1. PURPOSE/SUMMARY

This document specifies the standards for documentation that must be attached to all shipments made to Tesla Motors facilities in the United States. Shipping documentation is intended to be used in conjunction with Advanced Shipping Notices (ASN) and other communications transmitted via Electronic Data Interchange (EDI).

2. SCOPE

Audiences

This specification is for use by the following audiences:

- All suppliers of prototype, pre-production and production parts to Tesla Motors United States facilities
- Internal Tesla Motors departments that are shipping production parts and material from one United States facility to another
- See Section 8 for specific locations in scope

Shipping Documents in Scope

The following shipping documents are included in the scope of this specification:

- Container and pallet labels
- Shipping manifests
- Hazardous material markings and labels

3. REFERENCES

The previous version of this document under a former identification scheme was Document Number 99-000121-03, Revision AC.

This document references Tesla Specification BMS-0000002, Serial Number Labeling.

4. DOCUMENT OWNER

This document shall be maintained by Materials Management at the Tesla Headquarters.

5. RESPONSIBILITY

All suppliers who ship production parts to Tesla facilities within the United States must encode shipping manifests and affix shipping labels to all containers and pallets according to this specification.

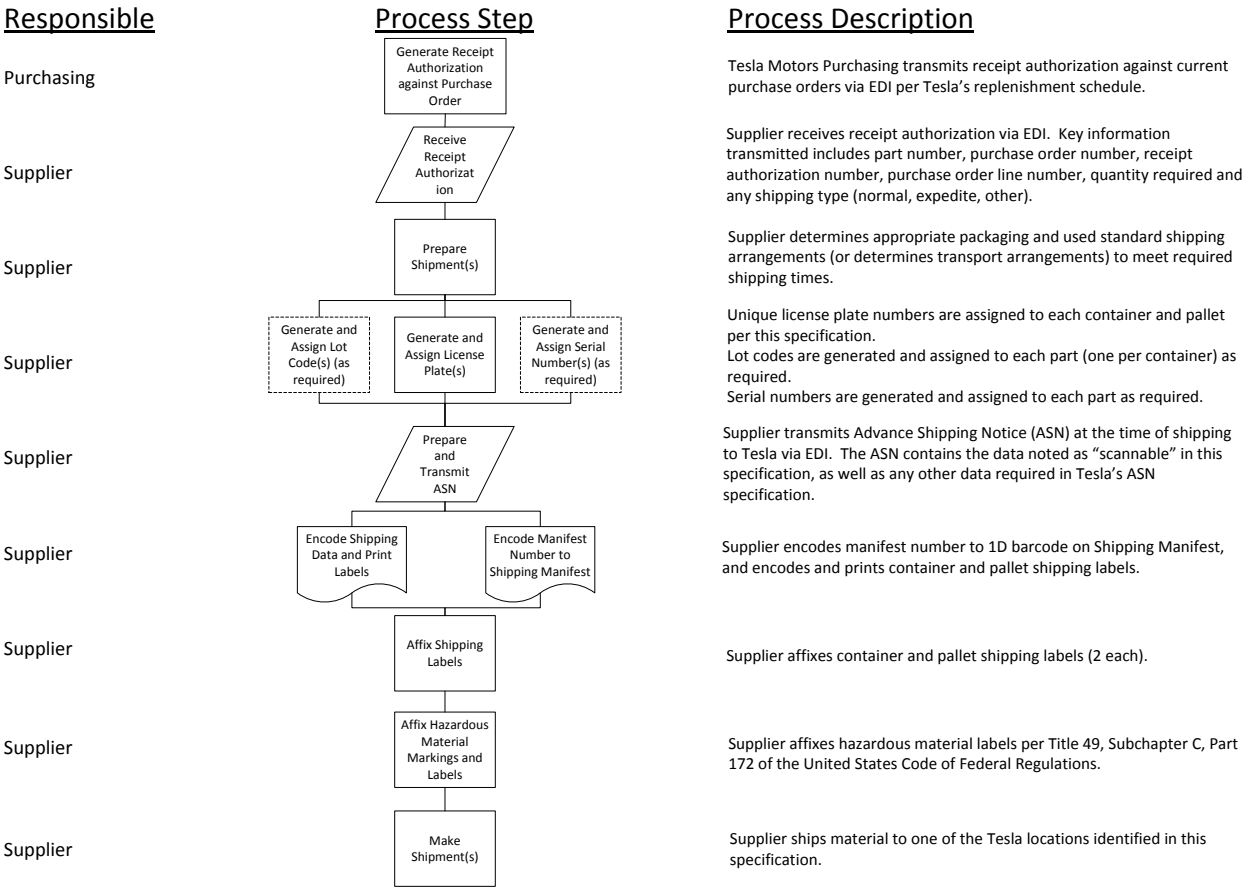
All Tesla personnel who ship production parts or material to other Tesla facilities within the United States must also affix shipping labels to all containers and pallets according to this specification, using a Stock Transfer Order (STO) in place of a Purchase Order.

Materials Management is responsible to monitor compliance to this specification. Materials Management, Purchasing and Tesla's Suppliers are responsible to correct compliance issues.

6. PROCEDURE

Figure 6.1 outlines the key process steps related to the creation and deployment of required shipping documents.

Figure 6.1 – Data Elements for Container Labels (standard and small format)



7. COMPLIANCE WITH AIAG STANDARDS

Container and pallet labels must adhere to the standards set by the Automotive Industry Action Group (AIAG) in publication "Trading Partner Labels Implementation Guidelines" (combined standards B10, B12 and B14), dated June 2004. This standard can be obtained at http://www.aiag.org . Several requirements presented in this specification are excerpts from or have been adapted from this standard.

8. SHIPPING ADDRESSES

Main receiving addresses in the United States included in the scope of this specification:

Fremont Factory

45500 Fremont Boulevard
Fremont, CA 94538

Headquarters (Powertrain Manufacturing)

3500 Deer Creek Road
Palo Alto, CA 94304

All pre-production and production parts should be shipped to either the Fremont Factory (vehicle parts) or Headquarters (powertrain parts). Items being shipped to all other locations should be limited to prototypes, documents, office supplies and other non-engineering and production items, and only require shipping labels as provided by the chosen carrier.

9. SHIPPING LABEL CONTENT

Types of Labels Used

Four types of shipping labels are specified for use when shipping material to a Tesla Motors facility:

- **Container Label (standard)**: shall be affixed to all containers (boxes, cartons, bins, bags, etc.) within a pallet of materials or as a stand-alone shipping item
- **Container Label (small format)**: shall be affixed to all containers when a standard sized label will not easily fit or any barcodes would be distorted when the label is attached to the container
- **Master Label (same part number)**: shall be affixed to all pallets of containers that are carrying the same parts (identical part numbers); shall be used in conjunction with container labels
- **Master Label (mixed part numbers)**: shall be affixed to all pallets of containers carrying more than one part number; shall be used in conjunction with container labels

Data Identifiers

Data encoded into 1D and 2D barcodes used for Tesla shipping labels and packing slips shall conform to AIAG publication "Trading Partner Labels Implementation Guidelines", which refers to ANSI standard MH10.8.2 (dated 2006). Data identifiers used must conform exactly to these standards.

Lot Codes

Individual containers shall contain parts with only one lot code, if the part is lot-tracked. One exception to this standard is acknowledged – steel blanks with mixed mill sheets. Approval from a Tesla Motors representative in Materials Management or Purchasing is required for other exceptions.

Container Label Data Content

Figure 9.1 lists the data elements that should be included on a standard or small format container label.

Figure 9.1 – Data Elements for Container Labels (standard and small format)

DATA IDENTIFIER	DATA ELEMENT	SMALL CONTAINER (3" x 8") MAX FIELD LENGTH	STANDARD CONTAINER (4" x 6") MAX FIELD LENGTH	HUMAN READABLE	SCANNABLE	REQUIRED FOR	BARCODE	FIGURE 10.2 and 10.4 REFERENCE LABEL
None	Supplier Name	19	19	X		All parts	None	A1
None	Supplier Ship-from Address	19	19	X		All parts	None	A1
None	Supplier Email	19	19	X		All parts	None	A1
None	Supplier Phone Number	19	19	X		All parts	None	A1
None	Country of Origin	19	19	X		All parts	None	A1 (only one country allowed; no "MIXED ORIGIN")
None	Ship-to Address (up to 3 lines)	26	24	X		All parts	None	A2
None	Dock Code	6	6	X		All parts (if provided by Tesla)	None	A2
None	Stores Location	7	7	X		All parts (if provided by Tesla)	None	B3
None	Line Delivery Location	7	7	X		All parts (if provided by Tesla)	None	B2
None	Shipment Date (YYYYMMDD)	13	13	X		All parts	None	D2
None	Gross Weight	13	13	X		All parts	None	D2
None	Mfg Part Number	11	14	X		Optional	None	D2
None	Part Name (up to 2 lines)	11	14	X		All parts	None	E2
1J	Container License Plate Number	18	18	X	X	All parts	1D and 2D	D1
Q	Quantity	6	6	X	X	All parts	2D	B1
P	Tesla Part Number	13	13	X	X	All parts	2D	C1
1T	Lot Code	14	14	X	X	Lot-controlled parts	2D	C2
K	Purchase Order	11	14	X	X	All parts	2D	E2
5K	PO Receipt Authorization Number (RAN)	11	14	X	X	All parts	2D	E2
4K	Purchase Order Line Number	NA	NA		X	All parts	2D	NA
3Q	Purchase Order Line Unit of Measure	NA	NA		X	All parts	2D	NA
S	Serial Number	9 (Maximum 25 serials)	9 (Maximum 25 serials)		X	Serial-controlled parts	2D	NA
15D	Expiration Date (YYYYMMDD)	13	13	X	X	Parts with expiration date	2D	D2

Figure 9.2 lists the data elements that should be included on a master label and packing slip for both homogenous and mixed loads.

Figure 9.2 – Data Elements for Master Labels (homogenous and mixed loads)

				HOMOGENOUS LOAD		MIXED LOAD					
DATA IDENTIFIER	DATA ELEMENT	HOMOGENOUS LOAD (4" x 6") MAX FIELD LENGTH	MIXED LOAD (4" x 6") MAX FIELD LENGTH	HUMAN READABLE	SCANNABLE	HUMAN READABLE	SCANNABLE	REQUIRED FOR	BARCODE	FIGURE 10.6 (Homogenous Load) REFERENCE LABEL	FIGURE 10.8 (Mixed Load) REFERENCE LABEL
None	"MASTER LABEL" or "MIXED LOAD" text	Only input "MASTER LABEL" in Upper Right Corner and Lower Right Corner	Only input "MIXED LOAD" in Bottom Row of Label	X		X		All pallets	None	"MASTER LABEL" in Upper Right Corner and Lower Right Corner	"MIXED LOAD" in Bottom Row of Label
None	Supplier Name	19	19	X		X		All pallets	None	A1	A1
None	Supplier Ship-from Address	19	19	X		X		All pallets	None	A1	A1
None	Supplier Email	19	19	X		X		All pallets	None	A1	A1
None	Supplier Phone Number	19	19	X		X		All pallets	None	A1	A1
None	Country of Origin	19	19	X		X		All pallets	None	A1	A1 (Use "MIXED ORIGIN" if from multiple countries; only on Mixed Load Pallet labels)
None	Ship-to Address (up to 3 lines)	24	24	X		X		All pallets	None	A2	A2
None	Dock Code	6	6	X		X		All pallets (if provided by Tesla)	None	A2	A2
None	Stores Location	7	NA	X				All pallets (if provided by Tesla)	None	A3	NA
None	Line Delivery Location	7	NA	X				All pallets (if provided by Tesla)	None	B2	NA
None	Gross Weight	8	4 (Top Line), 3 (Bottom Line)	X		X		All parts	None	D2	D2
None	Mfg Part Number	12	NA	X				Optional	None	B1	NA
None	Total Quantity (of parts)	8	4	X		X		All pallets	None	D2	PART A, PART B, PART C, PART D
None	Number of Containers (Homogenous Load)/Packs (Mixed Load)	8	4	X		X		All pallets	None	D2	PART A, PART B, PART C, PART D
Q	Quantity (per container - homogenous load, per pack - mixed load)	8	4	X		X		All pallets	None	D2	PART A, PART B, PART C, PART D
P	Tesla Part Number	13	8 (Max 4 Part Numbers)	X		X		All pallets	None	C1	PART A, PART B, PART C, PART D
1T	Lot Code	14 (16 Lot Codes at Max Field Length)	11 (32 Lot Codes at Max Field Length)	X		X		Pallets with lot-controlled parts	None	E1	PART A, PART B, PART C, PART D
K	Purchase Order	12	NA	X				All pallets	None	B1	NA
5J or 6J	Pallet License Plate Number (5J for mixed pallet, 6J for pallet with all parts having the same part number)	18	18	X	X	X	X	All pallets	1D	D1	D1

1D Barcode Syntax and Structure for License Plate

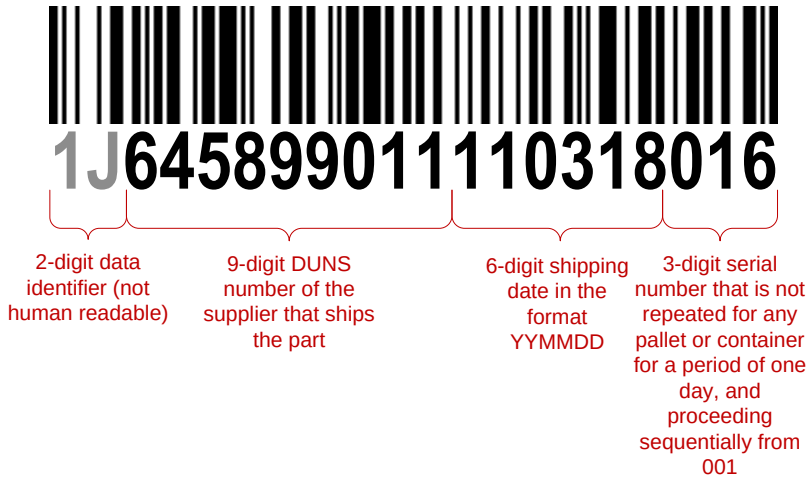
The preferred standard for encoding 1D barcodes is Code 128.

License plate sequences shall be generated by the supplier and shall have the following components:

- 2-digit data identifier (1J, 5J or 6J) – NOT HUMAN READABLE
  - 1J – container
  - 5J – mixed load pallet
  - 6J – homogenous load pallet (same part number)
- 9-digit DUNS supplier code
- 9-digit unique identifier, comprised of a 6-digit date in the format YYMMDD, and a 3-digit serial code that is only used once per day for any pallet or container license plate, and starting at 001

Figure 9.3 provides an example license plate sequence.

Figure 9.3 – Example License Plate Sequence



2D Barcode Syntax and Structure

2D barcodes shall be encoded using the PDF417 standard and shall conform to AIAG publication "Trading Partner Labels Implementation Guidelines", section 12.0, with the following exceptions:

- Record Separator character shall be replaced with the character "+"
- Group Separator character shall be replaced with the character ":"
- Message Trailer character shall be replaced with the character "#"

These exceptions are preferred by Tesla Motors, but not required if they cannot be accommodated. Standard ANSI characters for the Record Separator, Group Separator and Message Trailer are acceptable.

Figure 9.4 provides examples of 2D data strings for two scenarios of container shipping labels. Encoding of 2D barcodes included in packing slips should be identical.

Figure 9.4 – Example 2D Data String Scenarios (using characters "+", ":", "#" and "[)>+06" header)

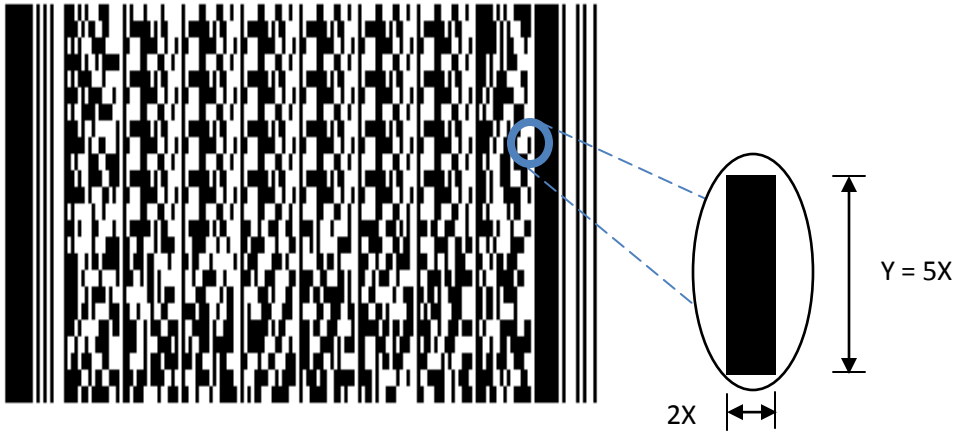
Scenario	Scannable Data Elements	2D Data String
Scenario A – container with serial-tracked items	**Container License Plate Number (1J)**: 645899011110318016 **Tesla Part Number (P)**: 1000351-00-A **Quantity (Q)**: 1 **Purchase Order (K)**: 6000000236 **Purchase Order Receipt Authorization Number (5K)**: 1 **Purchase Order Line Number (4K)**: 20 **Purchase Order Line Unit of Measure (3Q)**: EA **Serial Numbers (S)**: 110317A01, 110317A02, 110317A03 **Expiration Date (15D)**: 26042012	[)>+06:1J645899011110318016:P1000351-00-A:Q1:K6000000236:5K1:4K20:3QEA:S110317A01:S110317A02:S110317A03:15D26042012+#

Figure 9.4 (cont.) – Example 2D Data String Scenarios (using characters "+", ":", "#" and "[)>+06" header)

Scenario	Scannable Data Elements	2D Data String
Scenario B – container with lot-tracked items	**Container License Plate Number (1J)**: 645899011110318016 **Tesla Part Number (P)**: 1000351-00-A **Quantity (Q)**: 1 **Purchase Order (K)**: 6000000236 **Purchase Order Receipt Authorization Number (5K)**: 1 **Purchase Order Line Number (4K)**: 20 **Purchase Order Line Unit of Measure (3Q)**: EA **Lot Code (1T)**: 110317A007 **Expiration Date (15D)**: 26042012	[)>+06:1J645899011110318016:P1000351-00-A:Q1:K6000000236:5K1:4K20:3QEA:1T110317A007:15D26042012+#

Figure 9.5 Outlines the PDF 417 2D Barcode Technical Specifications

Figure 9.5 PDF 417 2D Barcode Technical Specifications



Serial Number Convention

Serial numbers should be assigned and applied to serial-controlled parts per Tesla Standard BMS-0000002, Serial Number Labeling.

10. SHIPPING LABEL FORMAT

General Label Format Requirements

All shipping labels affixed to materials that are shipped to a Tesla Motors facility must meet the following criteria:

- Label outline dimensions are nominal (4 inches by 6 inches for standard labels, 3 inches by 8 inches for small format labels)
- When printing substitute labels for an approved deviation, the paper that labels are printed on should not exceed 8.5 inches by 11 inches
- A minimum of two (2) labels of each type used should be affixed to both containers and pallets (master label) on opposite sides of a shared corner (see Figure 12.1)
- Labels shall be printed with black ink on white paper
- Fonts used should be uppercase bold Arial Narrow, Helvetica Condensed or an equivalent
- All numeric figures shall be rounded to the nearest whole number
- Units of weight shall accompany all printed weights (lbs or kgs)
- Labels shall be durable to resist damage and debris during shipping and remain barcode-readable at the point of receiving
- Label adhesive should allow label to remain affixed to a container or other material without wrinkling
- Labels attached to reusable containers should be easy to remove and should not leave behind any residue

Label Layout

Figures 10.1, 10.3, 10.5 and 10.7 provide the general layout for each type of label used, including information required and fonts to use. Figures 10.2, 10.4, 10.6 and 10.8 provide the dimensions for each type of label used.

Figure 10.1 – Layout Diagrams for Standard Container Labels

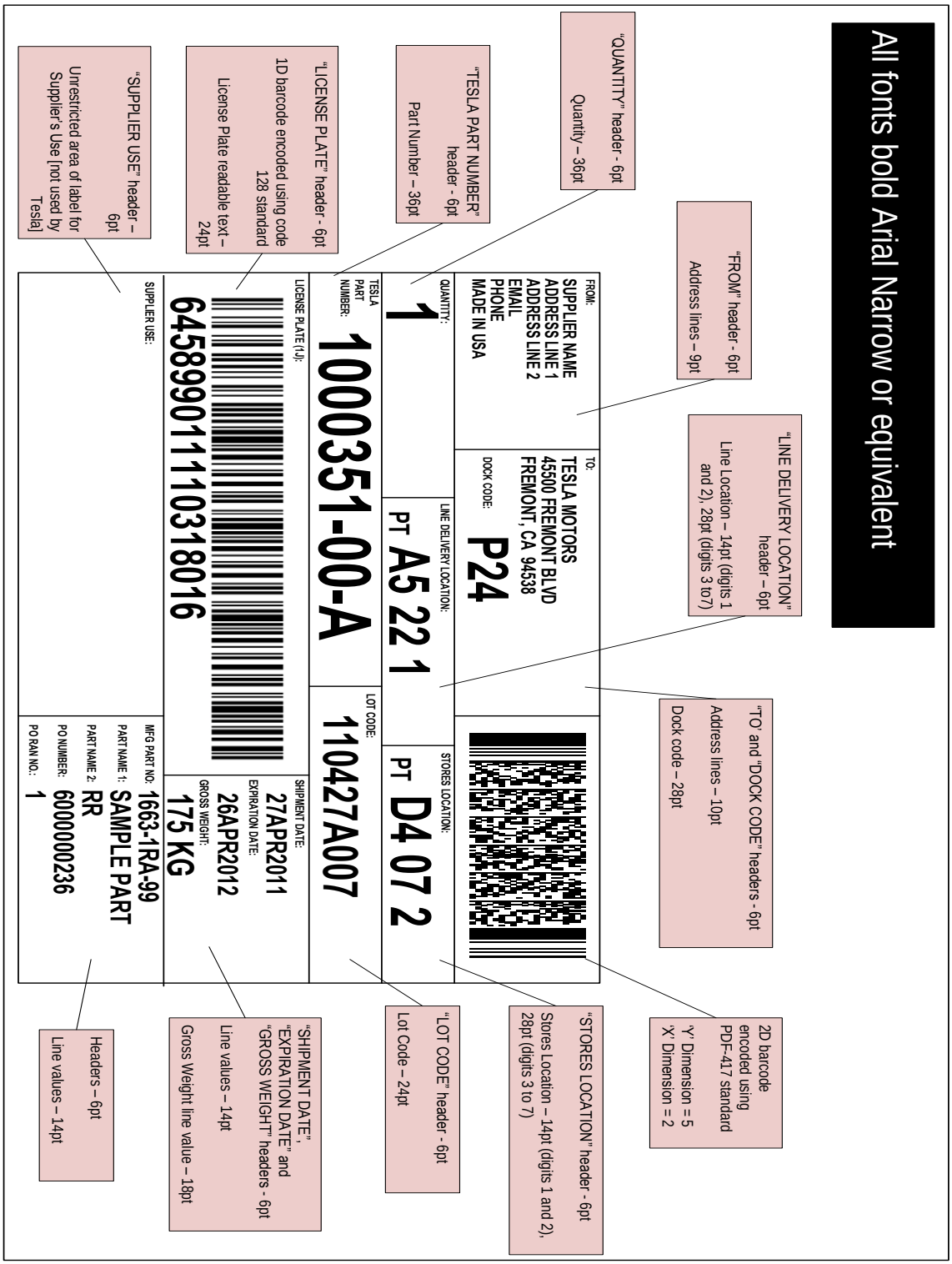


Figure 10.2 – Dimensions for Standard Container Labels

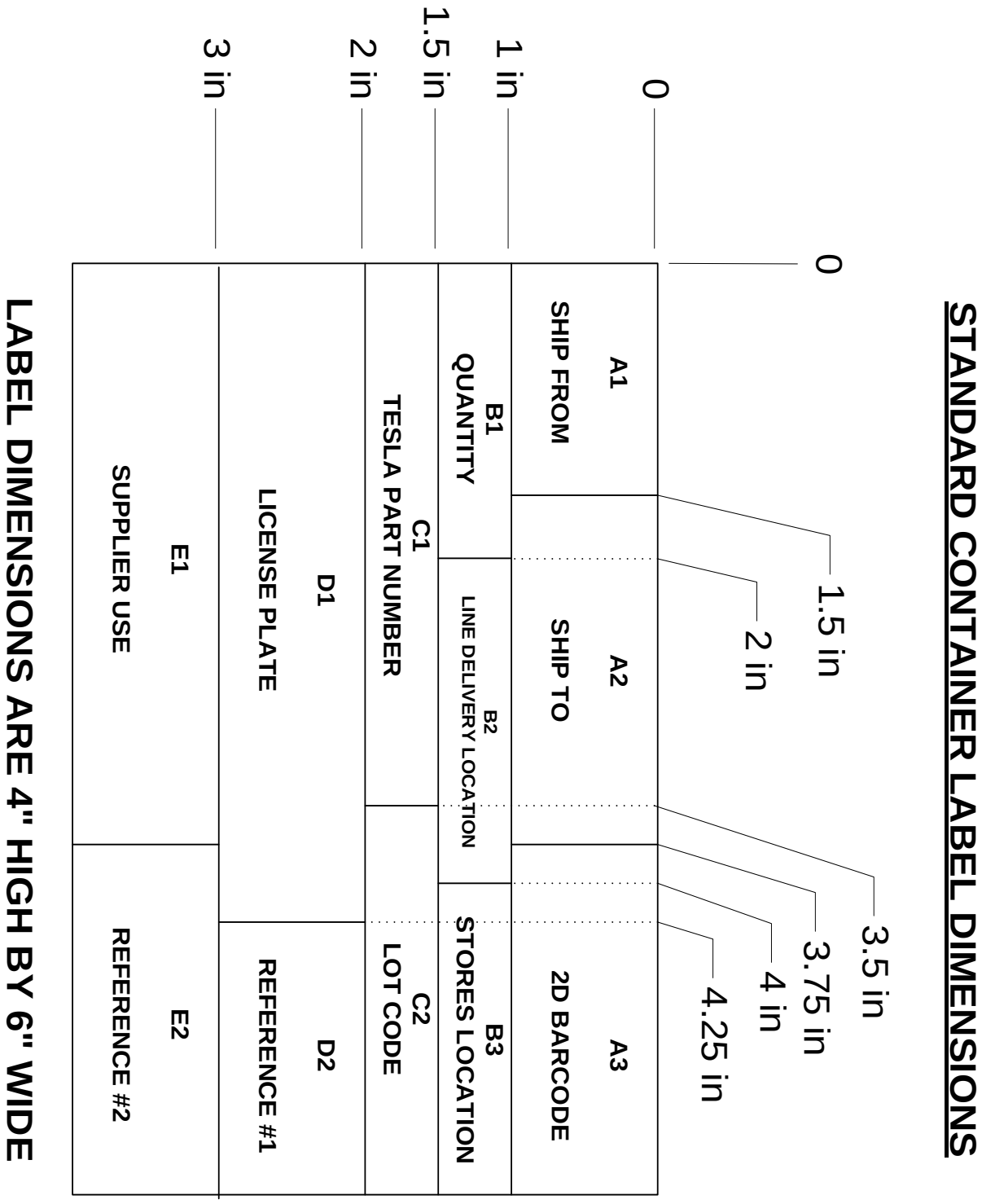


Figure 10.3 – Layout Diagrams for Small Container Labels

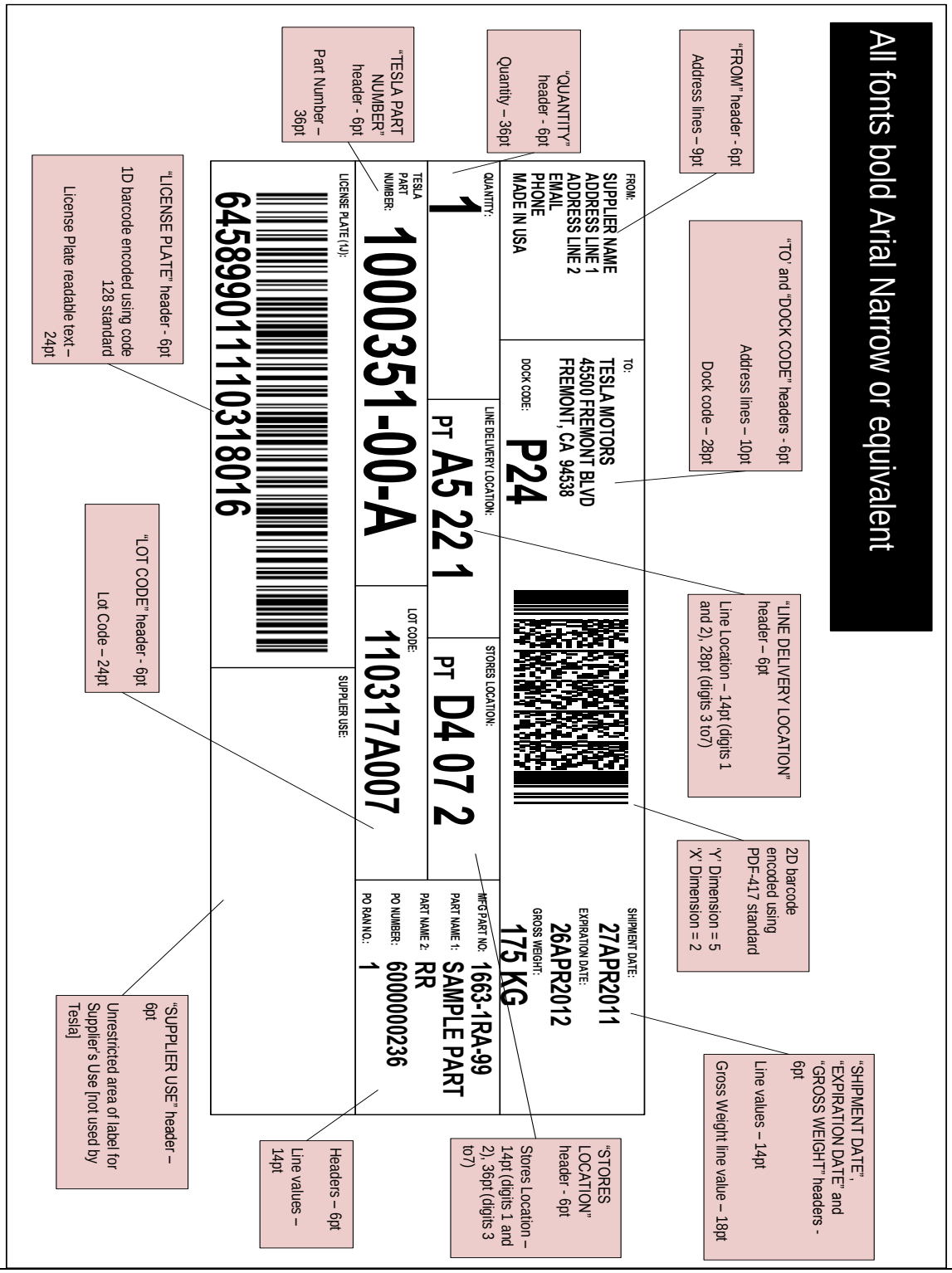


Figure 10.4 – Dimensions for Small Container Labels

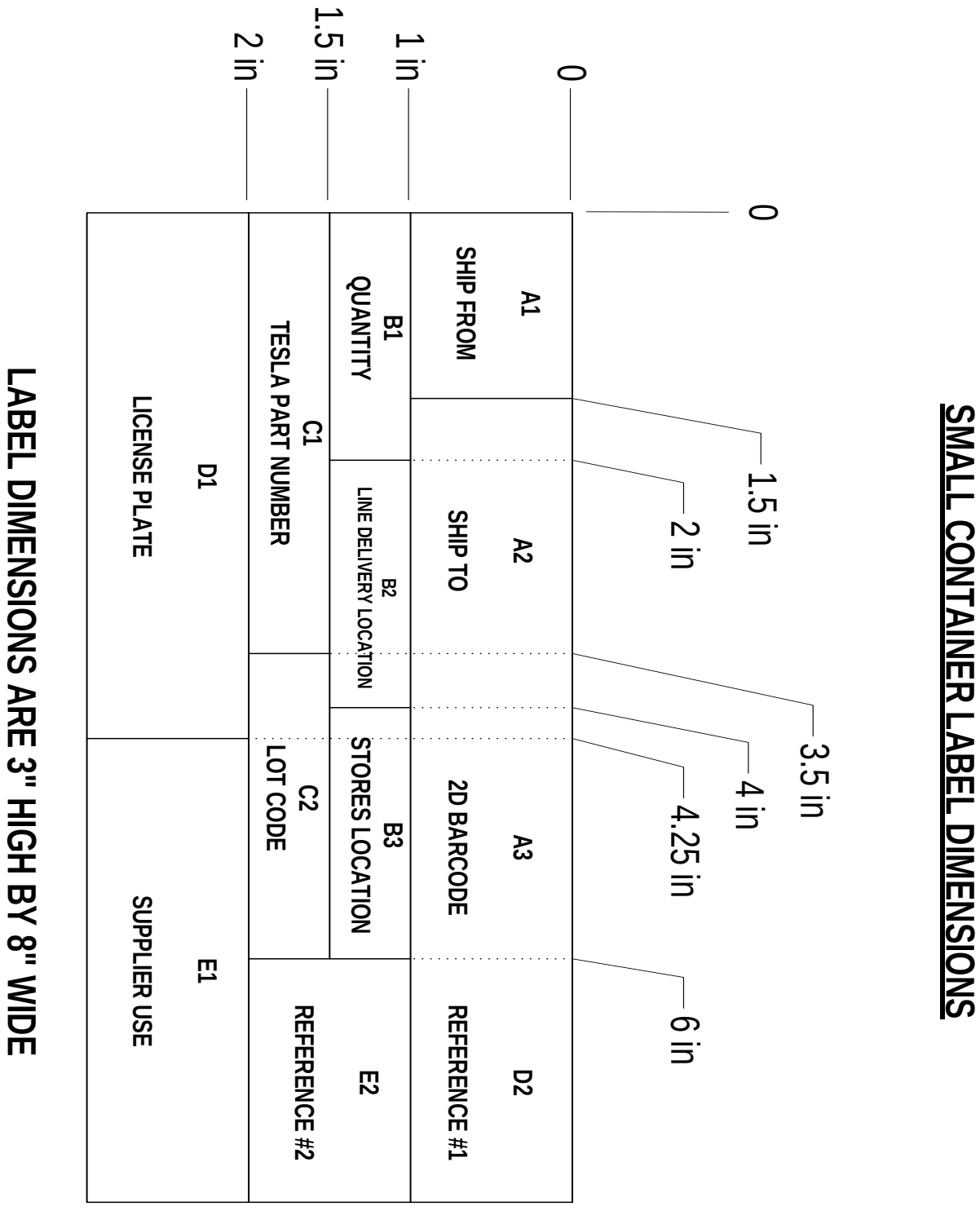


Figure 10.5 – Layout Diagrams for Homogenous Load Master Labels

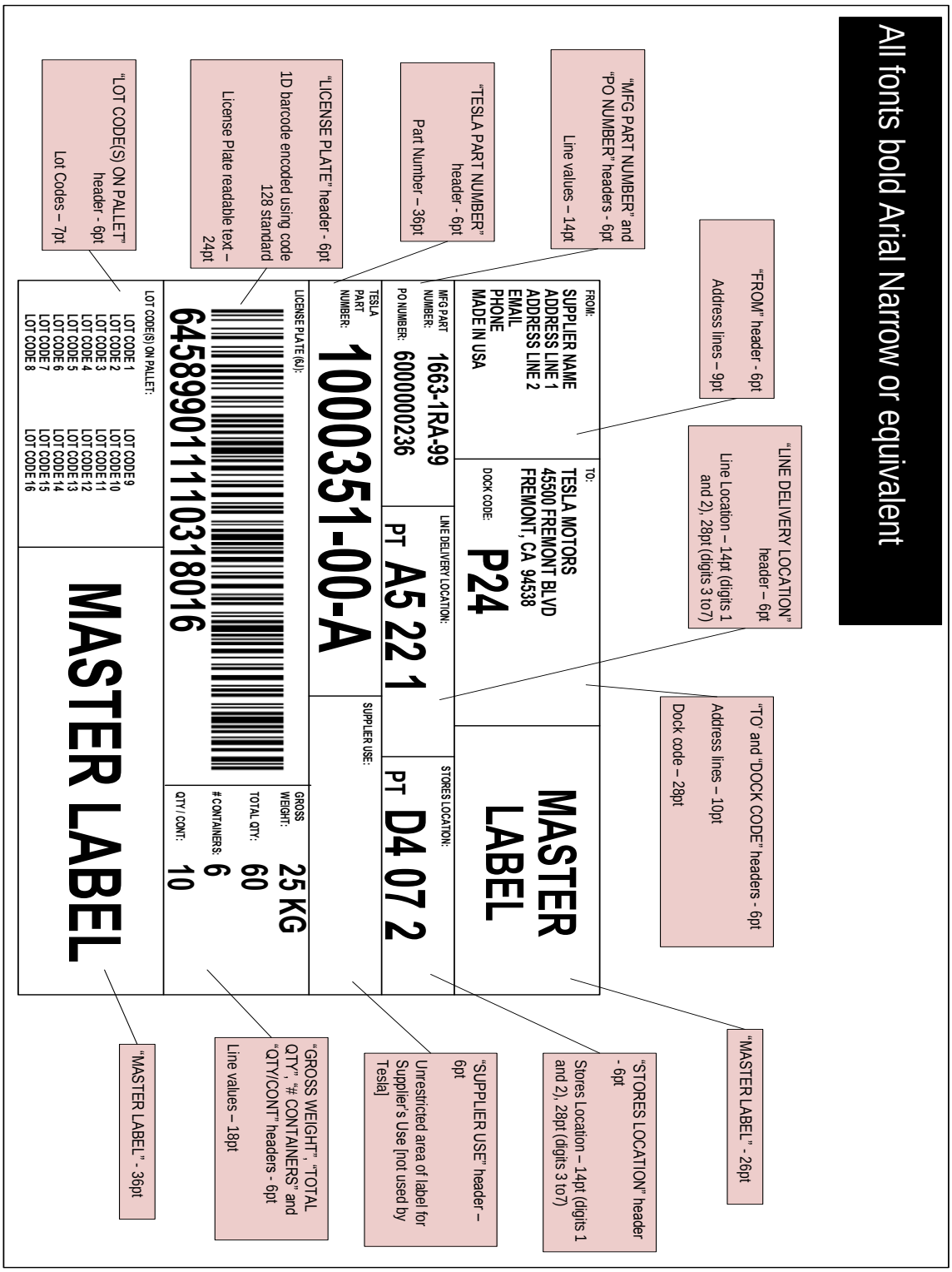


Figure 10.6 – Dimensions for Homogenous Load Master Labels

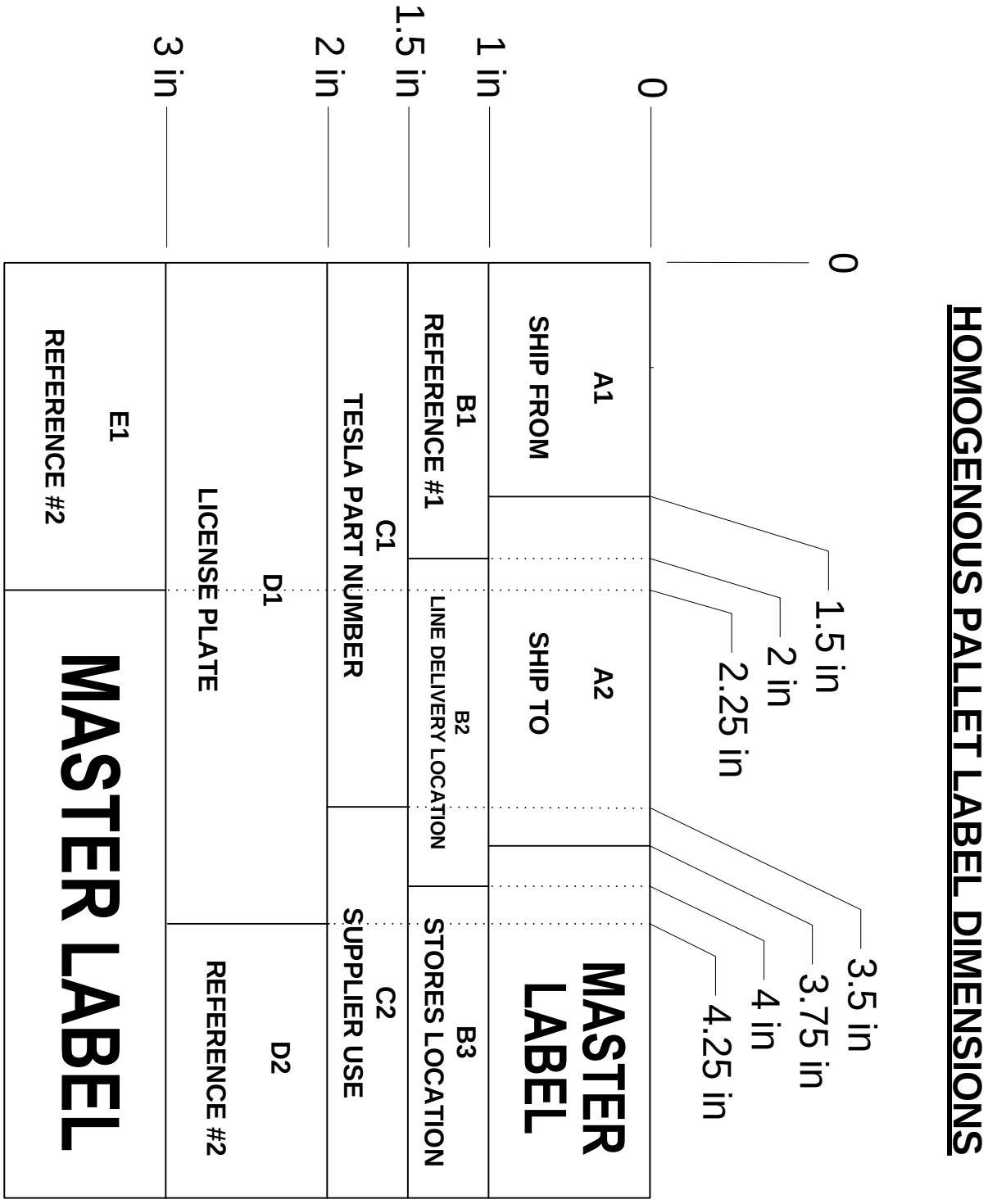


Figure 10.7 – Layout Diagrams for Mixed Load Master Labels

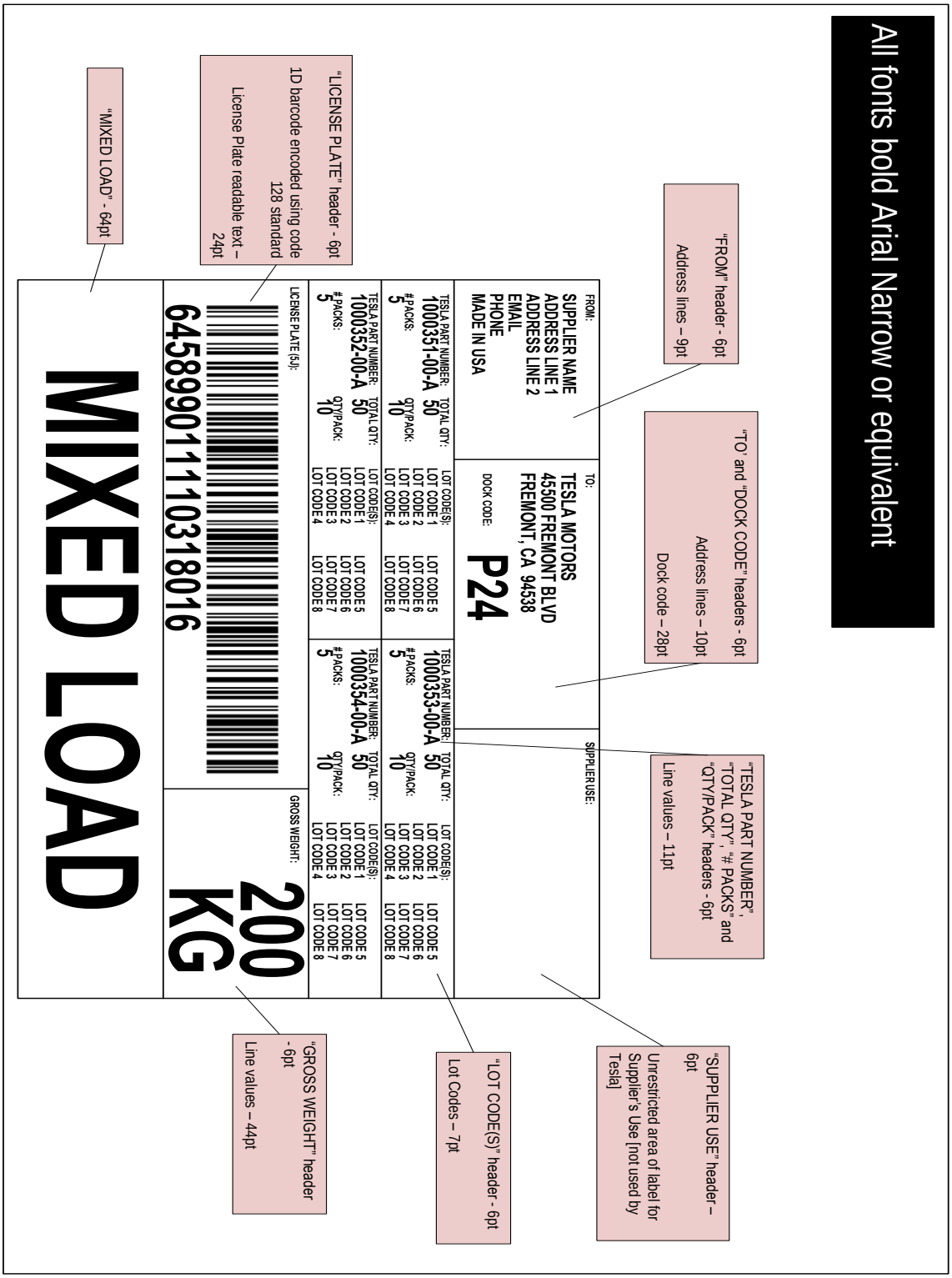
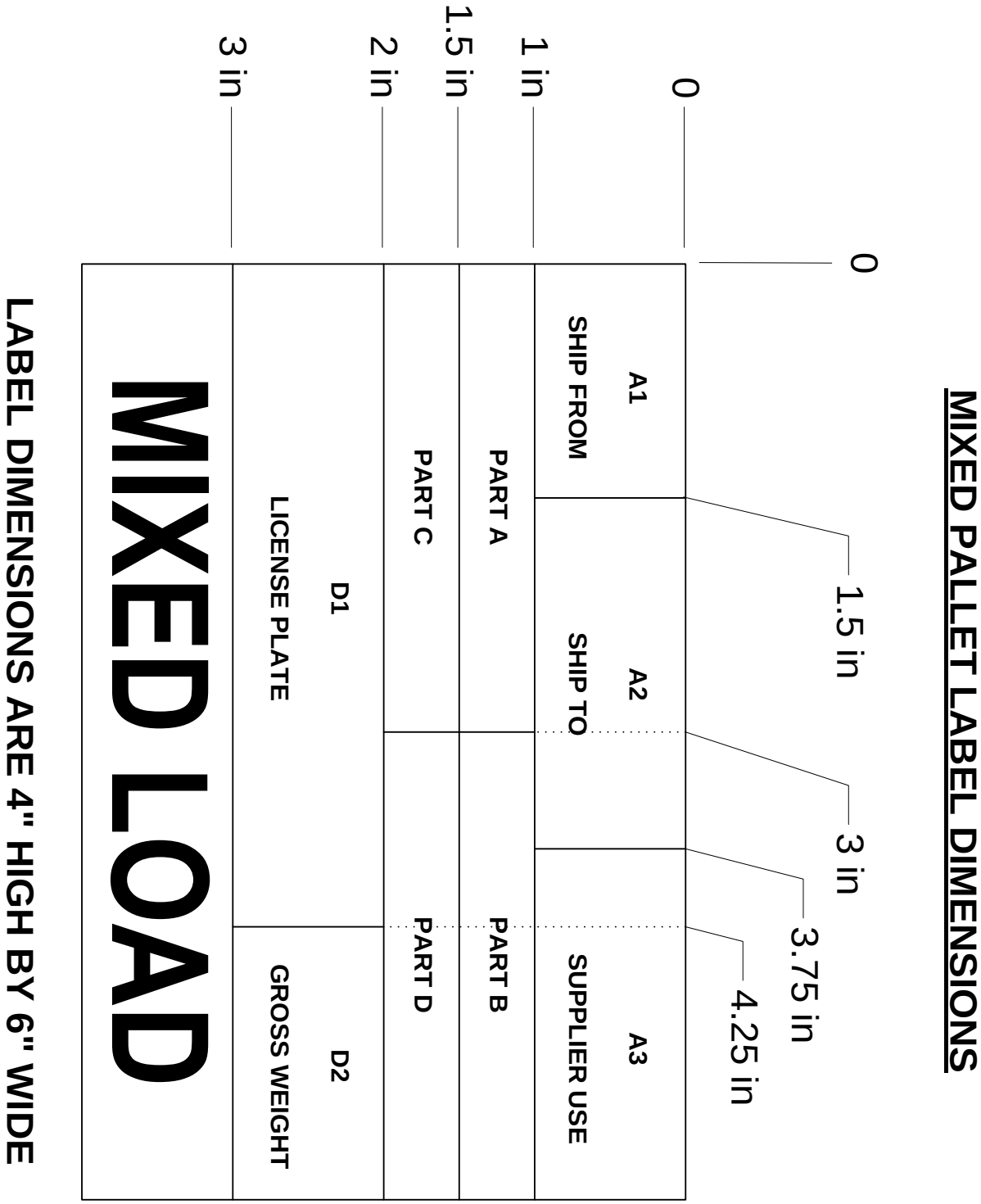


Figure 10.8 – Dimensions for Mixed Load Master Labels



11. SHIPPING MANIFEST REQUIREMENTS

Shipping manifests for all shipments to Tesla Motors facilities must include a unique identifier (i.e., shipping manifest number) that is both human-readable and scannable. A 1D barcode in the Code 128 standard, or a 2D barcode in the PDF-417 standard, can be used.

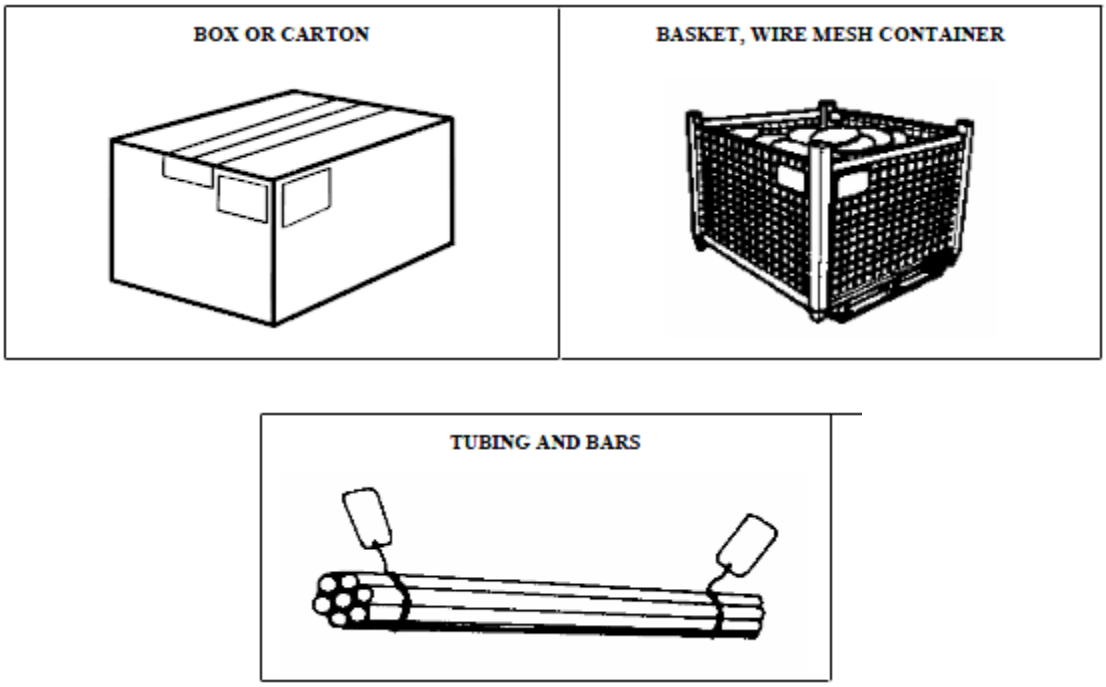
12. TEXT AND 1D AND 2D BARCODE PRINT QUALITY REQUIREMENTS

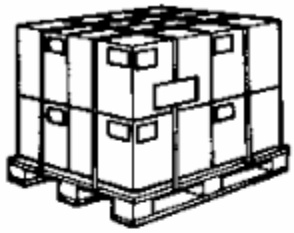
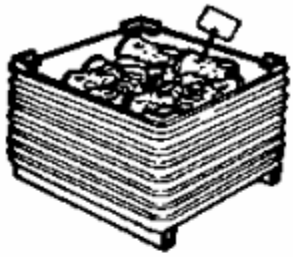
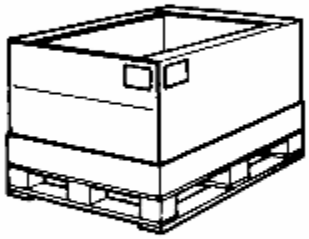
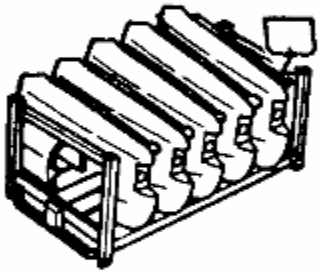
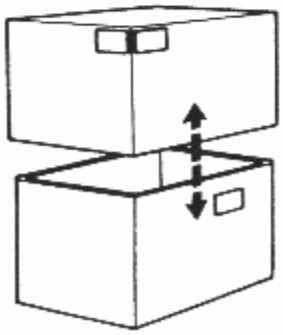
All text, dividers and barcodes printed on shipping labels used for shipments to and between Tesla Motors facilities must conform to the standards set in AIAG publication “Trading Partner Labels Implementation Guidelines”, sections 4.0, 8.0 and 13.0.

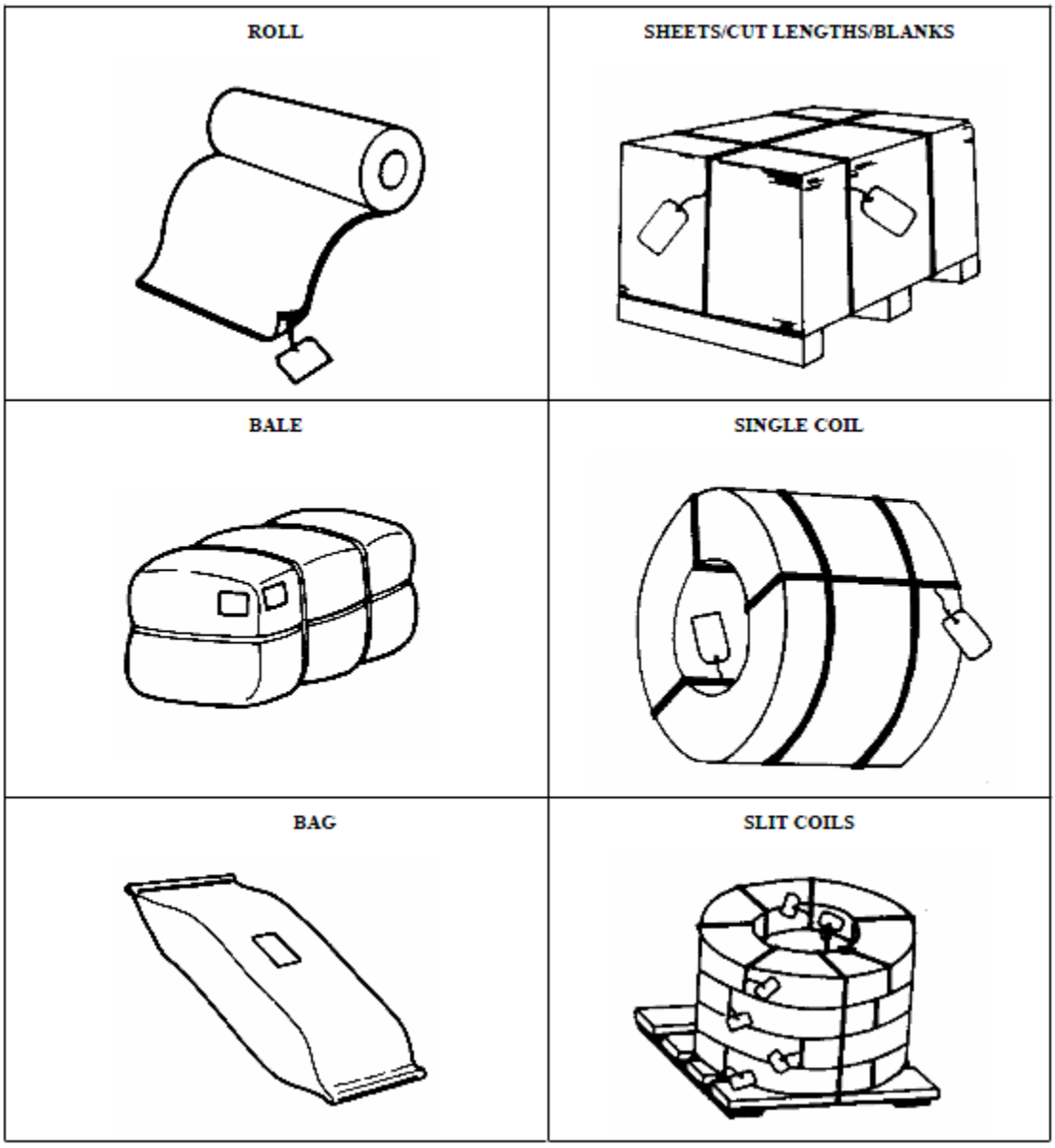
13. SHIPPING LABEL POSITION

Shipping labels shall be placed on containers and pallets as specified in AIAG publication “Trading Partner Labels Implementation Guidelines”, section 9.0. Figure 12.1 shows the recommended placements for various container types according to this standard.

Figure 12.1 – Suggest Label Placement on Containers and Pallets



CARTONS ON PALLET 	OPEN METAL BIN OR TUB 
PALLET BOX 	RACK 
TELESCOPE OR SET-UP CONTAINERS 	DRUM, BARREL, OR CYLINDRICAL CONTAINER 



14. HAZARDOUS MATERIAL REQUIREMENTS

The shipment of all hazardous materials must meet the requirements set in Title 49, Subchapter C, Part 172 of the United States Code of Federal Regulations, including all labeling and documentation requirements specified in the code. The code covers documentation and marking of containers, pallets and transport vehicles.

15. REVISION HISTORY

Revision Level	Date	Description of Change
01	2/23/11	Initial release into Enovia. Previous version was document 99-000121-03, release AC.
02	9/13/11	Update “slash-zero” requirement
03	10/25/11	Updated Figures 9.1 and 9.2 to include text locations in Figures 10.1, 10.3, 10.5 and 10.7 Update Figure 9.3 Example License Plate Sequence Match data in Figure 9.4 scenarios to human readable data in Figures 10.1, 10.3, 10.5 and 10.7 Added Figure 9.5 PDF 417 2D Barcode Technical Specifications Added dimensions for each type of label used (Figures 10.2, 10.4, 10.6 and 10.8) Relabeled Layout diagrams to 10.1, 10.3, 10.5 and 10.7 (previously 10.1, 10.2, 10.3 and 10.4) Added “Supplier Use” to empty space on barcode labels Remove “slash-zero” requirement Remove Code 39 as a barcode option Remove 2D Barcode option for Homogenous and Mixed Load pallets