

## APPENDIX X

### BACKGROUND AND TECHNICAL DETAILS FOR 2-DIMENSIONAL (2D) SYMBOLGY ON THE MILITARY SHIPPING LABEL (MSL)

#### A. TRANSPORTATION PROCESSING

1. Advance Transportation Control and Movement Document (ATCMD) Available. The MSL 2D symbol improves the accuracy of transportation in-check when ATCMD data is available in the Automated Information System (AIS) being used to process the cargo.
  - a. When the ATCMD data is available in the AIS, three TCMD bar code data points are used from the MSL 2D symbol of each Shipment Unit (SU) to complete the in-check: the Transportation Control Number (TCN) of the SU, the piece number, and the consignee agents' Department of Defense Activity Address Code (DODAAC).
  - b. To meet this requirement, the MSL 2D symbol label must contain the International Standards Organization (ISO)/International Engineering Consortium (IEC) 15418 (American National Standards Institute (ANSI) Materials Handling (MH) 10.8.2) Data Identifiers (DI) and related data that are mapped to the source document header TCMD prime data.
2. ATCMD Not Available. When ATCMD data are not available, the 2D symbol is also intended to improve the speed and accuracy of transportation in-check by the processing activity.
  - a. The MSL 2D symbol is intended to provide selected MSL and TCMD data to resolve a “no-hit” situation that occurs during shipment in-check when header ATCMD prime and/or trailer data are not available. In this situation, the data required to be read from the MSL 2D symbol become system dependent because each AIS (Distribution Standard System, Global Air Transportation Execution System, Worldwide Port System, Cargo Movement Operations System, Standard Army Retail Supply System) has different minimum data requirements (TCMD prime and trailers) for transportation in-check.
  - b. Because the MSL 2D symbol on a unitized shipment can only contain limited amounts of data, it will not be populated with TCMD information from the internal SUs. It is imperative for each SU in a unitized shipment to be marked with a 2D MSL. If each SU, within a unitized shipment, contains an MSL 2D symbol with the TCMD prime and trailer data, sufficient information will be available to resolve a “no-hit” for each SU.
3. Reprint MSL. The 2D symbol can also serve as a data file to assist in reprinting a label that has been damaged or for printing a new label when information changes. This is especially useful when transshipment activities must split multi-piece shipments for onward movement. The MSL 2D symbol will contain pertinent information that is human readable on the MSL, e.g., Unit Identification Code (UIC), equipment description, Foreign Military Sales (FMS) shipping case, and in-the-clear addresses. The 2D symbol may contain TCMD coded information that will have to be converted to in-the-clear text for printing on the MSL, e.g., deletion of leading zeros from pieces, weight, cube, length, width, height TCMD data; conversion of alpha numeric pieces, weight, cube TCMD codes to numeric digits; conversion of metric unit of measure to United States (US) unit of measure.

## **B. SUPPLY RECEIPT**

1. Single Item or Multipack SU. The MSL 2D symbol is structured to provide selected Military Standard Requisitioning and Issue Procedures (MILSTRIP) data for supply receipt of line items from a SU containing a single line item and from a SU containing multiple line items (often referred to as a multipack).
  - a. The MSL 2D symbol is structured to store a repeating set of selected data for each line item in a single item pack or multipack SU. Each data set reflects what is normally marked in the bar codes on a DD Form 1348-1A, Issue Release/Receipt Document (Figure 202-7). The data capacity restrictions of the MSL 2D symbol will normally limit its content to ten line items depending on the amount of MSL and TCMD data recorded.
  - b. The MSL 2D symbol must contain line item data for either all or none of the line items within the labeled SU. If any required line item data is missing within a data set and/or all the selected line item data cannot fit into the MSL 2D symbol, the label must default to no line item information in the 2D symbol because partial information may cause supply receipt errors. When the MSL 2D symbol, for cargo other than a unit move or personal property, contains no line item information, some form of the following will be printed in clear text below the MSL 2D symbol and be coded into the 2D symbol: “NO LINE ITEM DATA”.
2. Consolidated Shipment of Multiple SUs. To preclude confusion concerning 2D symbol content, the 2D symbol will not be used to provide MILSTRIP data for a consolidated SU of multiple SUs. The 2D symbol capacity restrictions and a lack of line item information for the multiple SUs within the consolidated SU will normally preclude the entry of line item information in the 2D symbol. In this situation, another high capacity media may be the Automated Identification Technology (AIT) media for expediting supply receipt.

## **C. EXPLANATION OF MSL 2D PORTABLE DATA FILE (PDF) 417 SYMBOL STRUCTURE FOR CODING MSL TEXT, TCMDs, AND LINE ITEMS**

1. Each SU must be marked with a 2D symbol shipping label and the 2D symbol will contain the data elements from the Tables in this appendix. The data elements include MSL information, header TCMD data (T\_0 through T\_3) and the respective trailer data (T\_5 through T\_9) for export shipments, and the line item contents of the single SU package for generic cargo. Table X-2 and Table X-3 provide data descriptions, formats, and data sources for the ISO/IEC 15418 (ANSI MH10.8.2) DIs used in the 2D symbol and for the Data Element Identifiers (DEI) that identify Department of Defense (DOD) unique data elements from this regulation and MILSTRIP. Table X-4 through Table X-6 provide the content of the data streams for generic cargo, personal property, and unit move MSLs.
2. All SU data and line item data in the MSL 2D symbol replicate data from the three sources noted below. If the data is available for a corresponding DI or DEI from Table X-4 through Table X-6, the data must be entered into the 2D symbol. Blank data fields are not to be used. When multiple sources for a data element are identified, the sources are prioritized as follows (TCMD source has priority if it exists):
  - a. Source 1: Header TCMD data. Format 07 DEI 34 must be used to identify the Document Identifier Code (DIC) of header TCMD data being documented in the 2D symbol.

- b. Source 2: Supply documentation (DD Form 1348-1A bar code data) or contract data for each supply line item packaged within the SU.
  - c. Source 3: Shipment information entered in the clear on the MSL.
- 3. Because of the limited capacity of the 2D symbol, there are several factors to consider when determining the amount of available data to record in the 2D symbol.
  - a. A consolidated SU containing multiple SUs will be documented by bar coding only the header TCMD data and its trailer TCMD information. The MSL 2D symbol does not contain enough capability to consistently record containerized prime TCMD data (T\_4) and the trailer data. The 2D symbol for a consolidated SU of multiple SUs, or a mix of line items and multiple SUs, will not contain any line item information and will be marked In Accordance With (IAW) Paragraph C.3.c. below.
  - b. To provide space for a single line item or supply data in the 2D symbol of the generic cargo MSL, the in-the-clear address data will only be printed in the 2D symbol of a generic cargo MSL for a single line item shipment or when no line item data is printed in the 2D symbol. Most multi-piece shipments consist of a single line item; therefore, the addressing data will usually be available for reprinting MSLs of split shipments. The in-the-clear address data will be printed in the 2D symbol of the personal property and the unit move MSL.
  - c. It may not be possible to document the supply line items of an entire multipack shipment. If the AIT media cannot store all of the line item data required to document the SU, the line item information will be eliminated from the 2D symbol. An in-the-clear text message will be entered at the bottom of the 2D symbol stating "NO LINE ITEM DATA" and it will be entered into the Format 07 DEI 35 (free text comment) area of the MSL 2D symbol for reprinting purposes. If line item data is still desired for a shipment, it will be included on an alternate form of high capacity AIT media.
- 4. When an MSL 2D symbol is generated IAW Table X-4 (Generic Cargo), Table X-5 (Personal Property), or Table X-6, (Unit Move), it does not need to include DIs that are blank. Metric units of measure may be used in the 2D symbol for selected DIs/DEIs as noted in Table X-2 and Table X-3.
- 5. Explanation of Table X-4 through Table X-6.
  - a. Compliance Indicator (Column 1) shows the special formatting characters associated with the ISO/IEC 15434 (ANSI MH10.8.3) data format. The Compliance Indicator will be the first three characters in the Message Header. The Compliance Indicator will be []> (left bracket, right parenthesis, and greater than).
  - b. Format Codes "06" and "07" (Columns 2 through 4) consist of a Format Header (a two-digit numeric identifier which identifies the rules governing the format), and variable MSL 2D symbol header format for DIs or DEIs, respectively, which define the separators used and control information of the standards.
  - c. Data Field (Column 5) contains the description of the data field.
  - d. Data Format Type/Length (Columns 6 and 7) contains indicators of whether the data is alpha and/or numeric and the length of the actual data represented by this field, e.g., an5. A

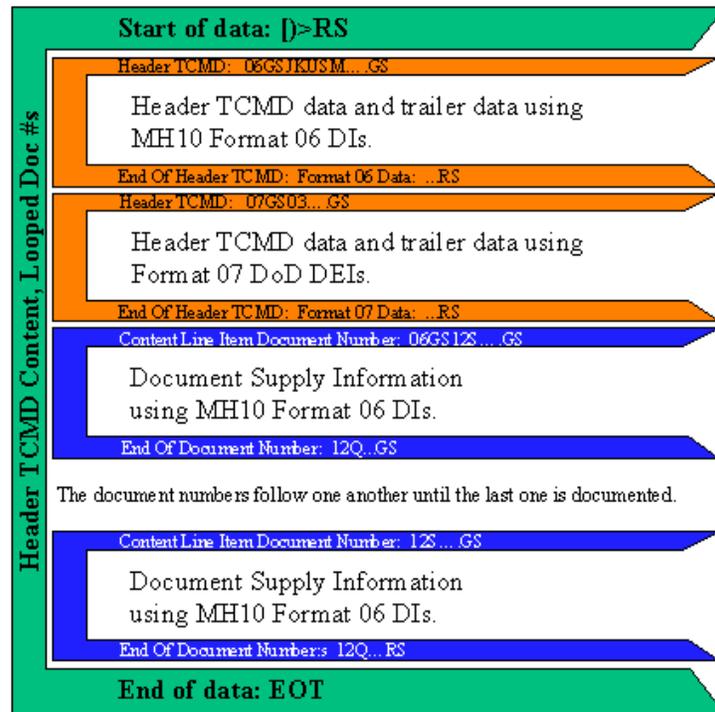
convention of “an..25” means a variable length data string of up to 25 alphanumeric characters, where “an25” means a fixed length of precisely 25 alphanumeric characters. A convention of “an13..15” means a minimum of 13 characters and a maximum of 15 characters. The plus symbol (+) is used to show concatenated data fields within a DI/DEI string and it may or may not be part of the data sub-string. When specifically noted in the Data Format column, the plus symbol (+) becomes part of the data sub-string to separate different types of data that are encoded within a single field, e.g., DIs 2L, 3L, and 5L. Variable length fields are not zero-filled unless the information is extracted from an external data source that requires leading zeros.

- e. Sample Data (Column 8) contains sample data for the field indicated.
  - f. Element Separators (Column 9), Table X-1, shows the separator or terminal code that is for that particular part of the data stream. The Format Trailer Character (RS) will be used as the fourth character in the Message Header and at the end of each format series of data. The Data Element Separator (GS) separates data elements within each format series of the data table. The Message Trailer (EOT) identifies the end of the message within the data stream.
  - g. Total Characters (Column 10) shows the total number of characters including compliance characters, format indicators, data elements and termination/separator characters for a particular data segment.
6. The following drawing depicts a single SU TCMD with multiple supply line items within the SU.
- a. The TCN document number and related TCMD data are contained in the first Format 06 block that terminates with a RS code followed by a Format 07 block that terminates with a RS code.
  - b. The supply line item data for specific document numbers are contained in a following Format 06 block. Data looping is required to document a multipack shipment when multiple line items exist within a single SU. In this data looping structure, the order in which the line items are stored on the media (2D symbol) is critical to the meaning of the data. Each supply document series begins with a DI “12S” and terminates with a DI “12Q” code. The number of supply line item documents is limited by the storage capacity of the AIT device. Figure X-1 depicts the looping structure.

#### **D. PDF417 SYMBOL FORMAT COMPLIANCE REQUIREMENTS AS REFERENCED IN ANSI MH10.8.1 AND ISO/IEC 15434 (ANSI MH10.8.3)**

- 1. The narrow element dimension (“X” dimension) range will be from 0.010 to 0.017 inches (10 to 17 mils).
- 2. The minimum bar height of an element will be three times the “X” dimension width.
- 3. The symbol will not exceed 2.4 inches to include the quiet zone as described in ANSI MH10.8.1.
- 4. The symbol will be printed with no more than 12 data columns in width. A PDF417 symbol includes a start pattern, a left row indicator column, one or more data columns, a right row indicator column, and a stop pattern. The start and stop patterns appear to be wide and narrow vertical lines on each end. The indicator and data columns appear to be checkered patterns separated by single vertical lines.

5. The symbol will have a minimum quiet zone of 0.04 inches above, below, to the left, and to the right.
6. An error correction level of five will be used.
7. ISO/IEC 15438 Automatic Identification and Data Capture Techniques - Bar Code Symbology Specification - PDF417 and ISO/IEC 15416 Automatic Identification and Data Capture Techniques - Bar Code Print Quality Test Specification - Linear Symbols will be used to determine a minimum symbol print grade of 2.5/10/660, where:
  - a. Print quality grade  $\geq 2.5$  (B) at point of printing.
  - b. Measurement aperture = 0.010 inches.
  - c. Light source wavelength = 660 nanometers (nm)  $\pm 10$  nm



**Figure X-1. Data Looping Structure**

**Table X-1. Excerpt from Subset of ASCII/ISO 646**  
(Table of Hexadecimal and Decimal Values)

ASCII/ISO 646	HEX	DEC
R <sub>S</sub>	1E	30
G <sub>S</sub>	1D	29
E <sub>OT</sub>	04	04

**Table X-2. Two-Dimensional Symbol Data (Format 06)**

<b>Format 06 Data Identifier</b>	<b>DOD Usage (See Note 1)</b>	<b>Data Format</b>	<b>ANSI Definition</b>	<b>Data Sources</b>
JKUSM	<b>Transportation Control Number (TCN)</b>	an17		Table 208-2 App L App M
3D	<b>Ship Date</b> - format YDDD	an4	Date Format YDDD (Julian)	Table 208-2
I	<b>Vehicle Identification Number (VIN)</b>	an17	Exclusive assignment (US VIN)	Chapter 208
2K	<b>Bill of Lading</b> - number	an..12	Bill of Lading/Waybill/ Shipment ID code assigned by Supplier/ Shipper	Chapter 208
9K	<b>Transportation Account Code (TAC)</b>	an4	Generic Transaction Reference Code (internally assigned)	Table 208-2 App M App V
12K	<b>Personal Property Standard Carrier Alpha Code (SCAC)</b> - for HHG and baggage ITGBL carrier	an4	SCAC (Standard Carrier Alpha Code) filled left and carrier assigned PROgressive number	App M (TCMD T_8)
2L	<b>Ship To Address</b> - up to five lines of 35 characters See Note 2	an..35+ an..35+ an..35+ an..35+ an..35 See Note 6	“Ship To:” Location code defined by an industry standard or mutually defined	Table 208-2
3L	<b>From Address</b> - up to three lines of 35 characters See Note 2	an..35+ an..35+ an..35 See Note 6	“Ship From:” Location code defined by an industry standard or mutually defined	Table 208-2
5L	<b>Consignee Address</b> – up to five lines of 35 characters See Note 2	an..35+ an..35+ an..35+ an..35+ an..35 See Note 6	“Ship For:” Location code defined by an industry standard or mutually defined	Table 208-2
51L	<b>Origin Zip Code</b> – for SEAVAN	an5	“Ship From:” Location code defined by a postal authority, e.g., five and nine digit ZIP codes identifying U.S. locations or six-char postal codes for Canadian locations	App M (TCMD T_9, Table M-14, rp 9-14)
N	<b>National/NATO Stock Number (NSN)</b> – or stock identification elements thereof	an..15	National/NATO Stock Number (NSN)	App M (TCMD T_6) DD 1348-1A
6P	Not for use: Item Identifier (TAMCN, DODIC, etc) See Format 07 DEIs for Item Identifiers	an12	Combined supplier identification and item code (internally assigned or mutually defined)	

Format 06 Data Identifier	DOD Usage (See Note 1)	Data Format	ANSI Definition	Data Sources
10P	Not for use: Hazardous Material Code See Format 07 DEI 49	an2	Hazardous Material Code as defined by ANSI X12.3 in the format Data Element 208 (One-character) followed by Data Element 209 (Hazardous Material Code)	
2Q	<b>Weight</b> – with optional metric unit of value for generic cargo Default = pounds	an..5+../an2 See Note 3	Actual Weight (numeric only)	Table 208-2 App M
7Q	<b>Quantity and Unit of Issue (UI)</b>	n..5+an2	Quantity, Amount, or Number of Pieces in the format: Quantity followed by a two-character ANSI X12.3 Data Element Number 355 Unit of Measurement Code	DD 1348-1A
11Q	<b>Tare Weight</b> – with optional metric unit of value for generic cargo Default = pounds	an..5+../an2 See Note 3	Tare Weight: weight of an empty container	Chapter 208
12Q	<b>Unit Price</b> – with unit of value = USD	n..5+.n2 +an3	Monetary value established by the supplier in the format: the value followed by ISO 4217 data element code representing unit of value of currencies and funds, e.g., 12Q2.50USD	DD 1348-1A
13Q	<b>Piece Number/Total Pieces</b> – piece n of x of pieces	an..4/an..4	# of # (“this is the nth piece of x pieces in this shipment”) Presented in the format “n/x”.	Table 208-2
2R	<b>Condition Code</b>	an1	Return Code assigned by the Customer	DD 1348-1A
4R	<b>DOD Identification Code (DODIC)</b>	an4	US Department of Defense Identification Code (DODIC)	App M (TCMD T_6) DD 1348-1A
12S	<b>Supply Documentation Number</b> – and suffix code	an14..15	Document Number (internally assigned or mutually defined)	DD 1348-1A
13S	<b>Security Seal Number</b>	an8	Container Security Seal	App M (TCMD T_9, Table M-14)
1T	<b>Lot Number</b>	an..25	Traceability Number assigned by the customer to identify/trace a unique group of entities, e.g., lot, batch, heat	App M (TCMD T_7) DD 1348-1A
V	<b>Routing Identifier Code</b>	an3	Supplier Code assigned by Customer	DD 1348-1A (rp 4-6)
4V	<b>Ocean Carrier Code</b> – for SEAVANs/MILVANs/CONEX	an4	Carrier Identification Code assigned by an industry standard mutually defined by the Supplier, Carrier, and Customer	App M (TCMD T_9, Table M-14) App SS

Format 06 Data Identifier	DOD Usage (See Note 1)	Data Format	ANSI Definition	Data Sources
8V	<b>Distribution Code</b> – last two positions of DOD Distribution Code used for DD Form 1348-1A linear bar code. Also see DEI B6 for three position code	an2	Customer Code assigned by the customer	DD 1348-1A (rp 55-56)

**Table X-3. Two-Dimensional Symbol Data (Format 07)**

Format 07 Data Element Identifier	DOD Usage (See Note 1)	Data Format	Data Sources
00	Reserved – for future assignment		
01	Reserved – for future assignment		
02	Reserved – for future assignment		
03	<b>Project Code</b>	an3	Table 208-2 App M
04	<b>Unit Line Number (ULN)</b> – for unit move MSL	an7	Chapter 208 App M (TCMD T_9, Table M-13, rp 58-64) App O
05	<b>Unit Identification Code (UIC)</b> – for unit move MSL	an6	Chapter 208 App O
06	<b>Bumper Number</b>	an..8	Chapter 208 App M (TCMD T_9, Table M-18)
07	Not for use: Shipment Number	an6	
08	Not for use: Unit Name – for ship to location See Format 06 DI 2L or 5L	an..20	
09	<b>Unit Equipment Description</b> – for unit move	an..20	Chapter 208
10	<b>Model Identifier</b> – for equipment or vehicle identifier	an..10	Chapter 208 App M (TCMD T_5)
11	Not for use: Home Station – for unit move	an..15	
12	<b>Cube</b> – with optional metric unit of value for generic cargo Default = cubic feet	an..4+../an2 See Note 3	Table 208-2 App M
13	Not for use: Item Weight – for each piece	n..4	
14	Not for use: Actual Load Weight – for complete load	n..7	
15	<b>Water Commodity/Special Handling Code</b>	an5	Chapter 208 App M App KK App LL
16	Not for use: JCS Cargo Category Code for unit move	an4	
17	Not for use: UTC – Unit Type Code for unit move	an5	
18	<b>Length</b> – with optional metric unit of value for generic cargo Default = inches	an..5+../an2 See Note 3	Chapter 208 App M

<b>Format 07 Data Element Identifier</b>	<b>DOD Usage (See Note 1)</b>	<b>Data Format</b>	<b>Data Sources</b>
19	<b>Width</b> - with optional metric unit of value for generic cargo Default = inches	an..5+../an2 See Note 3	Chapter 208 App M
20	<b>Height</b> – with optional metric unit of value for generic cargo Default = inches	an..5+../an2 See Note 3	Chapter 208 App M
21	<b>Pallet Identifier</b>	an6	App M (TCMD T_9, Table M-22)
22	Reserved – for future assignment		
23	<b>Air Dimension Code</b>	an1	App M App BB
24	<b>Container Number Code</b> - last five digits of van, without check digit, and other container numbers	n5	App M (DD 1384 Blk 2)
25	<b>Port of Embarkation (POE) Code</b>	an3	Table 208-2 App M App CC App MM
26	<b>Port of Debarkation (POD) Code</b>	an3	Table 208-2 App M App CC App MM
27	<b>Consignee DOD Activity Address Code (DODAAC)</b> – for the receiving ultimate consignee or mark for consignee	an6	Chapter 208 App M
28	<b>Transportation Priority</b> – 1 through 4	n1	Table 208-2 App M
29	<b>Consignor DOD Activity Address Code (DODAAC)</b> – for the shipper	an6	Chapter 208 App M
30	<b>Mode/Method Code</b> – of shipment	an1	App M App GG
31	Not for use: Required Port Delivery Date	n3	
32	<b>Required Delivery Date (RDD)</b>	an..3	Table 208-2 App M
33	Not for use: Special Priority	an1	
34	<b>TCMD/Manifest Doc ID Code</b> – Document Identifier Code (DIC)	an3	App M App DD
35	<b>Free Text –Comment</b> See Note 5	an..60	As Required
36	<b>Package ID/Serial Number</b> – for unit move MSL. Also see Format 07 DI I for VIN	an..12	Chapter 208
37	Not for use: Vehicle Model Number See Format 07 DEI 10	an7	
38	<b>Nomenclature</b>	an..20	DD 1348-1A App M (TCMD T_6)
39	<b>Number of Rounds</b> – of ammunition	n..6	App M (TCMD T_6)

<b>Format 07 Data Element Identifier</b>	<b>DOD Usage (See Note 1)</b>	<b>Data Format</b>	<b>Data Sources</b>
40	<b>United Nations (UN) Class/Division Code</b>	an2	App M (TCMD T_6)
41	<b>UN/NA Indicator</b> – designates United Nations or North American source See Note 4	an2	App M (TCMD T_6)
42	<b>UN/North American ID Number</b> See Note 4	an4	App M (TCMD T_6)
43	<b>Compatibility Group Code</b>	an1	App M (TCMD T_6)
44	<b>Net Explosive Weight</b>	n..6	App M (TCMD T_6)
45	<b>Owner's Last Name</b>	an..13	Chapter 208 App M (TCMD T_8)
46	<b>Owner's First and Middle Initials</b>	an..2	Chapter 208 App M (TCMD T_8)
47	<b>Owner's Grade</b>	an2	App FF, TCMD T_8
48	<b>Type Service</b>	an..10	Table 208-2
49	<b>Air Commodity/Special Handling Code</b>	an2	Chapter 208 App M App Z and AA
50	<b>Type Pack Code</b>	an2	App M App UU
51	<b>SEAVAN Ownership Code</b>	an4	App M (TCMD T_2, Table M-5) App TT
52	Reserved – for future assignment		
53	Reserved – for future assignment		
54	Reserved – for future assignment		
55	<b>Consignee Distribution (CDIST) Code</b>	an1	App M (TCMD T_2, Table M-5, rp 57)
56	<b>Number of Shipment Units in Van</b>	n2	App M (TCMD T_2, Table M-5, rp 58-59)
57	<b>Number of Pieces in Van</b>	n4	App M (TCMD T_2, Table M-5, rp 68-71)
58	<b>Van Inside Cube</b> – default = cubic feet	an..4	App M (TCMD T_2, Table M-5, rp 64-67)
59	<b>Van Length</b> Default = feet	an..2	App M (TCMD T_2, Table M-5, rp 13-14)
60	<b>Van Number (complete)</b> – complete number minus check digit)	an8	App M (TCMD T_9, Table M-14, rp 56-63)
61	<b>Check Digit</b> – of the van number	n1	App M (TCMD T_9, Table M-14)
62	<b>Temperature Range</b> – shown in Fahrenheit degrees	an..5	App M (TCMD T_9, Table M-14)
63	<b>Stopoff Number and Consignee DODAAC</b>	n..2+an6	APP M (TCMD T_9, Table M-15, rp 54-65)
64	Not for use: Major Subordinate Element (MSE)	an5	

Format 07 Data Element Identifier	DOD Usage (See Note 1)	Data Format	Data Sources
65	Not for use: Ultimate Consignee/Mark For DODAAC See Format 07 DEI 27	an6	
66	Not for use: FMS Country Code	an3	
67	<b>FMS Case Number</b> – foreign military sales case number for MSL	an3	Table 208-2
68	Not for use: FMS Charges	n..5 v 2	
69	<b>Personal Property Code</b> – for household goods and baggage	an1	App M (TCMD T_8, Table M-12, rp 71)
70	<b>Net Weight</b> Default = pounds	an..5+../an2 See Note 3	Chapter 208 App M (TCMD T_8)
71	<b>Privately Owned Vehicle (POV) Year and Model</b>	n2+an..4	App M (TCMD T_8)
72	<b>Privately Owned Vehicle (POV) Make</b>	a4	App M (TCMD T_8)
73	<b>Privately Owned Vehicle (POV) State of Registration</b>	a2	App M (TCMD T_8)
74	<b>Privately Owned Vehicle (POV) License Number</b>	an..8	App M (TCMD T_8)
75	<b>Privately Owned Vehicle (POV) Color</b>	a3	App M (TCMD T_8)
76	<b>Stopoff Consolidation Code</b> – stopoff point for delivery	an1	App M (TCMD T_4, See Note 2 for rp 63)
77	Not for use: To Be Redefined		
78	Not for use: To Be Redefined		
79	Not for use: To Be Redefined		
80	Not for use: To Be Redefined		
81	<b>Supplementary Address</b> – Derived from rp 45-50 of the requisition	an6	DD 1348-1A (rp 45-50)
B6	<b>DOD Distribution Code</b> – all 3 positions of DOD Distribution Code (blanks may be located in any position) Also see DI 8V for 2 position Distribution Code	an3	DD 1348-1A (rp 54-56)
B7	<b>Requisition Priority Designator (PD)</b>	n2	DD 1348-1A (rp 60-61)
B8	<b>Partial Shipment Indicator</b>	a1	DD 1348-1A

**NOTE 1.** The ANSI MH10.8.2 (ISO/IEC 15418) DIC and DOD DEIs listed show the current, reserved, and “Not for use” DOD data descriptions for historical reference. For an updated list of Format 06 DIs and Format 07 DEIs selected for use by DOD, refer to the DOD Logistics AIT Office web site at <http://www.dodait.com/>.

**NOTE 2.** In order to provide space in the 2D symbol for multiple supply line item data, the in-the-clear address data is not printed in the 2D symbol for SUs containing multiple supply line items (multipack or consolidated shipment). DODAAC addresses from the Department of Defense Activity Address File are structured as four lines of 35 characters – the 5th line in the “Ship To” and “Consignee” address blocks are to accommodate Defense Logistics Agency (DLA) addressing options, FMS addressing, and foreign nation addresses. The “From” address line is structured as three lines of 35 characters to accommodate DLA addressing options and to save space on the MSL.

**NOTE 3.** To accommodate current automated information systems, US default values are assumed as shown. Metric data values may be used in the 2D symbol for generic cargo shipment descriptions, but the data values must be marked with the metric units of measure from the ANSI X12.3 code list 355. The ANSI X12.3 codes selected for use are: KG = kilograms, CM = centimeter, CC = cubic centimeter, MR = meter, CR

= cubic meter. Decimal values are allowed in the 2D symbol. Human readable values printed on the DOD MSL will be in US standard unit of measure format and will be rounded to the next higher whole number with leading zeros suppressed.

**NOTE 4.** Format 07 DEI 41 is the qualifier for DEI 42. That is, DEI 41 indicates whether the code value in DI 42 came from the United Nations or North American table of values, e.g., International Maritime Dangerous Goods Code, 49 CFR, or other source publication.

**NOTE 5.** System must be expecting and be able to accommodate free text information.

**NOTE 6.** The plus symbol (+) is used as a delimiter between the data elements and is part of the data substring.

**Table X-4. Generic Cargo Shipping Label 2D Symbol Format**

Compliance Indicator	Format Header	Format 06 DI	Format 07 DEI	Data Field	Data Format		Sample Data without DI/DEI	Element Separators	Total Characters
					Type   Length	DI   Data			
D>				Message Header Compliance Indicator	an3		D>	RS	4
	06			Data Identifier Format Header	an2		06	GS	3
		JKUSM		TCN	an5	an17	SW81238350D001XX X	GS	23
		3D		Ship Date	an2	an4	1090	GS	7
		9K		TAC	an2	an4	SZZZ	GS	7
		2L		Ship To Address See Note 1	an2	an..35+ an..35+ an..35+ an..35+ an..35 See Note 3	1 <sup>st</sup> address line+2 <sup>nd</sup> address line+3 <sup>rd</sup> address line+4 <sup>th</sup> address line+5 <sup>th</sup> address line	GS	182
		3L		From Address See Note 1	an2	an..35+ an..35+ an..35 See Note 3	1 <sup>st</sup> address line+2 <sup>nd</sup> address line+3 <sup>rd</sup> address line	GS	110
		5L		Consignee Address See Note 1	an2	an..35+ an..35+ an..35+ an..35+ an..35 See Note 3	1 <sup>st</sup> address line+2 <sup>nd</sup> address line+3 <sup>rd</sup> address line+4 <sup>th</sup> address line+5 <sup>th</sup> address line	GS	182
		51L		Origin Zip Code	an3	an5	45324	GS	9
		N		NSN See Note 2	an1	an..15	123456789012345	GS	17
		2Q		Weight	an2	an..5 +./an2 See Note 4	7760 Or metric: 1759/KG	GS	11
		13Q		Piece Number /Total Pieces	an3	an..4/an..4	1/1	GS	13

Compliance Indicator	Format Header	Format 06 DI	Format 07 DEI	Data Field	Data Format		Sample Data without DI/DEI	Element Separators	Total Characters
					Type DI	Length Data			
		4R		DODIC See Note 2	an2	an4	PL23	GS	7
		13S		Security Seal Number	an3	an8	90876787	GS	12
		1T		Lot Number See Note 2	an2	an..25	MCG77G002-060	GS	28
		4V		Ocean Carrier Code	an2	an4	SEAU	RS	7
	<b>07</b>			<b>Free Text Format Header</b>	<b>an2</b>		<b>07</b>	<b>GS</b>	<b>3</b>
			03	Project Code	an2	an3	9BU	GS	6
			10	Model Identifier	an2	an..10	KZ456754	GS	13
			12	Cube	an2	an..4 +./an2 See Note 4	35	GS	10
			15	Water Commodity/Special Handling Code	an2	an5	390Z9	GS	8
			21	Pallet Identifier	an2	an6	DOVARC	GS	9
			23	Air Dimension Code	an2	an1	A	GS	4
			24	Container Number Code	an2	n5	13579	GS	8
			25	POE Code	an2	an3	DOV	GS	6
			26	POD Code	an2	an3	RMS	GS	6
			27	Consignee DODAAC	an2	an6	W55XGJ	GS	9
			28	Transportation Priority	an2	n1	1	GS	4
			29	Consignor DODAAC	an2	an6	SW8123	GS	9
			30	Mode/Method Code	an2	an1	B	GS	4
			32	RDD	an2	an..3	999	GS	6
			34	TCMD/Manifest Doc ID Code (header DIC only)	an2	an3	TX1	GS	6
			35	Free Text Comment	an2	an..60	NO LINE ITEM DATA	GS	63
			38	Nomenclature	an2	an..20	Boots	GS	23
			39	Number of Rounds	an2	n..6	112000	GS	9
			40	UN Class/Division Code	an2	an2	1A	GS	5
			41	UN/NA Indicator	an2	an2	UN	GS	5
			42	UN/NATO ID Number	an2	an4	2766	GS	7
			43	Compatibility Group Code	an2	an1	Z	GS	4
			44	Net Explosive Weight	an2	n..6	449800	GS	9
			48	Type Service	an2	an..10	Fr LTL	GS	13
			49	Air Commodity/Special Handling Code	an2	an2	AZ	GS	5
			50	Type Pack Code	an2	an2	BX	GS	5
			51	SEAVAN Ownership Code	an2	an4	SEAU	GS	7
			55	CDIST Code	an2	an1	A	GS	4

Compliance Indicator	Format Header	Format 06 DI	Format 07 DEI	Data Field	Data Format		Sample Data without DI/DEI	Element Separators	Total Characters
					Type	Length			
					DI	Data			
			56	SUs in Van	an2	n2	12	GS	5
			57	Pieces in Van	an2	n4	1234	GS	7
			58	Van Inside Cube	an2	an..4	1234	GS	7
			59	Van Length	an2	an..2	40	GS	5
			60	Van Number (complete)	an2	an8	12345678	GS	11
			61	Check Digit	an2	n1	9	GS	4
			62	Temperature Range	an2	an..5	F632	GS	8
			63	Stopoff Number and Consignee DODAAC	an2	n..2 +an6	1AF5612	GS	11
			67	FMS Case Number	an2	an3	CKM	GS	6
			76	Stopoff Consolidation Code	an2	an1	X	RS	4
<b>The following sets of data (DI 12S through 12Q) repeat for each supply line item in the shipment</b>									
	<b>06</b>			<b>Data Identifier Format Header</b>	<b>an2</b>		<b>06</b>	<b>GS</b>	<b>3</b>
		12S		Supply Document Number	an3	an14..15	WK4GEY80110232	GS	19
		N		NSN	an1	an..15	5310011987585	GS	17
		4R		DODIC (ammo only)	an2	an4	PL23	GS	7
		1T		Lot Number (ammo only)	an2	an..25	MCG77G002-060	GS	28
		7Q		Quantity & UI	an2	n..5+an2	5EA	GS	10
		V		Routing Identifier Code	an1	an3	S9I	GS	5
		2R		Condition Code	an2	an1	A	GS	4
		8V		Distribution Code	an2	an2	7V	GS	5
		12Q		Unit Price	an3	n..5+.n2 +an3	12345.90USD	GS	15
		12S		Supply Document Number	an3	an14..15	WK4GEY80110232	GS	19
		N		NSN	an1	an..15	5310011987585	GS	17
		4R		DODIC (ammo only)	an2	an4	PL23	GS	7
		1T		Lot Number (ammo only)	an2	an..25	MCG77G002-060	GS	28
		7Q		Quantity & UI	an2	n..5+an2	5EA	GS	10
		V		Routing Identifier Code	an1	an3	S9I	GS	5
		2R		Condition Code	an2	an1	A	GS	4
		8V		Distribution Code	an2	an2	7V	GS	5
		12Q		Unit Price	an3	n..5+.n2 +an3	12345.90USD	RSEOT	16

**NOTE 1.** In order to provide space in the 2D symbol for multiple supply line item data, the in-the-clear address data is not printed in the 2D symbol for SUs containing multiple supply line items (multipack or consolidated shipment).

**NOTE 2.** The Format 06, DI N, 4R, or 1T elements will only be shown in this part of the 2D symbol if TCMD T\_6 data or TCMD T-7 data is available as a source. In most cases, NSN information will not be available from TCMD T\_6 data for a SU of consolidated multiple line items.

**NOTE 3.** The plus symbol (+) is used as a delimiter between the data elements and is part of the data sub-string.

**NOTE 4.** To accommodate current automated information systems, US default values are assumed as shown. Metric data values may be used in the 2D symbol for generic cargo shipment descriptions, but the data values must be marked with the metric units of measure from the ANSI X12.3 code list 355. The ANSI X12.3 codes selected for use are: KG = kilograms, CM = centimeter, CC = cubic centimeter, MR = meter, CR = cubic meter. Decimal values are allowed in the 2D symbol. Human readable values printed on the DOD MSL will be in US standard unit of measure format and will be rounded to the next higher whole number with leading zeros suppressed.

**Table X-5. Personal Property Shipping Label 2D Symbol Format**

Compliance Indicator	Format Header	Format 06 DI	Format 07 DEI	Data Field	Data Format		Sample Data without DI/DEI	Element Separators	Total Characters
					Type	Length			
D>				Message Header Compliance Indicator	an3		D>	RS	4
	06			Data Identifier Format Header	an2		06	GS	3
		JKUSM		TCN	an5	an17	F1096305469621JXX	GS	23
		3D		Ship Date	an2	an4	1090	GS	7
		2K		Bill of Lading	an2	an..12	M1234567	GS	15
		9K		TAC	an2	an4	FZZZ	GS	7
		12K		Personal Property SCAC	an3	an4	XYZW	GS	8
		2L		Ship To Address	an2	an..35+ an..35+ an..35+ an..35+ an..35 See Note 1	1 <sup>st</sup> address line+2 <sup>nd</sup> address line+3 <sup>rd</sup> address line+4 <sup>th</sup> address line+5 <sup>th</sup> address line	GS	182
		3L		From Address	an2	an..35+ an..35+ an..35 See Note 1	1 <sup>st</sup> address line+2 <sup>nd</sup> address line+3 <sup>rd</sup> address line	GS	110
		5L		Consignee Address	an2	an..35+ an..35+ an..35+ an..35+ an..35 See Note 1	1 <sup>st</sup> address line+2 <sup>nd</sup> address line+3 <sup>rd</sup> address line+4 <sup>th</sup> address line+5 <sup>th</sup> address line	GS	182
		2Q		Weight	an2	an..5 +./an2 See Note 2	350	GS	11
		11Q		Tare Weight	an3	an..5 +./an2	40	GS	12
		13Q		Piece Number/Total Pieces	an3	an..4/an..4	1/4	RS	13

Compliance Indicator	Format Header	Format 06 DI	Format 07 DEI	Data Field	Data Format Type   Length DI   Data		Sample Data without DI/DEI	Element Separators	Total Characters
	07			Free Text Format Header	an2		07	GS	3
			12	Cube	an2	an..4 +./an2 See Note 2	36	GS	10
			15	Water Commodity/Special Handling Code	an2	an5	390Z9	GS	8
			23	Air Dimension Code	an2	an1	A	GS	4
			25	POE Code	an2	an3	DOV	GS	6
			26	POD Code	an2	an3	RMS	GS	6
			27	Consignee DODAAC	an2	an6	FB5612	GS	9
			28	Transportation Priority	an2	n1	2	GS	4
			29	Consignor DODAAC	an2	an6	FB4407	GS	9
			30	Mode/Method Code	an2	an1	P	GS	4
			32	RDD	an2	an..3	118	GS	6
			34	TCMD/Manifest Doc ID Code (header DIC only)	an2	an3	TF1	GS	6
			35	Free Text Comment	an2	an..60	Free text up to 60 characters	GS	63
			45	Owner's Last Name	an2	an..13	Smith	GS	16
			46	Owner's First and Middle Initials	an2	an..2	JB	GS	5
			47	Owner's Grade	an2	an2	O5	GS	5
			48	Type Service	an2	an..10	TGBL UB	GS	13
			49	Air Commodity/Special Handling Code	an2	an2	JZ	GS	5
			50	Type Pack Code	an2	an2	MW	GS	5
			69	Personal Property Code	an2	an1	B	GS	4
			70	Net Weight	an2	an..5 +./an2	310	GS	11
			71	POV Year and Model	an2	n2+an..4	96SABL	GS	9
			72	POV Make	an2	a4	MERC	GS	7
			73	POV State of Registration	an2	a2	VA	GS	5
			74	POV License Number	an2	an..8	PAE8393X	GS	11
			75	POV Vehicle Color	an2	a3	BLK	RSEOT	7

**NOTE 1.** The plus symbol (+) is used as a delimiter between the data elements and is part of the data sub-string.

**NOTE 2.** To accommodate current automated information systems, US default values are assumed as shown. Metric data values may be used in the 2D symbol for generic cargo shipment descriptions, but the data values must be marked with the metric units of measure from the ANSI X12.3 code list 355. The ANSI X12.3 codes selected for use are: KG = kilograms, CM = centimeter, CC = cubic centimeter, MR = meter, CR = cubic meter. Decimal values are allowed in the 2D symbol. Human readable values printed on the DOD MSL will be in US standard unit of measure format and will be rounded to the next higher whole number with

leading zeros suppressed.

**Table X-6. Unit Move Shipping Label 2D Symbol Format**

Compliance Indicator	Format Header	Format 06 DI	Format 07 DEI	Data Field	Data Format		Sample Data without DI/DEI	Element Separators	Total Characters
					Type   Length	DI   Data			
D>				Message Header Compliance Indicator	an3		D>	RS	4
	06			Data Identifier Format Header	an2		06	GS	3
		JKUSM		TCN	an5	an17	AWS1EAA\$0D00340XX	GS	23
		I		VIN	an1	an17	V739GXL1794AB12PZ	GS	19
		9K		TAC	an2	an4	YZZZ	GS	7
		2L		Ship To Address	an2	an..35+ an..35+ an..35+ an..35+ an..35 See Note 1	1 <sup>st</sup> address line+2 <sup>nd</sup> address line+3 <sup>rd</sup> address line+4 <sup>th</sup> address line+5 <sup>th</sup> address line	GS	182
		3L		From Address	an2	an..35+ an..35+ an..35 See Note 1	1 <sup>st</sup> address line+2 <sup>nd</sup> address line+3 <sup>rd</sup> address line	GS	110
		5L		Consignee Address	an2	an..35+ an..35+ an..35+ an..35+ an..35 See Note 1	1 <sup>st</sup> address line+2 <sup>nd</sup> address line+3 <sup>rd</sup> address line+4 <sup>th</sup> address line+5 <sup>th</sup> address line	GS	182
		51L		Origin Zip Code	an3	an5	45324	GS	9
		N		NSN	an1	an..15	8115001682275	GS	17
		2Q		Weight	an2	an..5 +./an2 See Note 2	14000	GS	11
		13Q		Piece Number/Total Pieces	an3	an..4/an..4	1/1	GS	13
		4R		DODIC	an2	an4	PL23	GS	7
		13S		Security Seal Number	an3	an8	90876787	GS	12
		1T		Lot Number	an2	an..25	MCG77G002-060	GS	28
		4V		Ocean Carrier Code	an2	an4	SEAU	RS	7
	07			Free Text Format Header	an2		07	GS	3
			03	Project Code	an2	an3	9BU	GS	6
			04	ULN	an2	an7	1234567	GS	10

Compliance Indicator	Format Header	Format 06 DI	Format 07 DEI	Data Field	Data Format		Sample Data without DI/DEI	Element Separators	Total Characters
					Type   Length	DI   Data			
			05	UIC	an2	an6	WS1EAA	GS	9
			06	Bumper Number	an2	an..8	HQ-123	GS	11
			09	Unit Equipment Description	an2	an..20	HELICPR CARGO MH-60K	GS	23
			10	Model Identifier	an2	an..10	12345ASDFG	GS	13
			12	Cube	an2	an..4 +./an2 See Note 2	1200	GS	10
			15	Water Commodity/Special Handling Code	an2	an5	900Z9	GS	8
			18	Length	an2	an..5 +./an2 See Note 2	12345	GS	11
			19	Width	an2	an..5 +./an2 See Note 2	12345	GS	11
			20	Height	an2	an..5 +./an2 See Note 2	12345	GS	11
			21	Pallet Identifier	an2	an6	DOVARC	GS	9
			23	Air Dimension Code	an2	an1	A	GS	4
			24	Container Number Code	an2	n5	13579	GS	8
			25	POE Code	an2	an3	DOV	GS	6
			26	POD Code	an2	an3	RMS	GS	6
			27	Consignee DODAAC	an2	an6	W44TYH	GS	9
			29	Consignor DODAAC	an2	an6	AWA2UC	GS	9
			30	Mode/Method Code	an2	an1	A	GS	4
			32	RDD	an2	an..3	999	GS	6
			34	TCMD/Manifest Doc ID Code (header DIC only)	an2	an3	TX1	GS	6
			35	Free Text Comment	an2	an..60	60 characters free text	GS	63
			36	Package Id/Serial Number	an2	an..12	123456789012	GS	15
			38	Nomenclature	an2	an..20	Parts	GS	23
			39	Number of Rounds	an2	n..6	112000	GS	9
			40	UN Class/Division Code	an2	an2	1A	GS	5
			41	UN/NA Indicator	an2	an2	UN	GS	5
			42	UN/NATO ID Number	an2	an4	2766	GS	7
			43	Compatibility Group Code	an2	an1	Z	GS	4
			44	Net Explosive Weight	an2	n..6	449800	GS	9
			49	Air Commodity/Special Handling Code	an2	an2	VD	GS	5

Compliance Indicator	Format Header	Format 06 DI	Format 07 DEI	Data Field	Data Format		Sample Data without DI/DEI	Element Separators	Total Characters
					Type   Length	DI   Data			
			50	Type Pack Code	an2	an2	BX	GS	5
			51	SEAVAN Ownership Code	an2	an4	SEAU	GS	7
			55	CDIST Code	an2	an1	A	GS	4
			56	SUs in Van	an2	n2	12	GS	5
			57	Pieces in Van	an2	n4	1234	GS	7
			58	Van Inside Cube	an2	n4	1234	GS	7
			59	Van Length	an2	n2	40	GS	5
			60	Van Number (complete)	an2	an8	12345678	GS	11
			61	Check Digit	an2	n1	9	GS	4
			62	Temperature Range	an2	an..5	F632	GS	8
			63	Stopoff Number and Consignee DODAAC	an2	n..2 +an6	1AF5612	GS	11
			76	Stopoff Consolidation Code	an2	an1	X	RSEOT	5

**NOTE 1.** The plus symbol (+) is used as a delimiter between the data elements and is part of the data sub-string.

**NOTE 2.** To accommodate current automated information systems, US default values are assumed as shown. Metric data values may be used in the 2D symbol for generic cargo shipment descriptions, but the data values must be marked with the metric units of measure from the ANSI X12.3 code list 355. The ANSI X12.3 codes selected for use are: KG = kilograms, CM = centimeter, CC = cubic centimeter, MR = meter, CR = cubic meter. Decimal values are allowed in the 2D symbol. Human readable values printed on the DOD MSL will be in US standard unit of measure format and will be rounded to the next higher whole number with leading zeros suppressed.

**THIS PAGE INTENTIONALLY LEFT BLANK**