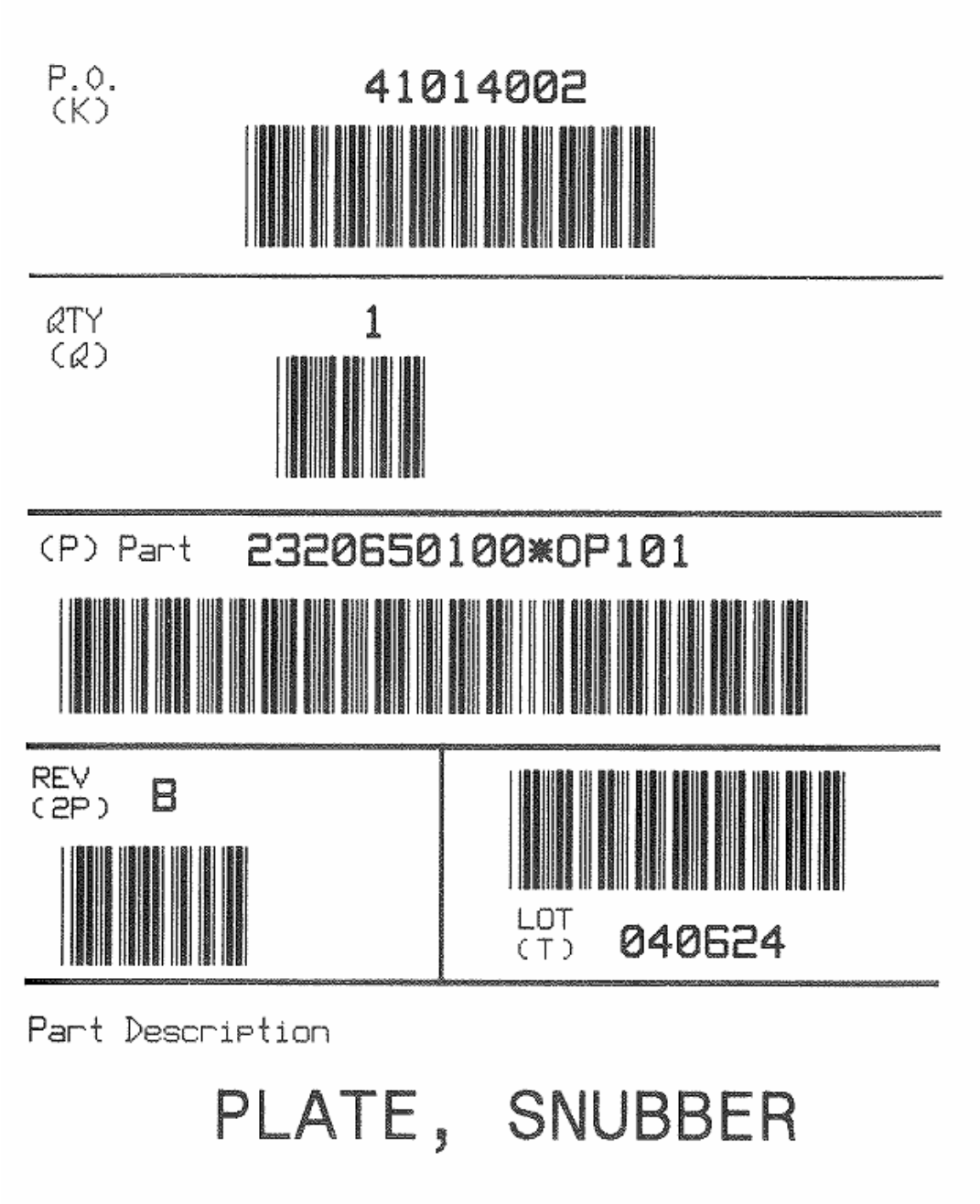
Sub Pack Label

Production inventory shipped to Stanadyne may be packed in a sub pack handling unit (E.G. plastic bag, carton). Each bag or carton must be labeled to facilitate tracking after receipt of the product using the unit load label. A sample format of the sub pack label is shown below. A description of the data elements required for the carton or unit is also shown below.

	Data Element	Human Readable	Bar-code Readable	Comment & Notes
1	Purchase Order Number		K	Stanadyne PO #
2	Quantity		Q	Quantity of item
3	Part Number		P	Stanadyne Part #
4	Revision Level		2P	Stanadyne Part Drawing Level (1)
5	Lot Identifier		T	Date Code (1)
6	Part Description			Stanadyne Part Description

YES NO (1). Included when Applicable

Figure 6: Sub-pack Label (not to scale)



LABEL LOCATION AND PROTECTION

Label Location

Illustrations of the most common shipping packs and recommended label locations are shown on Figure 7: Label Locations. In most cases, two labels are specified. The bottom edge of the label should be parallel to the bottom of the package/container. To facilitate the automatic reading of the bar code symbols, the top edge of the label should be as close to the top of the package/container as possible. Wrap around labels are acceptable as long as quiet zones are within specifications.

Label Protection

Label protection against moisture, weathering, abrasion, etc. may be required in harsh environments and is encouraged whenever practical. Care must be taken to ensure that, whatever protection method is used; the bar code can be scanned with both contact and non-contact devices.

Other Packaging Requirements

In addition to the bar coded label which is to be included with all shipments, a packing list shall be attached to the outside of one of the unit loads in a packing list envelope.

The following information must be included on the packing list:

Purchase Order Number and PO Line Number (assigned by Stanadyne)

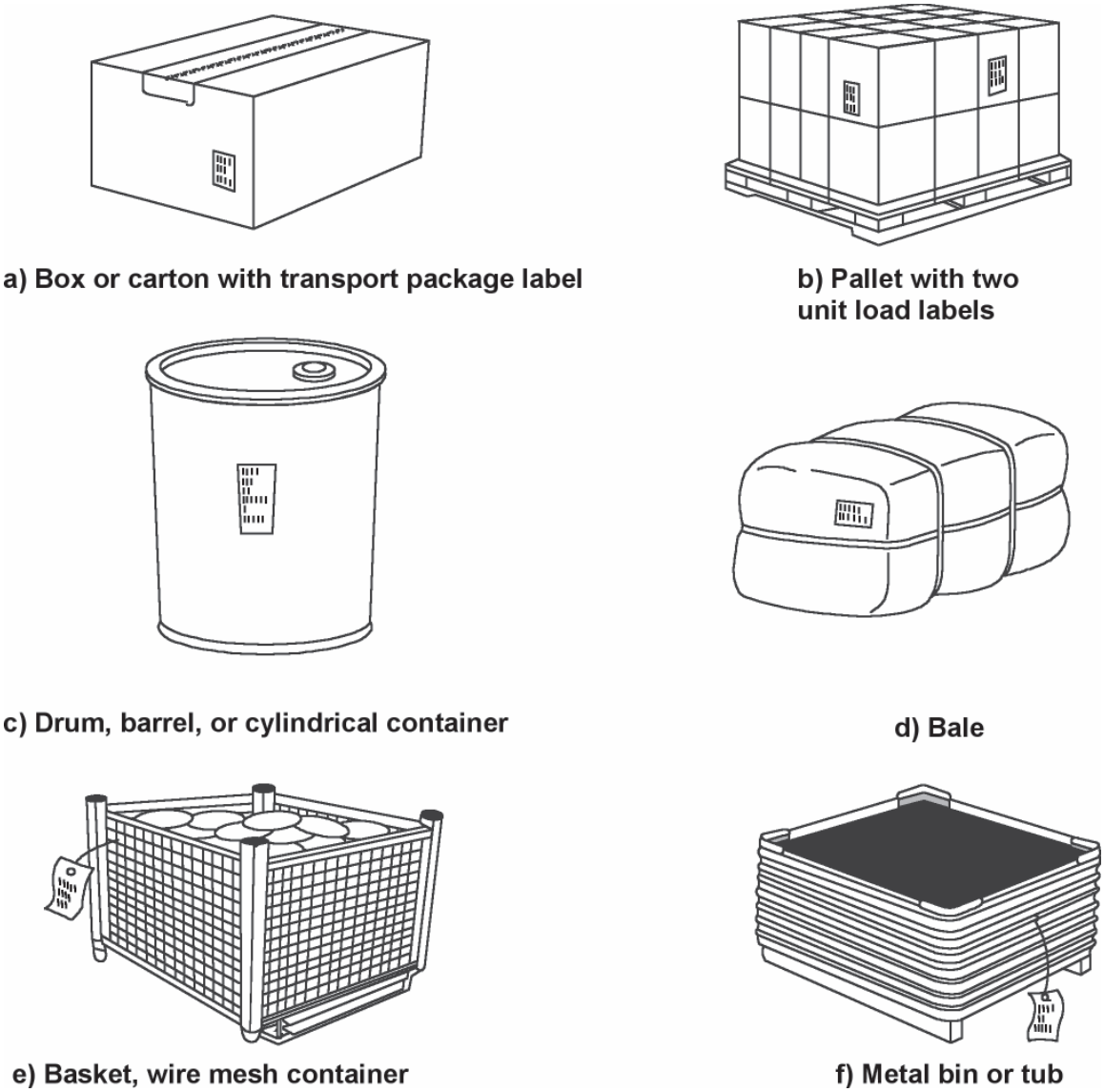
Part Number, Revision Level (assigned by Stanadyne) for each line item

Quantity Shipped for each line item

Serial Numbers for each item shipped if applicable

Packing List Number (assigned by supplier)

Figure 7: Label Locations



a) Box or carton with transport package label

b) Pallet with two unit load labels

c) Drum, barrel, or cylindrical container

d) Bale

e) Basket, wire mesh container

f) Metal bin or tub

APPENDIX A: Small Labeling Area

Requirements

Label design, format and data characteristics of an SLA shall follow the requirements previously contained within this standard except for the modifications listed below.

Building Block Size

Building block size shall be 0.5 inch +/- .1 inch (13mm +/_ 3 mm) as determined but the printing capability of the labeler.

One double-height bar code per segment may be used to satisfy special printing and scanning requirements of symbols used on shipping container labels (SCL). Double height bar code blocks shall be 1.0 inch +/_ 0.2 inch (25mm +/_ 5 mm).

Bar Code Symbol Height

The minimum height of the Code 39 bar code symbol shall be 0.25 inch (6 mm).

Bar Code Symbol Quiet Zone

The bar code symbol quiet zone shall have leading and trailing quiet zones with minimum widths of 0.250 inch (6 mm).

Symbology Narrow X Dimension

The narrow X dimension when using Code 39 shall not be less than 0.010 inch (0.25 mm).

Human Readable Interpretation

The height of the HRI shall be chosen so that it does not interfere with the minimum height of the bar code.