ZF LIFETEC PROCEDURE

ZF Division R - North American Labeling Requirements

Spec is applicable for the following sites:

Midland Canada
Gomez Palacio Mexico (La Laguna)
Mesa Arizona USA
Reynosa Mexico
Chihuahua IRS Mexico
Chihuahua SWS Mexico

REVISIONS

Date	Release No.	Description	Revision	Engineer
Sep 2003	ERD89609	Initial Release	A00	M. Rausch
Jun 2004	ERD94762	See ERD, general description	A02	M. Rausch
Aug 2019	ERD396561	Include 2D Code on Single Carton Labels and a unique serial number per Single Carton box	A03	L.Torres
Sept ,2024	ERD396561	Change Company Name and Clarification Note Pag 26&27	A04	O. Hernandez

Automotive

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Gomez Palacio Mexico (LLG IRS
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Mesa Arizona USA
Reynosa Mexico
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Prepared by:	Approved/Authorized by:	Issued by:
ZF LIFETEC PACKAGING	Daniela Chirvasa	Olga Hernández

Introduction and Applicable Specifications

The information described in this document contains specifications for bar code labels used on material to be received at ZF North American facilities from suppliers and inter-company sources. This document was developed in conjunction with, and is an extraction of the following standards, developed by the Automotive Industry Action Group (AIAG) and the American National Standards Institute (ANSI).

Applicable Specifications:
Shipping/Parts Identification Label Standard, AIAG B-3 Version 3.00 Released 7/93
Trading Partner Labels, AIAG B-10 Version 2.00 Released 2/00
Parts Identification and Tracking Standard, AIAG B-4 Version 2.00 Released 2/98
Data Application Identifier Standard ANSI MH10.8.2
Bar Code Print Guideline ANSI X3.182
For further information and publications on AIAG standards contact: Automotive Industry Action Group, 26200 Lahser Road, Suite 200, Southfield, Michigan 48034, Phone (248) 358-3570.

Purpose

This labeling specification provides guidelines for the printing and placement of Shipping/Parts Identification Labels. These labels are designed to improve ZF Automotive and trading partner productivity by allowing effective and efficient capture of data for production counts, warehouse input/output, cycle counting, shipper generation, forwarding, freight transfer control, receiving, Electronic Data Interchange (EDI) with Advance Shipment Notice (ASN), and other inventory controls. Adherence to these specifications for labels will reduce labor costs, improve data accuracy, and increase overall systems values.

The ZF Automotive buyer **SHALL** be responsible to notify and enforce these requirements on the suppliers. Deviations from this standard may be used subject to approval by the Materials Manager at the receiving facility **AND** the ZF Automotive buyer. Deviations must be formally submitted to the ZF buyer or receiving facility Materials Manager and approved in writing.

This labeling specification applies to all products being shipped to **ANY** ZF Automotive location in North America, regardless of the supplier's location. Suppliers are expected and required to ship all labels shipping to North American ZF facilities in English. Failure to comply with any of these requirements could result in the lowering of the Supplier Quality Rating and/or generate charge backs to supplier for additional handling fees that result from non-conformance to this specification.

All parts shipped after January 1st, 2020 must be shipped in accordance with this standard.

Any questions or concerns regarding this specification should be directed to your ZF purchasing representative.

In this document the word **SHALL** indicates a requirement and the word **SHOULD** indicates a recommendation.

TYPES OF LABELS AND REQUIRED DATA FIELDS

2.1 Label Types

Five types of labels are defined and required by ZF Automotive, depending on how material is packaged for shipment as described below. (*Exhibits are for reference only; the Supplier **SHOULD** utilize these formats. Actual labels may be different depending up printing capability of the Supplier and Data being supplied.)*

2.2 Single Pack Carton Label (Ref Exhibit A)

SHALL be used to identify a single pack or carton containing the same part number. It is the most commonly used shipping/parts identification label.

2.3 Master Load Pallet Label (Ref Exhibit B)

The Master Label **SHALL** be used for containers, pallets, skids, etc. holding more than one single pack of the same part number. The Master Label is used to summarize the total quantity of a single part number or lot number on a shipping pallet. If more than one part number or lot number is included on a given pallet, a Master Label for each lot number and part number, **SHALL** be used.

2.4 Mixed Load Pallet Label (Ref Exhibit C)

SHALL be used for containers, pallets, skids, etc., holding more than one single pack of different part numbers.

2.5 Internal Container Label (Sub pack Label) (Ref Exhibit D)

SHALL be used for internal containers when multiple containers or sub packs of the same part number are shipped inside a single pack carton container. This label is used in addition to labels for single or multiple containers.

2.6 Primary Metal Suppliers (Ref Exhibit E)

Primary Metals suppliers are exempt from this specification but shall comply with industry standard AIAG B10 Feb 2000. Follow the primary metals example as shown in Exhibit E of this document. Also Suppliers should incorporate a ‘To’ and ‘From’ address into their label and should utilize code 128 with an ‘x’ dimension of 0.015”.

2.7 Label application and usage table

The following table *(Figure 1)* will help you determine which type(s) of label(s) to use depending upon how the material is packaged and shipped.

Figure 1 - Label Application and Usage

Packaging Method	Single pack carton Label	Master Load pallet Label	Mixed Load pallet Label	Internal Container Label
Single Container Same Part Number	**X**			
Single Container, Multiple Lot / PO	**X**	**X (For each LOT or PO)**		
Multiple Containers same Part Number /single pallet.	**X**	**X**		
Multiple Containers different Part Number /single pallet	**X**	X **(For Each Part Number)**	**X**	
Internal pack (sub-pack)	**X**			**X**

2.8 Bar Code Label Required Data Fields

Depending upon the bar code label type required the following table *(Figure 2)* defines the minimum required Bar Code and Human readable data fields for each label application.

Figure 2 - Description of Data Elements and Required Data Fields

Description of Data Elements & Parts Identification Label / in which it is Used		Bar Code Symbol	Human Readable Bar Code Interpretation	Data Identifier (DI)	Data Titles and Data Identifier (DI) Text	Human Readable Text only	Maximum Data Length Excluding Data Identifier	Single Pack Carton Label	Master Load Pallet Label	Mixed Load Pallet Label	Internal Container Label (Subpack)	Packing Slip / Delivery Note
Data Field	**Description**	**Data Element Required**						**Data Field Label –Usage Application**				
Part Number	Part Number as Assigned on ZF Lifetec Purchase Order	X	X	P	X		18	X	X		X	
Quantity	Total Quantity of the Same Part Number in a Box or Container	X	X	Q	X		6	X	X		X	
Supplier Number	Supplier Number assigned by ZF Lifetec	X	X	V	X		7	X	X			
Serial Number – Single Pack	Unique Serial Number assigned by Supplier for a single Box or container of the same Part Number	X	X	S	X		10	X				
Serial Number – Master Pack	Unique Serial Number assigned by Supplier for more than one Single Container of the Same Part Number	X	X	4S	X		10		X			
Pkg ID – Unit	Unique Container Identifier Formed by Supplier Number + Container Serial Number	X	X	3S	X		15	X				
Supplier Lot Numbe	Supplier Manufacturing Lot Number	X	X	1T	X		10	X	X		X	
Purchase Order Number	ZF Lifetec Purchase Order Number	X	X	K	X		10	X	X			
Revision Level	Alpha Character Representing Revision Level of Part Number in	X	X	2P	X		3	X	X		X	
Packing Slip/ Delivery Note	Shipment Reference Number assigned by the Supplier	X	X	11k	X		10		X			X
Date	Manufacture , Packaging or Shipping Date					X	N/A	X				
Ship to	Shipping Address of destination Plant					X	N/A	X	X	X		
Ship From	Supplie Company Name, Address and Phone Number					X	N/A	X	X	X		
Part Description	Part Description as Indicated in ZF Lifetec Purchase Order					X	N/A	X				
Certification Status	Supplier Certification Status as determing by ZF Lifetec Purchasing					X	N/A	X				
Supplier Part Number	Internal Supplier Part number	X	X	1P	X						X	
2D Code	All Data Fields Contained in One 2D Code	X						X				

GENERAL LABEL INFORMATION - Format, Size and Material

3.1 Format

Label format is an open architecture structure utilizing modular "building block(s)" as described in the AIAG B-10 specification. Each data area **SHALL** have the Data Title and utilize Data Identifiers as shown in the label exhibits. Recommended label formats and placement are described in exhibits A to F. Refer to AIAG B-10 specification; Version 2.00 released 2/00 for additional label formatting and data specifications not described in this specification. All labeling must conform to the aforementioned AIAG and ANSI specifications identified previously in this specification.

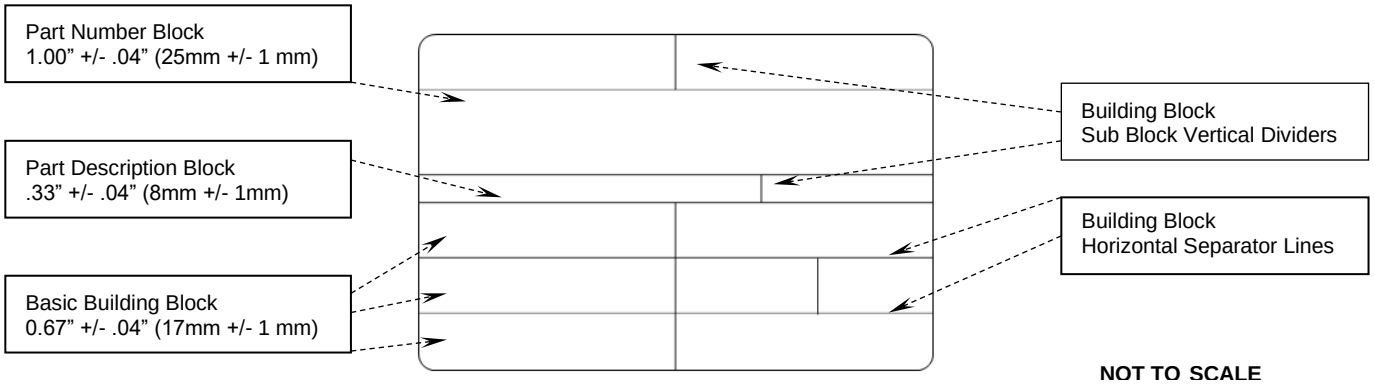
3.2 Building Blocks

Building blocks *(Figure 3)* are a horizontal basic unit structure used to simplify label formatting. The building block format is based on a 0.67" +/- 0.04" (17mm +/-1mm) height horizontal block, which may contain text, graphics or single bar code field containing human readable interpretation. Building blocks **SHOULD** be stacked vertically. A horizontal line extending the entire length of the label **SHALL** separate vertically stacked building blocks.

3.3 Sub Block

A Sub Block is a method of dividing a Building Block into segments to allow additional data fields to be utilized within a horizontal Building Block. Sub Blocks are equivalent to the full Building Block height and **SHALL** be divided by vertical lines. The label **SHALL NOT** contain more than four (4) Sub Blocks within a Building Block. Sub Blocks can be any width. The Width **SHALL** be determined by the data being illustrated within the Sub Block.

Figure 3 - Building Block Format - Carton Label



Building block height shall be 0.67-inch +/- 0.04 inch (17mm +/- 1mm), unless otherwise noted, and SHALL be separated by a horizontal line. A vertical line SHALL divide building block or Sub-block segments

3.4 Label Size

The size of the label is determined by the amount of data required and is the responsibility of the Supplier to choose the proper label size to accommodate the information relative to the data requirements in this specification. The number of building blocks required to illustrate the information on the label **SHALL** determine the label height. The Supplier **SHALL** determine the label width. Minimum label size shall be 4" X 6" (100mm X150mm) and A6 for European suppliers. The minimum label size is applicable to the Carton, Master and Mixed skid label. The sub-pack label may be smaller depending upon package size. Refer to section 9 Sub Pack/Internal Container Labeling for Sub Pack/Internal Container specifications.

3.5 Material and Print Quality

The label paper **SHALL** be white in color with black printing. The printing media **SHALL** be of proper carbon content to insure passing ANSI X3.182 Bar Code Print Quality guideline. The minimum symbol grade **SHALL** be:

- Minimum print quality grade = 1.5 (C)
- Measure aperture = 0.10 " (0.254mm)
- Inspection wavelength =660 nanometers +/- 10 nanometers

Adhesive types can be pressure sensitive or dry gummed as long as adherence to the package substrate is assured and application is wrinkle-free.

3.6 General Comments

Label font should clearly distinguish between the number zero and the letter "O" or "D". When printing a zero on the label incorporate a slash "/" thru the zero. i.e. Ø. North America includes the countries of Canada, Mexico, and the United States.

BAR CODE TEXT and HUMAN READABLE CHARACTERS

4.1 Data Titles, Data Identifier Text and Human Readable Interpretation of Code 128

All Human Readable text must comply with the latest AIAG B-10 specification.

The Characters **SHALL** be clearly legible. A Sans Serif font such as Arial is recommended.

All human readable data **SHALL** be printed in upper case characters.
Human readable interpretation of the Bar Code symbol **SHALL NOT** include start/stop characters or human readable Data Identifier(s).

The following table *(Figure 4)* lists the recommended character text sizes for all labels except the Internal Container Label (sub-pack). Refer to section 9 Sub Pack/Internal Container Labeling for Sub Pack/Internal Container specifications.

Figure 4 - Text Size and Dimensions

Data Element	Text Size	Notations
Data Titles	6 Point	Two lines maximum, Left Justified
Human Readable Data Identifiers	6 Point	In parenthesis, included in Data Title, or Left Justified directly above the Bar Code
Bar Code Human Readable interpretation	20 Point unless otherwise noted	Positioned directly above the Bar Code
Part Number Human Readable interpretation	36 Point	
Ship to:	12 Point	
Ship From	12 Point	
Manufacturing Date Code	20 Point	
Part Description	20 Point	
Supplier Certification Status	36 Point	

• The Words Master Label	36 Point	
• The Words Mixed Load	108 Point	
• Revision Level	20 point	
• Packing Slip	20 point	

BAR CODE REQUIREMENTS

5.1 Bar Code Block Format

Figure 5 outlines Bar Code Block layout. Except as noted under Sub Pack/ Internal Container Labeling, Bar Code Building block height is 0.67" +/- 0.04" (17mm +/- 1mm)

A sub block **SHALL NOT** contain more than one bar code symbol. Figure 5 illustrates use of a building block, Bar Code height, Title Block, Human Readable text alignment, Code 128 Bar Code, and X Dimension.

Figure 5 - Bar Code Building Block

5.2 Symbology

All Bar Codes **SHALL** be AIM Uniform Code 128 symbology except as noted in section 5.9 which describes the 2D bar code Symbology. A leading space character **SHALL NOT** be used. The four characters %, /, $, + **SHALL NOT** be used.

5.3 Narrow Element X Dimension

ALL Bar Codes **SHALL** use a narrow element X dimension of 0.013 inch to 0.017 inch (.33mm to 0.43mm). Recommended X Dimension is 0.015 (.38 MM).

5.4 Bar Code Height

Each Bar Code symbol **SHALL** be a minimum height of .35 inch (13 mm) except as defined under Sub pack/Internal Container Labeling when using code 128 Symbology.

5.5 Bar Code Symbol Placement

SHALL be as illustrated in the exhibits relative to the type of label being used.

Using additional bar code symbols on shipping packages is not encouraged but may be appropriate in certain circumstances. Any additional code 128 symbols placed on the label or elsewhere on the container **SHALL** use data identifiers as defined in the American National Standards Institute (ANSI) Data Identifier Standard ANSI MH10.8.2

5.6 Quiet Zones

The Bar Code symbol **SHALL** have leading and trailing quiet zones with minimum widths of .25” (6.3mm) *(figure 6)*.

Figure 6 - Quiet Zones

5.7 Data Identifiers

5.7.1 Use of Data Identifiers

A data identifier (sometimes referred to as a DI or a prefix) is one or more characters that define a general category type or specific use of bar coded data. Data Identifiers are used as described in the ANSI MH10.8.2 specification. All Code128 symbols **SHALL** contain Data Identifiers and **SHALL** conform to the ANSI MH10.8.2 Data Identifier standard. Data Identifiers are not considered part of the data they precede.

The data identifier(s) *(figure 7)* **SHALL** immediately follow the start character in the bar code symbol and will identify the type of information used in that symbol. **Care must be taken that the bar code data has the proper data identifier**. *ZF* requires data identifier use as specified in ANSI MH10.8.2 and ISO standards.

5.7.2 Data Identifier Listing

The data identifiers listed below SHALL be used on ZF Automotive labels when these specific data fields are being used.

Figure 7 - Data Identifier Listing

Data Identifier	Data Area
P	Part Number
Q	Quantity
V	Supplier Number – Assigned by ZF
S	Serial Number – Single Pack Label
4S	Serial Number – Master Label
3S	Pkg ID - Unit
K	Purchase Order Number
11K	Packing Slip
1T	Supplier Lot Number
1P	Supplier Part Number – For use with Internal Carton or Sub Packs
2P	Revision Level
D	Date
1Q	Theoretical Weight
2Q	Actual Weight

Note: That the serial number data identifiers for the Single Pack and Master Pack labels are different from one another.

5.8 Single Carton Serial Number Nomenclature

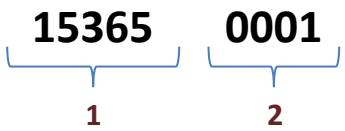
ZF SHALL require unique serial numbers to exist at the box level.

5.8.1 Content of Serial Number

The Serial number provides a standard batch controlled format for tracking safety critical components from a lot trace perspective and for inventory management.

- The Serial Number should be included on Single Pack Labels. See Exhibit A
- The Serial Number MUST be unique for each container.
- The Serial Number consists of the following data elements:

Example: 153650001



1) **Year /Julian Day** (5 character – Numeric)
   a) First 2 digit are the current Year (last 2 positions of Year)
   a) The following 3 digits are the Julian Day of the Lot Mfg Date.

2) **Container Number** (4 Numeric digits)
   a. Container number assigned within the Year/Julian Date combination beginning at '0001'.

At this time, ZF recommends that suppliers be able to track their lot numbers to this number if queried: however, this is not mandated. ZF will always return the supplier lot number in the event of quality issues and containment.

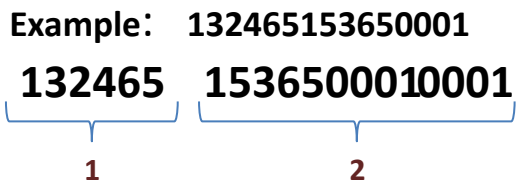
5.9 PKG ID – UNIT Nomenclature

ZF SHALL require this field “Pkg ID-Unit” to receive unique container identifiers along all ZF suppliers.

5.9.1 Content of Pkg ID-Unit

Package identification assigned by the supplier to the lowest level of packaging (container).

- The Pkg ID - Unit should be included on Single Pack Labels. See Exhibit A
- The Pkg ID - Unit MUST be unique for each container.
- The Pkg ID - Unit consists of the following data elements:



1) **Supplier Code** (Up to 6 character – Numeric)
   a. Supplier’s identifier to ZF.

2) **Single Carton Serial Number** (9 Digits – Numeric)
   a. Serial number as described in section 5.8

5.10 Single Carton Label - PDF 417 2D Bar Code Data Syntax Structure

Single Carton Label
PDF 417 2D BAR CODE DATA SYNTAX STRUCTURE

[)><RS>06<GS>S153650001<GS>P480827<GS>1T9876501234<GS>Q50<GS>V132465<GS>K5500123456<GS>D060101<GS>3S132465153650001<RS><EOT>

- GROUP SEPARATOR G_S
- DATA FORMAT 06
- RECORD SEPARATOR R_S
- COMPLIANCE INDICATOR [)>

- RECORD SEPARATOR R_S
- MESSAGE TRAILER E_{OT}

DATA IDENTIFIER (DI)	DEFINITION	COMMENT	EXAMPLE	WITHIN 2D BARCODE
S	SERIAL NUMBER		S153650001	REQUIRED
P	PART NUMBER		P480827	REQUIRED
1T	LOT NUMBER		1T9876501234	REQUIRED
Q	QUANTITY		Q50	REQUIRED
V	SUPPLIER NUMBER		V132465	REQUIRED
K	PURCHASE ORDER		K5500123456	REQUIRED
D	DATE	FORMAT YYMMDD	D060101	REQUIRED
3S	PKG ID - UNIT	HAS STRUCTURE --> PAGE 18	3S132465153650001	REQUIRED

Special Characters Reference Table

ASCII/ISO 646 Character	DECIMAL	HEX
[	91	5B
)	41	29
>	62	3E
R_S	30	1E
F_S	28	1C
G_S	29	1D
E_{OT}	04	04

Master Label
PDF 417 2D BAR CODE DATA SYNTAX STRUCTURE

[)><RS>06<GS>4S1234509876<GS>P480827<GS>1T9876501234<GS>Q200<GS>V132465<GS>K5500123456<GS>11K80253612<GS>2PG<RS><EOT>

GROUP SEPARATOR G_S

DATA FORMAT 06

RECORD SEPARATOR R_S

COMPLIANCE INDICATOR [)>

RECORD SEPARATOR R_S

MESSAGE TRAILER E_{OT}

DATA IDENTIFIER (DI)	DEFINITION	COMMENT	EXAMPLE	WITHIN 2D BARCODE
4S	PKG ID - MASTER		**4S**1234509876	REQUIRED
P	PART NUMBER		**P**480827	REQUIRED
1T	LOT NUMBER		**1T**9876501234	REQUIRED
Q	QUANTITY		**Q**200	REQUIRED
V	SUPPLIER NUMBER		**V**132465	REQUIRED
K	PURCHASE ORDER		**K**5500123456	REQUIRED
11K	PACKING SLIP		**11K**80253612	REQUIRED
2P	REVISION		**2P**G	REQUIRED

Special Characters Reference Table

ASCII/ISO 646 Character	DECIMAL	HEX
[	91	5B
)	41	29
>	62	3E
R_S	30	1E
F_S	28	1C
G_S	29	1D
E_{OT}	04	04

LABEL LOCATION AND PROTECTION

6.1 Label Location

Refer to the ZF Purchase Order or Material Release for any special application instructions of labels. Two labels **SHALL** be used for each Single Pack carton, Master or Mixed load container. The labels **SHALL** be on adjacent corners of the container except as noted under returnable containers. It is the Supplier's responsibility to adequately design packaging that provides sufficient container surface to insure label adherence and complete readability.

Master Carton and Mixed load labels

The label shall be placed on the upper half of the unit load.

The bottom of the label(s) should not exceed 60" (152 cm) from the bottom of the unit load. The label should be placed at opposite ends of the carton label. See Exhibit F.

Returnable Containers

In cases where returnable containers are used and the container has label holders on opposite sides the labels may be placed in these holders.

Labels **SHOULD** be located no closer than 1.25 inches (32 mm) from the edge of the container and 1.25 inches (32 mm) from the top of the container.

See Exhibit E.

6.2 Label Protection

Label protection **SHALL** be the responsibility of the Supplier to insure readability upon receipt at ZF. Label protection against moisture, weathering, abrasion, etc., is encouraged wherever practical. Laminates, window envelopes, and clear plastic pouches are examples of possible protection methods.

In choosing any protection method, care SHALL be taken to assure the protected labels meet reflectivity and contrast requirements and can be scanned with contact and non-contact devices.

6.3 Returnable Containers

Returnable containers are reusable containers such as tubs or racks that are mutually designated by ZF Automotive and the supplier to move materials back and forth between the two trading partners. Returnable containers utilize protective pouches or holders which are acceptable providing there are two labels per container on opposite ends or adjacent corners.

All shipping/parts identification labels on returnable containers **SHALL** be removed before reuse in order to control movement, maintain cleanliness, and assure properly identified contents.

BAR CODED PACKING SLIP

Note: A bar coded packing slip is required by the ZF Automotive location being shipped to. Requests will be made directly to suppliers by those ZF facilities wishing to receive a bar coded packing slip.

7.1 Packing Slip/Delivery Note Number

Each shipment **SHALL** have unique supplier shipping reference number called out on the packing slip, manifest or delivery note. The supplier **SHALL** assign this number. This number links the material(s) being delivered to receiving reference data for shipment traceability and account reconciliation purposes.

7.2 Packing Slip Bar Code Guidelines

The Supplier **SHALL** send with each shipment a packing slip, manifest or delivery note that **SHALL** have the packing slip, manifest, or delivery note number bar coded to be used in expediting the delivery receipt process *(figure 8)*.

The bar code information under this section **SHALL** follow the bar coding guidelines as specified previously in this document.

The language “Packing Slip” is required to be visible with barcode in English on the packing slip, manifest or delivery note.

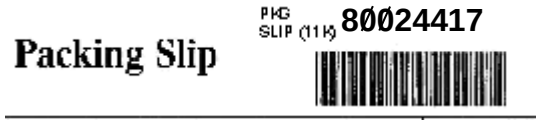
The human readable interpretation of the bar code **SHALL** be a 20 point size.
The minimum height of the bar code symbol **SHALL** be 0.5 inch (13mm).
The human readable data identifier (11K) and Bar Code title block **SHALL** be present.

The maximum length of the packing slip number **SHALL NOT** exceed (10) alphanumeric characters plus the data identifier.

The supplier **SHOULD** make every effort to add the following information in Bar Code including Data Identifiers and human readable format using the specifications in this document.

- Purchase Order
- ZF Part Number(s)
- Total Packing Slip Quantity(s)

Figure 8 - Bar Coded Packing Slip



NOT TO SCALE

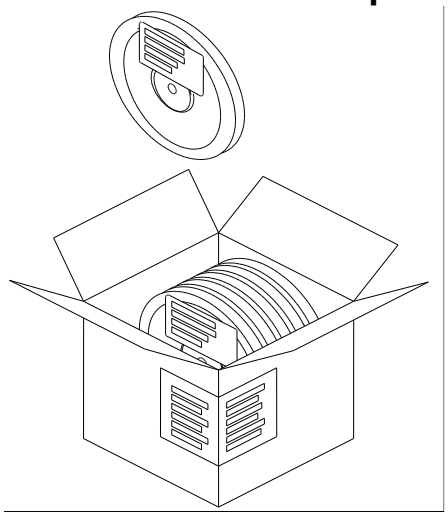
SUBPACK/INTERNAL CONTAINER LABELING

7.3 Data Area Characteristics-Internal Container Label (sub-pack)

The specifications in this section apply to the Internal Container Labeling.

This label application applies when material is packaged in smaller packages (sub packs), within a single pack carton that is intended to be used/consumed within the manufacturing process in the Internal Container (sub pack) in which it is packaged. *(Figure 9)*

Figure 9 – Electronic Components packaged on reel with multiple reels packaged in one container.



7.4 Sub pack Bar Code Symbology

The supplier **SHALL** use code 128 symbology and follow the specifications outlined previously in this document. UCC/EAN Retail Application sub set **SHALL NOT** be used. In either case the data identifiers and human readable interpretation of the bar code **SHALL** follow this specification.

7.5 Bar Code and Human Readable Requirements

The supplier **SHALL** provide the following information in bar code and human readable format *(figure 10)* including Data Identifiers *(figure 7):*

- ZF Part Number
- Sub-Pack Quantity
- Supplier Lot Identification Number
- Revision Level (Engineering)

The Supplier **SHOULD** provide in the human readable format the following data fields:

- Part Description
- Supplier Code

The maximum length of the Supplier Lot Identification Number **SHALL NOT** exceed (10) alphanumeric characters plus the data identifier. Depending upon the symbology used Sub-Pack bar code and human readable characters **SHALL** be a minimum height of:

- **Code 128 .125” (3 mm)**

The supplier shall determine the label size based upon the label content specifications for sub pack label**.** All fonts on the sub pack label should be a minimum of 12 point font.

Figure 10 - Internal Container Label

Exhibit A

Single Carton Label

- All Bar Codes shall be Code 128 Symbology
- All Bar Codes shall be .35" in height
- All Bar Codes shall use a narrow element size as defined in AIAG B-10 rev 2.
- Unless specified otherwise, human readable interpretation of all Bar Codes shall be 20 point font size

NOTE: Illustration is NOT actual size

Supplier Information

Title Block = FROM:

Data = Name and address of supplier

Text Height = 12 Point

Max Characters = 3 Lines, 28 Characters

Part Number

Title Block = PART NUMBER (P)

Data = Part Number as designated by ZF

Data Identifier (DI) = P

Text Height = 36 Point

Maximum Length = 18 Data + 1 DI

Part Description

Title Block = DESCRIPTION

Data = the official description of this part as defined on the ZF Purchase Order

Text Height = 20 Point

Max Characters = 1 Line, 20 Characters

Supplier ID Number

Title Block = SUPPLIER NUMBER (V)

Data = Supplier Code assigned to your location by ZF

Data Identifier (DI) = V

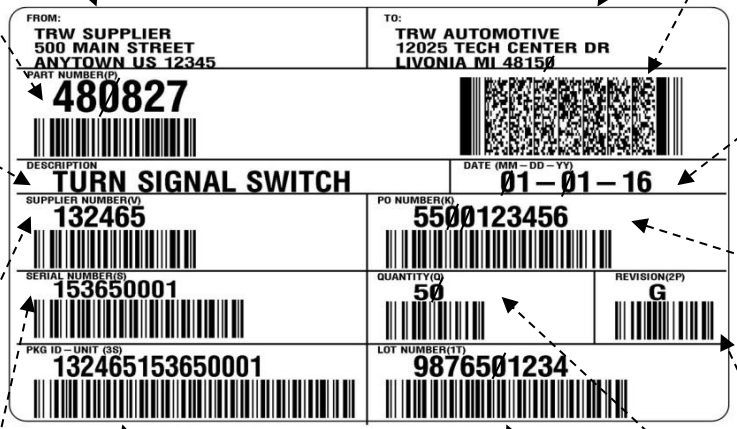
Carton Serial Number

Title Block = SERIAL NUMBER (S)

Data = Supplier assigned Container Serial Number - See Section 5.8 for more details (pag.17)

Data Identifier (DI) = S

Maximum Length = 10 Data + 1 DI



PKG ID-UNIT

Title Block = PKG ID-UNIT (3S)

Data = Package Identification assigned by the supplier
See Section 5.9 for more details (pag.18)

Data Identifier (DI) = 3S

Maximum Length = 15 Data + 2 DI

Supplier Lot Number

Title Block = LOT NUMBER (1T)

Data = Supplier assigned Lot number, unique for the material in this container, traceable back to supplier's MFG lot

Data Identifier (DI) = 1T

Maximum Length = 10 Data + 2

Ship to Information

Title Block = TO:

Data = Shipping address of destination as defined on the ZF Purchase Order

Text Height = 12 Point

Max Characters = 3 Lines, 28 Characters

PDF417 2D Bar Code

Refer to Section 5.10 for more details.
Pag. 19

Date:
Title Block = DATE (2D) (MM-DD-YY)
Data = A Date indicating either the date of manufacture, packing date, or shipping date in the format MM-DD-YY
Data Identifier (DI) = 2D
Text Height = 20 Point
Max Characters = 8 Characters

Purchase Order Number

Title Block = PO NUMBER (K)
Data = P.O. number as defined by ZF
Data Identifier (DI) = K
Maximum Length = 10 Data + 1 DI

Revision Level

Title Block = REVISION (2P)
Data = Revision level the material is manufactured to.
Data Identifier (DI) = 2P

Quantity of Pieces

Title Block = QUANTITY (Q)

Data = Number of pieces in container

Data Identifier (DI) = Q

Maximum Length = 6 Data + 1 DI

Label Purpose/Use: SINGLE CONTAINER LABEL
Single Container Label for Container with one Single part Number

Any dimensions that are not otherwise specified on this page SHALL be in compliance with AIAG B-10, Version 2.00, 2/00

Exhibit B

Master Load Label

- All Bar Codes shall be Code 128 Symbology
- All Bar Codes shall be .35" in height
- All Bar Codes shall use a narrow element size as defined in AIAG B-10 rev 2.
- Human Readable interpretation of all Bar Codes shall be 20 point font size

NOTE: Illustration is NOT actual size

Supplier Information

Title Block = FROM:

Data = Name and Address of supplier

Text Height = 12 Point

Max Characters = 3 lines, 28 Characters

Part Number

Title Block = PART NUMBER (P)

Data = Part Number as designated by ZF
Data Identifier (DI) = P

Maximum Length = 18 Data + 1 DI

Quantity of Pieces

Title Block = QUANTITY (Q)

Data = Number of pieces in container

Data Identifier (DI) = Q

Maximum Length = 6 Data + 1 DI

Supplier ID Number

Title Block = SUPPLIER NUMBER (V)

Data = Supplier Code assigned to your location by ZF

Data Identifier (DI) = V

Maximum Length = 7 Data + 1 DI

Master Pack Serial Number

Title Block = PKD ID-MASTER (4S)

Data = Supplier assigned control number unique for this Master Pack, not to be repeated within 365 days

Data Identifier (DI) = 4S

Maximum Length = 10 Data + 2 DI

Revision

Title Block = REVISION (2P)

Data = ZF Revision level the material is manufactured to.

Data Identifier (DI) = 2P

Maximum Length = 3 Data + 2 DI

Supplier Lot Number

Title Block = Lot Number (1T)

Data = Supplier assigned Lot number, unique for the material in this container, traceable back to supplier's MFG lot

Data Identifier (DI) = 1T

Maximum Length = 10 Data + 2 DI

Packing Slip Number

Title Block = PACKING SLIP (11K)

Data = Supplier assigned packing slip number, unique for this shipment.

Data Identifier (DI) = 11K

Maximum Length = 10 Data + 3 DI

Purchase Order Number

Title Block = PO NUMBER (K)

Data = P.O. number as defined by ZF

Data Identifier (DI) = K

Maximum Length = 10 Data + 1 DI

PDF417 2D Bar Code

Refer to Section 5.11 for more details. Pag. 20

Ship-to Information

Title Block = TO:

Data = Shipping address of destination as defined on the ZF Purchase Order

Text Height = 12 Point

Max Characters = 3 Lines, 28 Characters

Master Label Indicator

Title Block = none

Data = the words "MASTER LABEL"

Text Height = 36 Point

Label Purpose/Use: **Summarize Total Content of Several Single Loads of the Same Part Number , Palletized in one Shipping Unit**
Each Pallet must have One Master Label for each different Lot Number
For Mixed Loads : For more than one Part number in one Pallet , generate One Master Label for each combination of Part Number & Lot Number Plus the Mix Load Label

Any dimensions that are not otherwise specified on this page SHALL be in compliance with AIAG B-10, Version 2.00,

Exhibit C
Mixed Load Label

NOTE: Illustration is NOT actual size

Supplier Information

Title Block = SHIP FROM:

DATA = Name and Address of Supplier

Text Height = 12 Point

Max Characters = 3 Lines, 28 Characters

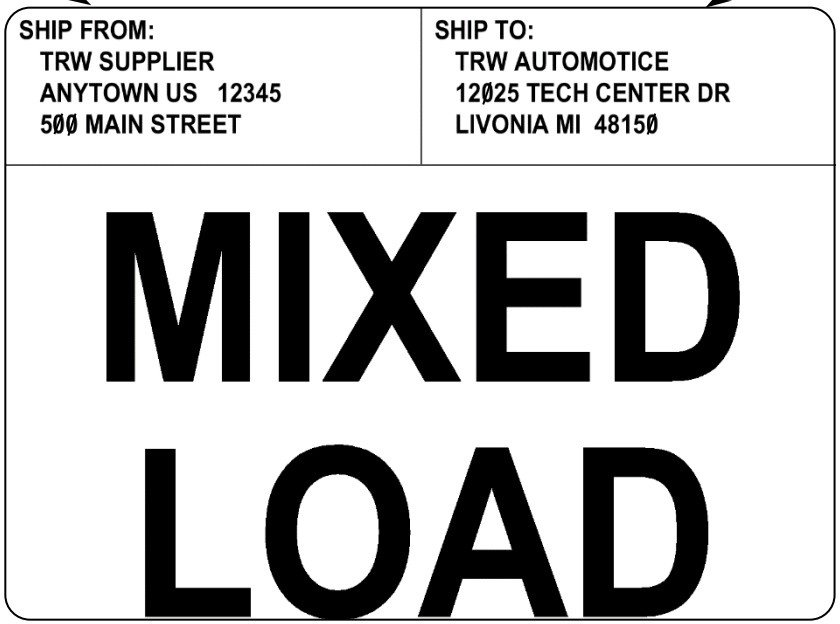
Ship-to Information

Title Block = SHIP TO:

Data = Shipping Address of the destination plant as defined on the Purchase Order

Text Height = 12 Point

Max Characters = 3 Lines, 28 Characters



Mixed Load label indicator

Title Block = None

Data = the words "MIXED LOAD"

Text Height = 108 Point

Label Purpose/Use: MIXED LOAD LABEL
Pallet or Master Load containing more than one single pack of different part numbers. The MIXED LOAD label is used to indicate multiple part numbers on a single pallet or load
A Mix Load Must contain Individual, Master and Mix load Labels

Any dimensions that are not otherwise specified on this page SHALL be In compliance with AIAG B-10, Version 2.00, 2/00

Exhibit D

Internal Container Label
(Sub pack Label)

- All Bar Codes shall be Code 128 Symbology
- All Bar Codes shall be .30” in height
- All Bar codes shall use a narrow element size of .013”-.017”
- Unless otherwise specified, human readable interpretation of all Bar Codes shall be 12 point font size

NOTE: Illustration is NOT actual size

Part Number

Title Block = PART #
CUST (P)

Data = Part number as designated by ZF

Data Identifier (DI) = P

Maximum Length = 18 Data + 1 DI

Quantity of Pieces

Title Block = QUANTITY (Q)

Data = Number of pieces in container

Data Identifier (DI) = Q

Maximum Length = 5 Data + 1 DI

Note: Unit of measure is assumed as EACH. Any other unit of measure must appear in human-readable text only, next to the interpretation of the bar code.

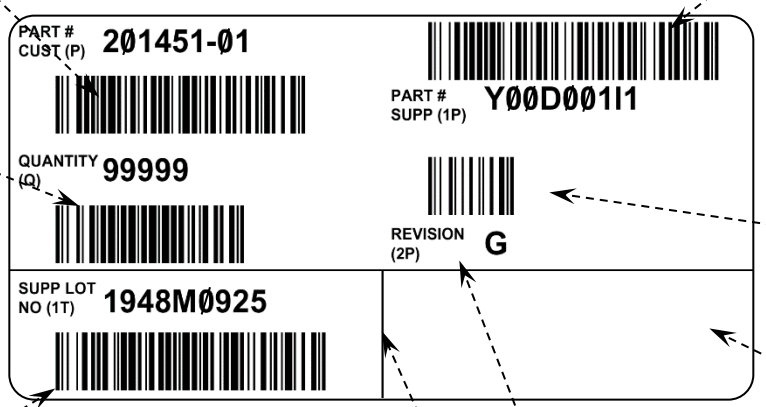
Supplier Lot Number

Title Block = LOT NUMBER (1T)

Data = Supplier assigned Lot number, unique for the material in this container, traceable back to supplier’s MFG lot

Data Identifier (DI) = 1T

Maximum Length = 10 Data + 2 DI



Supplier Part Number

Title Block = PART #
SUPP (1P)

Data = Supplier’s Internal Part Number

Data Identifier (DI) = 1P

Maximum length = Defined by supplier

Revision

Title Block = REVISION (2P)

Data = Revision level the material is manufactured to.

Data Identifier (DI) = 2P

Maximum Length = 3 Data + 2 DI

Intentionally left blank. Available for supplier use.

Data Dividing Lines are Optional.

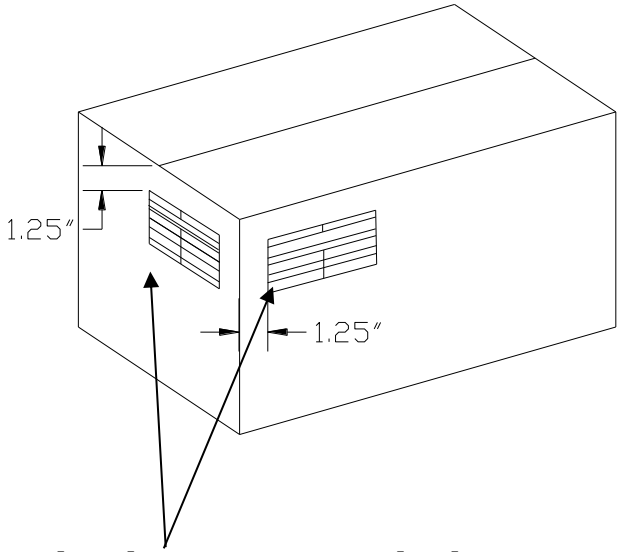
Label Purpose/Use: **Internal Container (Sub pack) FOR SHIPMENT TO ZF** **Identification label used to indicate the suppliers manufacturing lot number for trace ability and trace ability within the manufacturing process**	**Any dimensions that are not otherwise specified on this page SHALL be in compliance with AIAG B-10, Version 2.00, 2/00**

Exhibit E

Primary Metals

FROM: Company Name Address 1 Address 2 City, State Zip	TO: Company Name Address City, State Zip
PART # CUST (P) 00000000529026169	
PO # (K) 00000000000092734	
SPLR ID CUST ASGN (V) 00000004305156059	
Serial (S) 00000000000000114	
HEAT # SPLR (1T) 226799229431	
ACTUAL WEIGHT (2Q) 01954	SIZE One Pallet, 4'x6'x6'
THEORETICAL WEIGHT (1Q) 02000	Product Description
QUANTITY (Q) 01000	Special Handling Instructions

Exhibit F
Label Placement



Single Carton Label

# of Labels:
- 2 labels per container

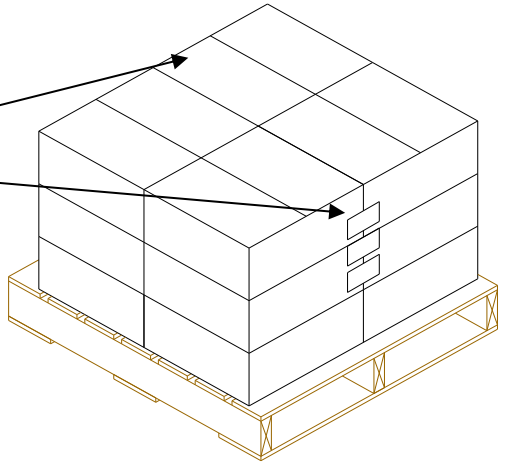
Location:
- Placed on adjacent corners
- Min 1.25”(32 cm) from top
- Min 1.25” (32cm) from edge

Note: Returnable containers refer to section 7.3

Master Load Label

# of Labels:
- 2 per load

Location:
- Opposite sides of load
- Upper half of load
- Center of load
- Stacked vertically



Mixed Load Label

# of Labels:
- 2 labels per load

Location:
- Opposite sides of load
- Upper half of load