

# Supplier Packaging & Labeling Requirements



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Revised By: Mauricio Alvarez Released By: Renee Tuttle Release Date: 2/22/2024

#### Support Document

#### SUPPLIER PACKAGING AND LABELING **REQUIREMENTS**



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#### 1.0 Introduction

This manual has been prepared to assist Suppliers in meeting Mekra Lang North America/Mekra Lang Mexico (MLNA/MLMX) packaging, labeling and shipping requirements.

Suppliers are responsible for packaging and labeling parts so that they arrive, at MLNA/MLMX and/or the point-of-use, in damage free condition, with appropriate documentation. In addition, packaging must be economical with minimum impact on the environment and labeling must be in accordance with industry standards. It is essential that Suppliers and MLNA/MLMX cooperate to achieve acceptable packaging and labeling at reasonable cost, in our mutual interest and to our customer's satisfaction. Questions regarding compliance, content, intent or recommendations for these requirements should be directed to your MLNA/MLMX's buyer or to Mekra Lang North America, LLC 101 Tillessen Blvd Ridgeway, S.C. 29130. Telephone (803) 337-5264.

#### 2.0 Compliance

Supplier compliance to the requirements in this document is mandatory. However, some parts supplied to MLNA may require special packaging or labeling not covered in this document. If you supply this type of part, contact your MLNA/MLMX's buyer for assistance in development of a package or label compatible with MLNA/MLMX's requirements. Any deviation from the requirements listed in this document must have approval by MLNA/MLMX.

#### 3.0 Environmental Considerations

MLNA/MLMX is participating in industry efforts toward the reuse and recycling of packaging materials. Successful implementation of waste minimization programs, recycling, and use of returnable containers has substantially eliminated or reduced the amount of materials sent for disposal. In addition, we are investigating new technologies, materials and distribution alternatives which will minimize the overall impact of packaging waste on the environment. The concept of Product Stewardship, in which industry assumes the responsibility of their products and packaging from conception to disposal, is vital in achieving an environmentally responsible packaging strategy.



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MLNA/MLMX requests that Suppliers commit to Product Stewardship and faithfully practice the 3 R's principle of Reduce, Re-use and Recycle. By doing so, the elimination and reduction of packaging related wastes will reduce packaging costs as well as minimize the impact of packaging on the environment.

#### 4.0 Packaging Responsibilities

#### General 4.1

Suppliers are responsible for designing packaging that will deliver parts and material to MLNA/MLMX and/or the point-of-use in damage free condition, assuming normal handling and storage.

#### 4.2 **Essential Packaging Functions**

Packaging must perform a number of essential functions during transportation and storage. Suppliers should consider the following functions in designing a package for their product:

- Protection of the product from physical damage,
- Convenience of use, safety and ease of handling,
- Compliance to legal and regulatory requirements,
- Communication of information (labeling), and
- Environmental acceptability and ease of disposal or recycling.

#### **Compliance with Regulatory Requirements**

As a supplier for MLNA/MLMX you are required to develop packaging and use packaging materials which are consistent with regulations established by state, provincial, or local governments wherever your package is discarded (recycled, reused, disposed of, etc.). MLNA/MLMX will attempt to notify suppliers of any relevant legislation, which may apply directly to containers, and packaging shipped to MLNA/MLMX locations. However, the supplier has ultimate responsibility for assuring their packaging is in compliance with regulations.

#### **Compliance with Import/Export Packaging Requirements**

Special considerations **must** be made when importing product to **MLNA/MLMX**. Please refer to the United States Department of Agriculture – Animal & Plant Health Inspection Service (APHIS) website.

Web link: http://www.aphis.usda.gov/ppq/wpm/index.html



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#### 5.0 General Packaging Requirements

#### **5.1 Packaging Costs**

All part quotations are to include packaging and labeling costs. The supplier is responsible for packaging and labeling as required by this document and must include the costs for all materials and labor in the piece-part price at the time of quotation.

#### 5.2 Packaging Material

Packaging should consist of recycled materials where possible and be cost effective. Plastic material must be labeled in accordance with the Society of the Plastics Industry Recycling Symbology (See Exhibit A and Section 6.8). Corrugated containers must display a Certificate of Box Manufacturer in a readily visible location on the container (See Exhibit B and Section 7.2). The use of salvaged containers, pallets and other packaging material must have written approval from MLNA/MLMX. No extra labels shall be visible on the packaging. All old labels or markings on the package must be removed or covered.

#### 5.3 Ergonomics

All containers and packaging must be designed with consideration given to ease of handling and part removal. Appropriate consideration must be given to height restrictions, weight restrictions, carton disassembly and any other issues that may affect worker safety.

#### 5.4 Unique Packaging Requirements

Unique packaging requirements such as rust prevention, weight, fragility and surface appearance, which are not covered by these guidelines, are the responsibility of the parts supplier.

#### 6.0 Shipping Instructions and Documentation

#### 6.1 Destination Label

- 1. All destination labels shall be machine-printed. Handwritten or illegible labels are unacceptable.
- 2. Destination labels shall be located on two adjacent sides of the container or package, where possible.
- 3. Suppliers shall refer to the MLNA/MLMX's Purchase Order or Supplier Release Authorization for the correct shipping address.



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#### 6.2 Packing List

- 1. All shipments shall contain at least one packing list.
- 2. Packing lists shall bear the proper MLNA/MLMX's vendor code.
- 3. Packing lists shall contain a Shipper Number (SID).

Packing lists should have a separate location for the Shipper Number (SID).

The **Shipper Number** (SID) shall be a unique number assigned by the supplier (not necessarily in sequential order) that specifically identifies a shipment. This number shall be referenced on invoices presented to **MLNA/MLMX** for payment. In this way, each shipment will have a unique "control" number that differentiates it from others (for accounting purposes).

Only one **Shipper Number** (SID) shall be used per shipment, and **Shipper Number** (SID) shall not be repeated within any calendar year. The **Shipper Number** (SID) shall be a maximum of ten (10) alphanumeric characters. For suppliers using Electronic Data Interchange (EDI), this SID shall be the same SID used on advanced shipping notices (type 856) and invoice (type 810) transactions. Suppliers may use any convenient number (B/L, Work Order, Invoice #, Sales Order, etc.) for the **Shipper Number** if it conforms to the above guidelines and is **clearly** identified as the **Shipper Number** on the packing list.

4. All parts and material included in a shipment shall be represented on the packing list by the following:

The MLNA/MLMX's Part Number,
The MLNA/MLMX's Purchase Order Number/Scheduling Agreement
The quantity shipped (by the Supplier).

#### 5. Location of Packing List

The packing list shall be enclosed in the carton or container, on top of the parts, or shall be securely attached to the outside in a protective envelope labeled "Packing List". For shipment of multiple cartons or containers, the location of the packing list shall be labeled or marked in some way stating "Packing List" or "Packing List Inside" on two adjacent sides of the carton or container carrying the packing list. For



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international shipments, attach one packing list to the outside marked "Customs Packing List" and, in addition, enclose one packing list inside the carton or container.

#### 6.3 Numbering Cartons and Containers

For shipment of multiple cartons or containers, each individual carton or container must be consecutively numbered and marked on the outside (e.g., 1 of 3, 2 of 3, 3 of 3). This will assist in identifying individual cartons that may get separated during shipment.

#### 6.4 Handling Instructions

Material handling instructions should be marked in bold letters and proportionately sized to the container or carton.

- **Direction of Travel** If a package is designed to travel in a specific direction, it should be indicated on two adjacent sides of the package.
- Stacking Instructions If a package will not support the weight of other packages, it should be indicated in two visible locations. The use of a cone is advisable to prevent the stacking of boxes or pallets.
- **Fragile** If a product is fragile such that it may be damaged with normal handling or if it requires special handling, it should be indicated in two visible locations on the package.

#### 7.0 Shipping Container Specifications

#### 7.1 Definition

Expendable containers are containers that are designed for one-way use. Exhibit C illustrates typical expendable shipping containers.

#### 7.2 Hand-Handled Container Requirements

- 1. Gross Weights shall not exceed 30 lbs.
- 2. Corrugated cartons are the most common hand-handled containers, and are acceptable with the following qualifications:
- 3. The container must be expendable (designed for one-way use).



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- 4. Use a regular slotted carton (RSC) except when other styles may be dictated by part characteristics.
- 5. The unsupported bottom of a carton must be able to hold the contents.
- 6. Hand-holds are desirable for bulky packages.
- 7. Construction must be in accordance with the Corrugated Fiberboard Specifications in Section 7 and Fiberboard Box Specifications in Exhibit D of this document.

#### 7.3 Mechanically-Handled Container Requirements

- 1. Gross Weight shall not exceed 3,500 lbs.
- 2. All shipments of mechanically handled containers must be on expendable wooden pallets as specified in Section 9 of this document.

#### 7.4 Container Height

Containers should not exceed 42" in height (including the pallet) where part size allows. Any exceptions must be approved in advance by **MLNA/MLMX**.

#### 7.5 Temperature

Expendable containers should be designed to withstand temperature variations from -40° C to 80° C.

#### 7.6 Moisture

Expendable containers should be designed to withstand 90% humidity at 150°F (65.6°C) exposure during transit and storage.

#### 7.7 Special Considerations

The use of non-recyclable wax impregnated and/or polyethylene (PE) coated corrugated fiberboard is prohibited.

The use of lead and cadmium is prohibited.

The use of asphaltic tape is prohibited.

The use of expanded polystyrene (EPS) is prohibited. All plastic material must be labeled in accordance with the Society of the Plastics Industry (SPI) guidelines (See Exhibit A). For more information, contact SPI at 1275 K Street N.W., Suite 400, Washington, D.C. 20005.



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#### 7.8 Salvaged Packaging Materials

Reuse programs may be established in controlled circumstances where packages are designed for multiple uses and/or distribution environments. The use of salvaged materials and reuse of cartons, pallets, crates, and other materials must be authorized by MLNA/MLMX.

#### 8.0 Corrugated Fiberboard Specifications

#### 8.1 General

Corrugated fiberboard is the primary material to be used for one-way expendable shipping containers.

MLNA/MLMX has historically required suppliers to use corrugated cartons with a minimum burst strength specification. However, Alternative Rule 41 of the Uniform Freight Classification and Item 222 of the National Motor Freight Classification allows packaging engineers to use edge-crush test (ECT) as an alternative to burst strength (Reference Exhibit D). The resulting packages have improved stacking strength with less corrugated material as compared to containers designed using burst strength specifications. Suppliers are encouraged to investigate the use of such alternatives when designing corrugated cartons in order to:

Provide for improved stacking strength of corrugated containers,

Increase the recycled content of corrugated paper,

Reduce the overall amount of fiber used per shipping container.

#### 8.2 Certificate of Box Manufacturer

MLNA/MLMX requires all corrugated containers be stamped with the Certificate of Box Manufacturer (Reference Exhibit B), as indicated in Item 222-1 of the National Motor Freight Classification.

#### 9.0 Dunnage Material

MLNA/MLMX encourages the use of paper-based rather than plastic-based dunnage material. Paper-based material is easily recycled along with corrugated containers, and does not require intermediate steps for segregation of materials. The use of foam or Styrofoam dunnage material must have written approval from MLNA/MLMX prior to use.



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#### 10.0 Pallet Specifications

MLNA/MLMX will not accept pallets with any damage or defects. Pallets should be new or in near new condition and must remain intact and properly functioning throughout their intended lifespan. Suppliers are responsible for failure of their pallets while in transit to MLNA/MLMX. All pallets must be "Heat Treated", constructed, and marked in accordance with Pallet Specifications paragraphs 10.2 and 10.3 below. Supplier shipments that do not comply with this requirement will be subject to an MLNA/MLMX repackaging charge, advised to the supplier in the form of an MLNA/MLMX Debit Memo.

#### 10.1 General

The proper use and design of **Heat Treated** wood pallets is critical to assure part protection and overall container performance, and to make the most efficient use of storage and trailer space.

#### 10.2 Pallet Size Requirements

Unless authorized or requested by MLNA/MLMX and, where part size permits, the Heat Treated standard pallet size for a repetitive part is 48" by 40" by 4" with 4-way entry. Pallets must be stamped HT on 2 sides and must have 4 -way roll in entry with 2 equal fork openings measuring a minimum of 2.5" x 9" on the stringer side and a minimum of 3.5" x 28" on the stringer side. Pallets with a center stringer dimension wider than 2" are not permitted. If a pallet dimension is greater than standard 48" by 40" then the use must be pre-approved by MLNA/MLMX.

#### 10.3 Construction Requirements

All pallets must provide 4-way fork entry and be of double-face, non-reversible wood construction Pallets constructed of other-than-wood material must be approved by (Reference Exhibit F). MLNA/MLMX.

A minimum 28" fork opening width must be maintained.

A minimum 3-1/2" fork opening height must be maintained.

#### Construction Specifications:

- Top and bottom deck board width: minimum 3.5" 1.
- Top and bottom deck board thickness: minimum ½" 2.
- 3. Stringer dimensions: standard 2" by 4" (Stringer type pallets)



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#### 11.0 Load Containment

#### 11.1 General

The decision to use strapping, stretch film, shrink film, or unitizing adhesives for load containment must fully evaluate both performance and environmental considerations. Suppliers must select the load containment option, which provides damage protection and optimum load containment with minimal environmental impact.

#### 11.2 Metallic Strapping

The use of metallic strapping is discouraged, but is recognized as the most appropriate material for certain applications.

#### 11.3 Plastic Strapping

- 1. All plastic strapping must be of either Polypropylene (translucent clear only) or Polyester (translucent green only) materials. The color requirement aids in material identification for recycling purposes.
- 2. All plastic strapping must be free of metal clips and shall utilize either heat seal or friction weld as a sealing method.

#### 11.4 Plastic Stretch Film

Plastic stretch film has a number of performance advantages, particularly for small cartons and parts shipped loose on pallets. Suppliers should investigate recyclability and adequacy for the application prior to use. In many cases, stretch film is used when the application calls for strapping.

- 1. All stretch film must be of linear low-density polyethylene (LLDPE) resin.

  The use of polyvinyl chloride (PVC) film is prohibited.
- 2. All stretch film must be clear.

Tinted or colored film is prohibited.

#### 11.5 Shrink Film

Shrink film offers some unique advantages for specific packaging applications and is considered an acceptable material if used within physical limitations. Suppliers should investigate recyclability and adequacy for the application prior to the use of shrink film.



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#### 11.6 Unitizing Adhesives

Unitizing adhesive is a clear, water-soluble liquid, which is applied to the top and sides of corrugated cartons by spraying or brushing. The liquid forms a fiber bond, which prevents cartons from shifting, slipping or sliding off the pallet. MLNA/MLMX encourages suppliers to use unitized adhesives if recyclability of the cartons is not compromised.

#### 11.7 Stacking Cartons

Suppliers should consider all the conditions under which their cartons and containers must perform.

Compression strength should be a primary consideration. Two-thirds of the stacking strength of a corrugated fiberboard carton is concentrated at the corners. Failure to properly utilize the corner strength of the carton(s) frequently leads to carton failure. Corrugated cartons will lose strength if stacked improperly or under adverse conditions (See Exhibit H).

#### 11.8 Loading of Cartons

To minimize manual handling and to allow for stacking, all cartons must be "palletized" in individual layers on the pallet (See Exhibit I). The "pyramiding" of cartons is strictly prohibited (See Exhibit I). The supplier is responsible to assure that packaging is consistent with this policy. If material release quantities do not permit shipment of individual layers of cartons, MLNA/MLMX will assist in establishing consistent release quantities and/or alternative methods of packaging.

#### 11.9 Mixed Load Procedure

When stacking cartons on a pallet and the shipment consists of more than one part number, organize the pallet by like part number. It is acceptable to mix different part numbers on a pallet only after full pallets of like part numbers have been built. Exhibit J illustrates when it is acceptable to ship different part numbers on the same pallet.

#### 12.0 Package Testing

To assure satisfactory package performance throughout the distribution cycle, the testing of all packages prior to use is encouraged.

The American Society for Testing and Materials (ASTM) has issued standardized test methods which govern testing of packaging systems. Suppliers to MLNA/MLMX are encouraged to use the ASTM



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standards for testing packages. The standards can be obtained from the ASTM at 1916 Race Street, Philadelphia, PA 19103.

#### 13.0 MLNA/MLMX-Owned Returnable Containers

The use of MLNA/MLMX-owned returnable containers must be negotiated as part of the agreement to supply parts to MLNA/MLMX. The MLNA/MLMX's Purchasing Department will maintain an "Authorized MLNA/MLMX-Owned Returnable Container Listing" for suppliers who are approved to use MLNA/MLMX-owned returnable containers. The supplier is responsible for maintenance of the returnable in a clean and functional manner. The supplier is responsible to remove all of the old labels prior to reuse for every shipment.

#### 14.0 Supplier-Owned Returnable Containers

The use of Supplier-owned returnable containers must be negotiated as part of the agreement to supply parts to MLNA/MLMX. The supplier is responsible for maintenance of the returnable container in a clean and functional manner. The supplier is responsible to remove all of the old labels prior to reuse for every shipment.

#### 15.0 Mode of Transportation

MLNA/MLMX's Supply Chain Management Department will designate the most economical mode of transportation and carrier routes to be used. The determination depends, to a large extent, upon the volume, weight and quantity of parts to be shipped. All packaging must be designed to absorb shock and vibration forces incurred in all types of transportation environments. However, no specific recommendations will be made in this document due to the variety of packaging and shipping modes.

#### 16.0 Hazardous Materials

The U.S. Department of Transportation has established packaging regulations for materials determined to be hazardous as defined in two volumes of Title 49, Code of Federal Regulations parts 100 through 177, and parts 178 through 199. Included in this category are explosives, compressed gases, flammables, oxidizing materials, poisons, irritating materials, etiologic agents, blasting agents, radioactive materials, corrosives, and hazardous wastes.



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The first volume contains regulations on classification, packaging, marking, labeling, loading, paperwork, and other issues. The second volume sets forth shipping container specifications for many types of materials.

All suppliers shipping these type materials to MLNA/MLMX are required to adhere to these regulations.

Copies of the regulations can be obtained from:

Superintendent of Documents

U.S Government Printing Office

Washington, D.C. 20402.

#### 17.0 Bar Coded Shipping Label Requirements

#### 17.1 General

These specifications, which apply to bar codes for shipping labels, were developed according with the AIAG Shipping / Parts Identification Label Standard (AIAG: B-10, 2004).

For more information on AIAG Standards, contact the Automotive Industry Action Group, 26200 Lahser Road, Southfield, MI 48034.

#### 17.2 Quality

The use of bar code systems is intended to increase productivity, reduce costs and improve data accuracy within the automobile and truck manufacturing industries. An important aspect of any bar code system is that of quality. When labels cannot be decoded fast and accurately, the advantages of bar coding are lost.

Suppliers have the responsibility to provide bar code labels that meet the specification of this document and those of the Print Quality Guideline in Section 4 of AIAG B-1. It is recommended that verification audits be used in conjunction with statistical process control techniques to assure shipping label quality.

#### 17.3 Label Size and Materials

Label dimensions should be in accordance with the dimensions shown in Exhibit K. All other exhibits are for illustrative purposes only, and may not be to scale or bar code quality standards.

The recommended label size is 4.0" high by 6.5" wide, which should cover all conditions. The minimum label size shall be 4.0" high by 5.0" wide. The label paper shall be white with black printing. Adhesive



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labels can be pressure sensitive or dry gummed as long as adherence to the package substrate is assured, application is wrinkle-free, and for use on expendable packaging only.

Use the methods shown in Exhibit L to affix the label to the package or container, or use another method with MLNA/MLMX's approval.

#### 17.4 Label Information

#### 1. Data Areas and Titles

The part number, quantity, supplier number, serial number, purchase order and line number data shall be displayed in both human readable characters and bar code symbols (Reference Exhibits M and N). Each data area shall be separated by border lines and shall contain the title and data identifier in the upper left hand corner. Titles and data identifiers shall be printed in 0.1" high letters. The Supplier's name, city, state and zip code shall appear at the bottom of the label, and shall be in printed in 0.1" high letters. Human readable data characters shall be a minimum of 0.1" high. Bar code symbols shall be directly below the human readable data characters and shall be a minimum of 0.5" high.

#### 2. Data Identifier Characters

A data identifier character shall be used to identify specific data.

The data identifier shall be printed separately in human readable characters under the title.

The data identifier shall not be included in the human readable characters.

The data identifier shall be included in the bar code symbol.

The data identifier characters are as follows:

- P Part Number
- **R Part Revision Level**
- **Q** Quantity Shipped
- V Supplier Number
- S Unique Serial Number (SID)
- M Unique Serial Number (SID) Master Label
- G Unique Serial Number (SID) Mixed Load



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K – Purchase Order Number

ML - Manufactures Lot Number

L – Delivery Location of the parts

**MD** – Manufactures Date

**CO – Country Origin** 

SN – Supplier Name

#### See Exhibit N

#### 3. Part Number

Part numbers shall be the same part numbers designated on the MLNA/MLMX's Purchase Order/Scheduling Agreement or Material Release Authorization. The maximum length of the part number shall be twenty (20) alphanumeric characters. The length of the bar code symbol shall not exceed 5.5".

#### 4. Quantity

The maximum length for the quantity is six (6) numeric characters. When the unit of measure is pieces, no notation is required. When the unit of measure is not pieces (i.e., pounds, pairs, feet, etc.), it shall be printed in human readable form only. When used, the unit of measure abbreviation (Reference Exhibit O) shall be directly to the right of the human readable quantity.

The unit of measure shall not be bar coded.

#### 5. Supplier Number

The supplier number will be the Vendor Code assigned by MLNA/MLMX to each Supplier location.

The maximum length for the supplier number is five (5) characters.

#### 6. Serial Number (Shipment Identification Number)

The serial number shall be the Shipper number (SID) described in Section 5.2.3 of this document. The maximum length for this number shall be nine (9) alphanumeric characters.



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The line number item refers to the line number on the Purchase Order. The maximum length of the line number shall be three (3) characters.

#### 7. Manufacture Lot Number

The manufacture lot number not to exceed one coil/molt/batch or one 24 hour day, whichever is the lesser of the two. The lot number may be the manufacture date as well. For containers that a coil/molt/batch/date change over are required to meet a standard full pack, the second number is to be included. There shall not be more than two manufactures lot numbers per label.

#### 8. Manufacture Date

The manufacture date not to exceed 24 hours. For containers that a coil/molt/batch/date change over are required to meet a standard full pack, the second number is to be included. There shall not be more than two manufactures dates per label.

#### 17.5 Bar Code Symbology

Bar codes shall be the 3-of-9 (Code 39) type as specified by the Automotive Industry Action Group (AIAG: B-1, 1984).

#### 1. Code Configurations

The four (4) characters (\$,/,+,%) of the 3-of-9 symbology shall not be used in the bar code labels.

#### 2. Code Density and Dimensions

The bar heights shall be a minimum of 0.5". For each bar code symbol, the average width of narrow elements shall be within the range of .013 to .017 inches.

The ratio of the nominal width of the wide elements to the nominal width of the narrow elements shall be 3:1, with an allowable range of 2.8:1 to 3.2:1.

#### 3. Check Digits

Check digits shall not be used in the bar codes.

#### 17.6 Label Location and Protection

#### 1. Label Locations



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Illustrations of the most common shipping packs and recommended label locations are shown in Exhibit L. The bottom edge of the label should be parallel to the base of the package/container. To facilitate automatic reading of the bar code symbols, the top edge of the label, whenever possible, should be 20" from the bottom of the container.

#### 2. Label Protections

Label protection against moisture, weathering, abrasion, etc. may be required and is encouraged wherever practical. Laminates, sprays, window envelopes and clear plastic pouches are examples of possible protection methods. In choosing any protection method, care must be taken to assure that labels meet reflectivity and contrast requirements and can be scanned with contact and noncontact devices.

#### 3. Separate Boxes

Each box even though on a master pallet requires individual labels. The individual labels are placed as shown in Exhibit C. This is for the purpose of lot tractability.

#### 17.7 Special Labels

Special labels may be required for multiple and mixed item shipments. These labels should be used only when authorized by MLNA/MLMX.

#### 1. Master Labels

A Master label, as shown in Exhibit P, shall be used when multiple packages of the same items are shipped together. The quantity listed on the Master Label shall be the total in all of the packages. Each individual package should be identified with a separate bar code label. The data identifier for the serial number shall be "M" instead of "S."

#### 2. Mixed Loads

A Mixed Load label, as shown in Exhibit Q, shall be used when packages of different items are shipped together. Each individual package should be identified with a separate bar code label. The data identifier for the serial number shall be "G" instead of "S."



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SUPPLIER PACKAGING AND LABELING REQUIREMENTS

18.0 Individual Piece Part Bar-Coding Requirements

#### 18.1 General

These specifications, which apply to bar codes for individual piece parts or standard packs, were developed in conjunction with the TMC RP801C "Bar Code Guidelines." For more information on TMC Standards, contact the Maintenance Council of the American Trucking Association, Director of Member Services at (703) 838-1761.

#### 18.2 Quality

The use of bar code systems is intended to increase productivity and data accuracy within the automobile and truck manufacturing industries. Suppliers have the responsibility to provide bar code labels that meet the specifications of this document and those of the Bar Code Print Quality Guideline ANSI X3.182. It is recommended that verification audits be used in conjunction with statistical process control techniques to assure shipping label quality. The thermal printing method of bar coding generation is preferred by MLNA/MLMX due to the format flexibility and image quality.

#### 18.3 Label, Size, Material, and Special Requirements

#### 1. Label Size

The recommended label size is 1 inch high by 3 ½ inches wide.

#### 2. Materials

The label paper should be white with black printing. Adhesive labels can be pressure sensitive or dry gummed as long as adherence to the part is assured and application is wrinkle-free.

#### 3. Part Size Limitations

If the recommended 1 inch high by 3 ½ inch wide label cannot be adhered to the part due to the size, the part has to be tagged with the bar coded label or bagged with the bar coded label attached to the bag.

#### 4. Individually Boxed Part

If a part is individually boxed, it is not necessary to place a 1-inch high by 3½-inch wide label on the part in addition to the box label. This individual piece part barcode information can be incorporated into the box label for individually boxed piece parts. The bar code specifications and



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human readable information (ref 17.3.1 Data Areas) must be included on each box label for parts individually packaged.

#### 5. Standard Packs

For those parts MLNA/MLMX, distributes as a standard pack of greater than one, a bar code label will be required on the packaging for these parts and not on each individual part.

#### 18.4 Label Information

#### 1. Data Areas

The part number shall be displayed in both human readable characters and bar code symbols. The part description shall be displayed in human readable characters only. Human readable data characters shall be a minimum of 0.1" high. The part description shall be displayed above the bar code and the part number below the bar code (see examples in section 17.6).

#### 2. Part Number

Part numbers shall be the same part numbers designated on the MLNA/MLMX's

Purchase Order/Scheduling Agreement or Material Release Authorization.

### MLNA/MLMX's Proprietary part number format (Note: '\_' denotes a space required in the bar code)

Alpha Numeric Characters: 592704311-PDC

No Alpha Characters: 134142010

The maximum length of the part number shall be fifteen (15) alphanumeric characters.

#### 3. Country of Origin

The country of origin must be clearly displayed on each label (as pictured) to meet custom requirements for international trade.

#### 18.5 Bar Code Symbology

Bar Codes shall be the 3-of-9 (Code 39) type as specified by the TMC (RP801C).

#### 1. Code Configurations

The four (4) characters (\$,/,+,%) of the 3-9 symbology shall not be used in the barcode labels.

#### 2. Code Density and Dimensions



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The bar heights shall be a minimum of 3/16". For each bar code symbol, the average width of narrow elements shall be within the range of 0.013 to 0.017 inches. The ratio of nominal width of the wide elements to the nominal width of the narrow elements shall be 2:1.

#### 3. Check Digits

Check digits shall not be used in the bar codes.

#### 18.6 Approval of Bar Code Label by MLNA/MLMX

Prior to implementation of the bar coding requirement, the bar code shall be approved by **MLNA/MLMX**. Please submit a sample of each format you will be using to your Supplier Quality Engineer. When making a new PPAP submission, a full sized label is required with the submission.

#### 19.0 New Product and Part Changes

#### 19.1 Trial Parts

During the development process and ongoing product validations trial parts will be shipped from one location to another. For the reason to ensure that the parts get to the correct party, when shipping Trial Parts and parts for testing, the LM 799 (Exhibit P) form shall be used. Tags are to be on blue paper or labels. On boxes the labels are to be on all six sides of the box, like a dice. When the trial parts are being shipped as a pallet, the top five sides require the Trial parts label. When utilizing labels, all of the same information and format is required; the minimum size is 4"x5".

#### 19.2 PPAP Samples

When shipping PPAP samples the PPAP Sample Tags LM 791. (Exhibit Q) Tags are to be printed on yellow paper or yellow labels. On boxes the labels are to be on all six sides of the box, like a dice. When the PPAP samples parts are being shipped as a pallet, the top five sides require the PPAP Sample parts label. When utilizing labels, all of the same information and format is required; the minimum size is 4"x5".

#### 19.3 Safe Launch

Safe Launch applies to all production material suppliers. Safe Launch is to assure a smooth startup of a new part or modified process or new supplier. Safe Launch is required for all of the product prior to and through the first 30 days after MLNA/MLMX's SOP at a minimum. In the event that a supplier utilizes batch production and a single batch run when the batch run size exceeds 30 calendar days of demand; the first two batches require Safe Launch. The supplier inspection requirements are to conform with



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MLNA/MLMX standard packaging and labeling General Practices. If defects are discovered, the safe launch must reset to zero until zero defects are discovered. The intent is 30 days or two batches defect free to stop safe launch. For labeling, safe launch tags LM 798 (Exhibit R) are printed on green paper to be placed beside the bar code labels as shown in Exhibits C and L. When utilizing labels, all the same information and format is required; the minimum size is 4"x5".



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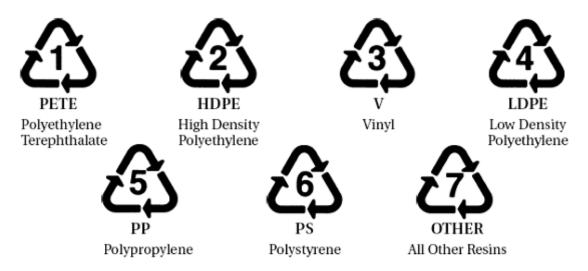
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#### 20.0 Exhibits

#### EXHIBIT A, PLASTICS RECYCLING SYMBOLOGY



#### EXHIBIT B, CERTIFICATE OF BOX MANUFACTURER





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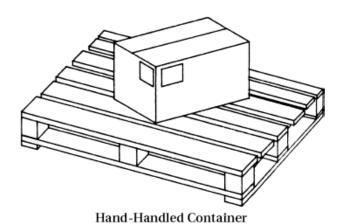
## SUPPLIER PACKAGING AND LABELING REQUIREMENTS

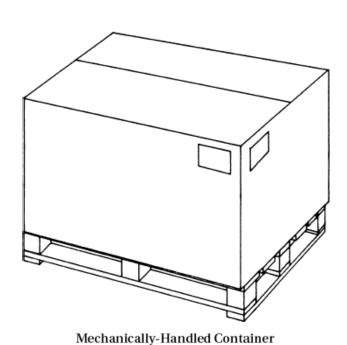
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#### EXHIBIT C, Types of Expendable Containers





Rev 7 – update 19.3 reference to MLNA safe launch process.



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#### EXHIBIT D, FIBERBOARD BOX SPECIFICATIONS

Maximum Weight Box/Contents (lbs.)	Maximum Outside Dimension (L+W+D)	Minimum Burst Test Single Wall, Double Wall, or Solid Fiber Board (Ibs. per sq. in.) or Minimum Puncture Test Triple Wall Board (in oz. per in. tear)	Minimum Combined Weight of Facings, Including Center Facing(s) of Double Wall and Triple Wall Board or Minimum Combined Weight of Plies, Solid Fiberboard (lbs per 1000 sf)	Minimum Edge Crush Test (lbs per in width)		
	SINGLE WALL	CORRUGATED FIBER	BOARD BOXES			
20	40	125	52	23		
35	50	150	66	26		
50	60	175	75	29		
65	75	200	84	32		
80	85	250	111	40		
95	95	275	138	44		
120	105	350	180	55		
	DOUBLE WALL CORRUGATED FIBERBOARD BOXES					
80	85	200	92	42		
100	95	275	110	48		
120	105	350	126	51		
140	110	400	180	61		
160	115	500	222	71		
180	120	600	270	82		
TRIPLE WALL CORRUGATED FIBERBOARD BOXES						
240	110	700	168	67		
260	115	900	222	80		
280	120	1100	264	90		
300	125	1300	360	112		
	so	LID FIBERBOARD BO	XES			
20	40	125	114	N/A		
40	60	175	149	N/A		
65	75	200	190	N/A		
90	90	275	237	N/A		
120	100	350	283	N/A		



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## SUPPLIER PACKAGING AND LABELING REQUIREMENTS

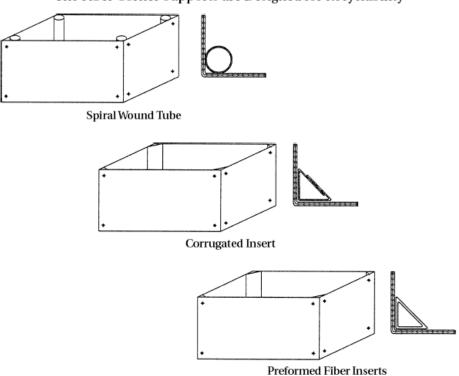
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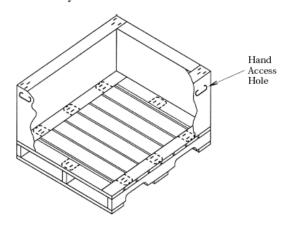
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#### EXHIBIT E, BULK CONTAINER CONSTRUCTION

The Fiber Corner Supports are Designed for Recyclability



#### **Break-Away Feature for Bulk Containers**



The carton is attached to the pallet by stapling within the perforated areas as shown. When disassembled, the carton easily separates from the pallet at the perforations.



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#### EXHIBIT F, Types of Wood Pallets

#### Notched Stringer Design-Flush Type

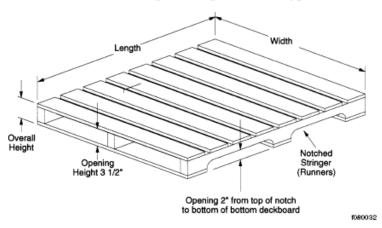


Exhibit G - Removed



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#### EXHIBIT H, STRENGTH OF CORRUGATED CARTONS

These examples demonstrate the potential loss in top-to-bottom compression strength when corrugated cartons are stacked improperly or under adverse conditions.

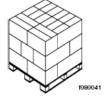
#### % Loss in Compression Strength

Pallet/Carton Overhang

Up to 32%

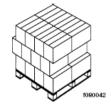
Interlocked Stacking Pattern

Up to 50%



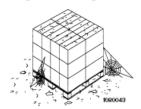
Carton Misalignment

Up to 30%



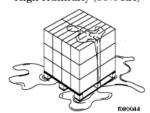
Long-Term Storage

Up to 50%



High Humidity (90% RH)

Up to 60%





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## SUPPLIER PACKAGING AND LABELING REQUIREMENTS

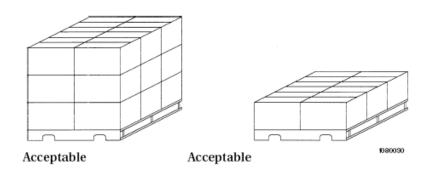
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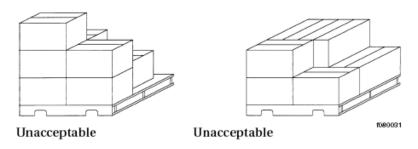
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#### EXHIBIT I, LOADING OF CARTONS

#### **Examples of Properly Palletized Cartons**



#### Examples of "Pyramided" Cartons





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## SUPPLIER PACKAGING AND LABELING REQUIREMENTS

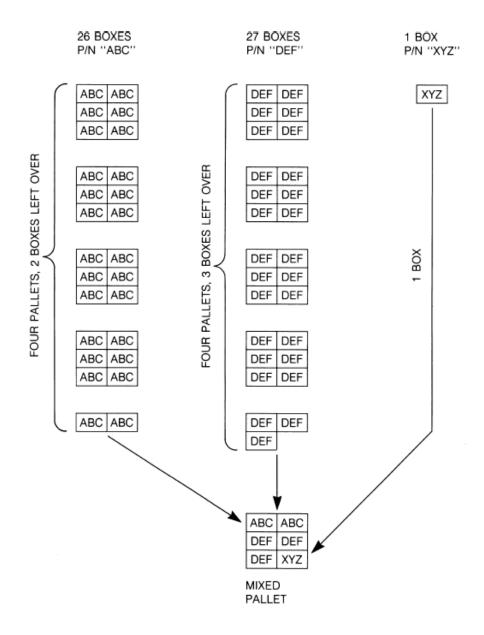
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#### EXHIBIT J, MIXED LOAD PROCEDURE

The following example illustrates when it is acceptable to ship different part numbers on the same pallet.





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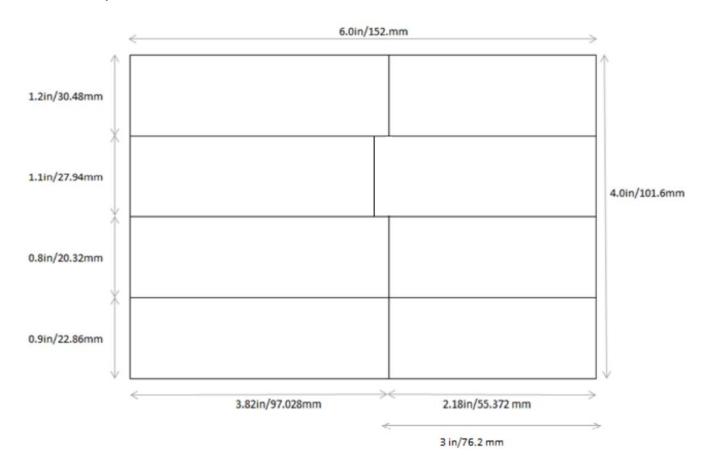
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#### **EXHIBIT K, LABEL DIMENSIONS**





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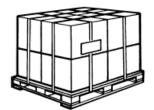
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#### EXHIBIT L, LABEL LOCATIONS



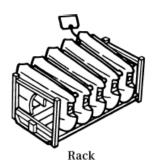
Box or Carton

Identical labels should be located on two adjacent sides. (Wrap around label acceptable.) The upper edges of the labels should be as high as possible up to 20" from the bottom of carton.

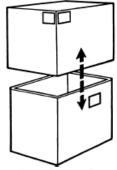


Cartons on Pallet

One master label may be used as described in section 16.7.1, or one mixed load label as described in section 16.7.2.

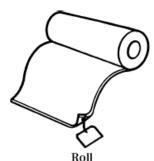


Tag one visible piece near top, or use a label holder.

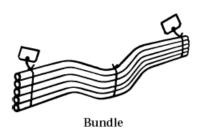


Telescopic or Set-up Containers

Identical labels should be located on two adjacent sides of the outer box. Some applications may also require identification of the inner box.



Hand one tag 2" (51 mm) from end of the material.



Identical tags should be located at each end.



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#### EXHIBIT M, BAR CODED SHIPPING LABEL





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#### EXHIBIT N, BAR CODED SHIPPING TAG





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#### EXHIBIT O, UNIT OF MEASURE ABBREVIATIONS

Code	Definition	Code	Definition	Code	Definition
Distance		Unit of Sale (Cont.)		Unit of Sale (Cont.)	
DK	Kilometers	CQ CR	Cartridge Cubic Meter	PK	Package
MI	Miles	CS	Cassette	PL PN	Pallet/Unit Load Pounds Net
Numl	er of Units	CS CT	Carton	PR	Pair
NB	Barge	CU	Cup Cover	PT	Pint
NC	Car	ČW	Hundred Pounds (CWT)	PW	Pennywieght
NL NN	Load Train	CY	Cubic Yards	QD QR	Quarter Dozen Ouire
NR	Container	CZ DC	Combo Disk (Disc)	ÕΤ	Quart
NT	Trailer	DE	Deal	ŘĎ	Rod
NV	Vehicle	DG	Decigram	RE	Reel
PC	Piece	DM DR	Decimeter Drum	RL	Roll
Temp	erature	DS	Display	RM SA	Ream Sandwich
CE	Centigrade, Celsius	DZ	Dožen	SC	Square Centimeter
FA	Fahrenheit	EA	Each	ST	Set
KV	Kelvin	EV FT	Envelope Foot	SF	Square Foot
Time		GA	Gallon	SG	Segment
	D	GR	Gram	SH SI	Sheet
DA HR	Days Hours	GS HD	Gross One-Half Dozen	SL	Square Inch Sleeve
LH	Labor Hours	HU	Hundred	SM	Square Meter
MO	Months	IN	Inch	SO	Spool
WK	Week	JD JB	Jumbo	SQ	Square
YR	Years	JR JR	Joint Jar	SR SY	Strip
Unit	of Sale	KE	Keg	TB	Square Yard Tube
AM	Ampoule	KG	Kilogram	TG	Gross Ton
AY	Assembly	KH KT	Hilowatt Hour Kit	TH	Thousand
BA	Bale	LB	Pound	TK	Tank
BB BC	Base Box Bucket	LC	Linear Centimeter	TN	Net Ton
BD	Bundle	LF	Linear Foot	TO TY	Troy Ounce Tray
BE	Beam	LG LI	Long Ton Linear Inch	UN	Unit
BF BG	Board Feet Bag	LK	Link	WH	Wheel
BH	Brush	LM	Linear Meter	YD	Yard
BI	Bar	LN LO	Length Lot	ZZ	Mutually Defined
BK	Book	LP	Liquid Pounds	*7 *	
BL BN	Block Bulk	LT	Liter	Value	
BO	Bottle	LY MA	Linear Yard Machine/Unit	CS	Cost
BR	Barrel	MC	Microgram	LS	Lump Sum
BT BU	Belt Bushel	MG	Metric Gross Ton	MV	Monetary Value
BX	Box	ML	Milligram	Volun	ne
CA	Case	MM MN	Millimeter Metric Net Ton		
CC	Carboy Cubic Centimeter	MR	Meter	DL DM	Deciliter Dram
CF	Cubic Centimeter Cubic Feet	MS	Square Millimeter	FO	Fluid Ounce
CG	Card	MT MX	Metric Long Ton Mixed	GA	Gallon
CH	Container	OL	Ounce—Liquid	LT	Liter
CI CI	Cubic Inches Cone	OZ	Ounce AV	ML	Milliliter
ČK	Connector	PA	Pail	PT	Pint
CL	Cylinder	PC PD	Piece Pad	QT	Quart
CM CN	Centimeter Can	PE	Pounds Equivalent	Other	
CO	Can	PF	Pallet (Lift)	ZZ	
CP	Crate	PG PH	Pounds Gross Pack (PAK)	LL	Mutually Devined
		111	I dok (IIIK)		



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#### **EXHIBIT P, MASTER LABEL**





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EXHIBIT Q, MIXED LOAD LABEL







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Exhibit P – Form LM 799 Trial Parts Tag

# Trial Parts

Attn.:	
Part Number	
Revision	
Quantity	
Supplier	
Trial Purpose	
LM 799 Rev 1 – New release	To be applied to all six sides of the box and all five showing sides of a pallet

LM 799 Rev 1 – New release
Cut Here Cut Here Cut Here Cut Here Cut Here Cut Here

Cut Here Cut Here Cut Here PRINT ON BLUE PAPER Here Cut Here



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Exhibit Q – Form LM 791 PPAP Sample Tag

## **PPAP Sample**

Attn.:	
Part Number	
Revision	
Quantity	
Supplier	

LM 791 Rev 2
Cut Here Cut Here Cut Here Cut Here Cut Here Cut Here

To be applied to all six sides of the box and all five showing sides of a pallet Cut Here Cut Here Cut PRINT ON YELLOW PAPER Cut Here Cut Here Cut Here Cut Here



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Exhibit R – Form LM 799 Safe Launch Tag

## Safe Launch Parts

Part Number	
Revision	
Quantity	
Supplier	
Certified By	Date

LM 798 Rev. 1 To be applied besides Bar Code Label on each box and To be applied besides Master Pallet Label on each pallet

Cut Here Cut