CHAPTER 208

PACKAGING AND HANDLING

A. GENERAL

This chapter provides general guidance on the handling of packaged material.

B. RESPONSIBILITIES

Installation CDRs will ensure:

1. All personnel involved with the shipment and preparation of HAZMAT to include handling and loading are trained IAW the requirements of 49 CFR, AFMAN 24-204_IP (Interservice), TM 38-250, MCO P4030.19I, NAVSUP Pub 505, DLAI 4145.3, and DCMAD 1, CH 3.4 (HM24), and other modal regulatory documents.
2. All personnel involved in handling, repackaging, and loading operations are properly trained and understand marking and labeling requirements. Suggested source of training is the School of Military Packaging Technology, US Army Defense Ammunition Center, McAlester, OK 74501-9053. Training is also available using the DOD Hazardous Material Packaging Computer Based Training (via the internet): http://www.dtc.dla.mil/HAZMAT/index.html.
3. All personnel who operate MHE are properly trained and licensed.
4. Work areas are laid out to avoid bottlenecks and back handling of material.
5. All personnel understand and adhere to Occupational Safety and Health Administration (OSHA) requirements.

C. REPACKAGING

1. Transportation operations will not have to repackage material. Repackaging will only be done when absolutely necessary.
2. If transportation personnel suspect material may require repackaging, contact the installation packaging and preservation representative. Additional information can be obtained from the packaging and preservation representatives listed in Table 208-1, Inventory Control Points (ICPs).
3. The correct packaging materials and shipping containers must be used.

D. HANDLING

1. Do not remove/tear tape, labels, or other items from any containers, especially fiberboard boxes.
2. If an item is dropped or damaged in transit, report it promptly using TDR procedures IAW Chapter 210.
3. Do not put heavy items on top of light items when unitizing loads.
4. Damaged packaging is reported as a Supply Discrepancy Report (SDR) IAW DLAI 4140.55/AR 735-11-2/Secretary of the Navy Instruction (SECNAVINST) 4355.18A/Air Force Joint Manual (AFJMAN) 23-215, Reporting of Supply Discrepancies.
5. Maintain correct separation and segregation of HAZMAT at all times IAW AFJMAN 23-209/DLAI 4145.11/TM 38-410/NAVSUP PUB 573/MCO 4450.12A, Storage and Handling of Hazardous Materials.

E. MARKING AND LABELING

1. Marking and labeling are means of communication identified in MIL-STD-129, AFMAN 24-204_IP (Interservice), TM 38-250, MCO P4030.19I, NAVSUP Pub 505, DLAI 4145.3, and DCMAD 1, CH 3.4 (HM24), 49 CFR, and other modal regulatory documents.
2. HAZMAT labeling must be IAW the modal regulations and clearly visible.
3. Do not use local labels unless specifically authorized by the Service/Agency.
4. DOD and contractor or vendor shipping activities will apply address markings using a bar coded MSL for all shipments that will enter the DTS. This includes shipments moving within the CONUS, between the CONUS and OCONUS, or conversely between OCONUS and the CONUS. Shipments originating at non-military facilities moving to or through any DTS node, to include origin, consolidation, transship, a receiving terminal, or a TO or supply receiving function will be considered to have "entered the DTS" and must be marked with a MSL. Shipments that will not enter the DTS will have address markings applied as specified by the cognizant activity. Additional information concerning the latest requirements can be found in the DOD Logistics Implementation Plan for AIT published by USTRANSCOM and available via links from http://www.transcom.mil/ait/).
    a. Figure 208-1, Military Shipping Label, Generic Cargo; Figure 208-2, Military Shipping Label, Personal Property; and Figure 208-3, Military Shipping Label, Unit Move, show examples of acceptable MSLs. Only the exact format shown in Figure 208-4 can be printed and referred to as a DD Form 1387, Military Shipment Label, and it will be used when manual shipment documentation is the only labeling alternative available during emergency operations (when hand-written labels are the only alternative). With the exception of a hand-written DD Form 1387, all shipments entering the DTS are required to be marked with an MSL containing 3 of 9 linear bar codes (Code 39) with standard Code 39 characters and a 2D PDF417 symbol. A specific MSL format is not required; however, keeping the MSL block numbers/titles associated with the DD Form 1387 data content is highly recommended. The specific orientation and placement of text and bar code symbols are not mandated as long as the MSL follows the provisions of ANSI MH10.8.1 subject to the following exceptions:
        (1) The MSL label data requirements will be as identified in Para J and Table 208-2, Instructions for Completing the MSL.
        (2) DI codes will not be used in conjunction with the Code 39 bar codes described in Table 208-2 (TCN, Piece, Consignee).
        (3) The MSL unique transport unit identifier will be the TCN and it will be printed in the top, left, building block of the MSL.
        (4) DI/DEI codes will be used for the 2D symbols IAW ISO/International Engineering Consortium (IEC) 15418 (ANSI MH10.8.2), as implemented by the DOD and shown in Appendix X.
        (5) The 2D PDF417 symbol syntax will be IAW ISO/IEC 15434 (ANSI MH10.8.3), as implemented by the DOD and shown in Appendix X.
    b. Table 208-2 provides requirements for the in-the-clear and Code 39 bar code information on every MSL. Tables X-2 through X-6 provide requirements for the PDF417 2D symbol generated with MSL data, TCMD data, and supply information on every MSL using the Data Identifiers (DI) and Data Element Identifiers (DEI) contained in Appendix X. Linear bar code entries of TCN, piece number, and consignee DODAAC are mandatory, as are the 2D symbol entries for available MSL, TCMD, and supply data. The bar code entries must be

written to ANSI Materials Handling (MH) 10.8.1 and ISO/IEC 15434 (ANSI MH10.8.3) standards, and in-the-clear entries required by Table 208-2 must be human readable.

c. Detailed procedures for applying shipment marking are specified in MIL-STD-129 (https://assist.daps.dla.mil/quicksearch/basic_profile.cfm?ident_number=35520). If the shipping container does not lend itself to application of the label, or if the label would cover or interfere with other required markings, the label will be attached to a general purpose tab or a placard. The outside containers of classified or protected (sensitive) shipments are marked as specified in MIL-STD-129 and the sponsoring Service directives, but will not identify the classified or protected nature of the material being shipped.

5. SU documentation to include a packing list, kit list, and line item documents (DD Form 1348-1A, DD Form 1149, DD Form 1150) will be attached to the shipment or packaged with the shipment IAW MIL-STD-129. A copy of the TCMD will also be attached to the shipment, IAW Chapter 203, for SUs forwarded to CCPs and for SEAVANs.

F. ACTIVE RFID TAG

1. Active RFID tags used by DOD for documenting shipment units or manifested loads are commissioned as either a data-rich format or as a license plate format. A data-rich active RFID tag has shipment data encoded on the tag and the data is sent to the RF-ITV System server. A license plate active RFID has no encoded shipment data but the shipment data is sent to RF-ITV System server. Active RFID tags are continuously powered and are capable of being read at a distance of 300 feet. The management responsibilities, business rules, and data descriptions in the following paras regarding active RFID are applicable to all DOD Components. They support asset visibility, ITV, and improved logistic business processes throughout the DOD logistics enterprise.

2. Active RFID Management Responsibilities.

a. Organizational responsibilities and funding procedures are identified in DOD 4140.1-R.

b. It is the responsibility of the activity at which containers, consolidated shipments, Unit Move items, or 463L System air pallets are built or reconfigured to procure and operate sufficient quantities of RFID equipment to support the operations.

c. If the originating activity of the RFID Layer 4 shipment is a vendor/contractor location, it is the responsibility of the procuring Service/Agency to arrange for the vendor to attach active tags, either by providing sufficient RFID equipment for the vendor/contractor to meet the requirement, or requiring the vendor/contractor as a term of the contract to obtain necessary equipment to meet the DOD requirement.

d. An organization responsible for port or logistics node operation is also responsible for installing, operating, and maintaining RFID capability.

e. When responsibility for operating a specific port or node changes (e.g., aerial port operations change from strategic to operational), the losing activity is responsible for coordinating with the gaining activity to ensure RFID capability continues without interruption.

f. When active RFID devices are used in other than CONUS and US possession locations, DOD Components will forward requests for frequency allocation approval via command channels to the cognizant military frequency management office to ensure that RFID tags comply with US national and OCONUS HN spectrum management policies. The PM J-AIT office will assist DOD Components in frequency management issues related to active RFID tags and equipment purchased under the DOD RFID contracts by PM J-AIT.

g. The DOD Logistics AIT Office is responsible for coordinating, establishing, and maintaining RFID tag formats at the shipment data element level. The active RFID shipment data format specification(s), the RF-ITV System server interface document for active RFID transactions, and the RF device registration and naming convention (for RFID tag interrogator naming convention instructions, see Appendix K) are published by the Army Program Executive Office Enterprise Information Systems (PEO-EIS) PM J-AIT and these documents may be accessed by contacting the PM J-AIT office or via their web site at http://www.eis.army.mil/ait/ **(*) Non-DOD Website**

3. Active RFID General Business Rules. The following business rules apply to active tag applications.

a. Commission and/or write active RFID tags for the following categories of DOD-owned shipments from CONUS to OCONUS, from OCONUS to CONUS, or between OCONUS COCOMs.

(1) RFID Layer 4 freight container shipments of DOD-owned sustainment or retrograde cargo.

(2) RFID Layer 4 freight container unit move shipments of DOD-owned cargo as well as unit move shipments of DOD-owned major organizational equipment.

(3) RFID Layer 4 freight container shipments of DOD-owned ammunition/explosives.

(4) RFID Layer 4 freight container shipments of DOD-owned prepositioned stocks or War Reserve Material, as well as shipments of DOD-owned prepositioned major organizational equipment. For current afloat assets, RFID tags will be commissioned or written and attached during the normal maintenance cycle, reconstitution reset, or sooner as required.

NOTE: See Part II Definition for Radio Frequency Identification Layer 4. The license plate tag commission process is similar to the data-rich tag write process except shipment data is not written to tag memory.

b. Eligible shipment category deviations.

(1) Organizations may employ the use of active RFID technology for intra-CONUS shipments to support operations or for training. Organizations desiring DLA to provide RFID tag support for intra-CONUS shipments will formally work the requirement through the DLA Performance Based Agreement process. Users should be aware that the sustainment format for the RFID tag is based on OCONUS shipment ATCMD information. CONUS commercial bills of lading do not generate the same shipment data content. Data inquiry and data transfer utilities relying on an ATCMD data structure may not perform as expected.

(2) Shipments with a human escort or requiring signature service such as currency, courier, and US mail do not require an active RFID tag.

(3) Shipments from the following specific organizations do not generally require an active RFID tag: Army and Air Force Exchange Service (AAFES), Navy Exchange Service Command, and Defense Commissary Agency (DeCA).

(4) Ammunition stocks to be consumed while afloat must not be tagged.

(5) Self-deploying aircraft and ships and the organic materiel they carry do not require an active RFID tag.

(6) By exception, any shipment or cargo type may be required to have an active license plate tag or active data-rich tag attached if the COCOM requests it for a specific operational requirement and the JSJ4 and ADUSD (SCI) support the request.

c. The tags will be attached at the point of shipment origin for all activities (including vendors/contractors) that stuff containers or build pallets (e.g., 20 or 40 foot SEAVANs, 463L pallets, and other large reusable containers [e.g., containers used to convey large items such as engines or transmissions]), or activities that ship unit move or prepositioned major organizational equipment.

d. Active RFID tag-related shipment data (see Appendix K) must be sent to RF-ITV System servers maintained by the Army PM J-AIT office (http://www.ait.army.mil). Tag ID and sensor status (as applicable) information obtained during in transit tag interrogation is automatically sent to the RF-ITV System server.

e. When an RFID Layer 4 shipment is reconfigured during transit, the accompanying active RFID tag must be written to reflect the reconfigured shipment data and the new data record sent to the RF-ITV System Server.

4. Active RFID Tag/Accessory Issues and Returns.

a. The primary method to acquire active RFID tags is though the normal supply requisitioning process from DLA. Active RFID tags may also be purchased directly through the PM J-AIT RFID contract (see http://www.ait.army.mil)).

b. Active RFID tags are designed for reuse and will function properly over many years of repeated use. Periodic battery replacement will be required depending on frequency of use and number of interrogations.

c. The legacy active RFID tags are being migrated from the ANSI INCITS 256 standard protocol to the ISO/IEC 18000-7 standard protocol. The 600 series legacy tags are upgradable to the ISO standard, but 400 series tags are not upgradable. Contact PM J-AIT for source information if dual-mode capable (ANSI/ISO) infrastructure equipment is required.

d. Tags that are excess to operational requirements will be returned to Service, Geographical CDR, or Agency identified inventory points for use by other organizations in accordance with standard operating reuse/return procedures. Tags that are excess to retail requirements or that require refurbishment will be returned to the DOD Item Manager as per instructions. Activities with tags excess to Components requirements are encouraged to use the DLMS Materiel Returns Program (MRP) to return tags no longer required and receive reimbursement for Packaging, Crating, Handling, and Transportation (PCH&T) costs.

(1) The PCH&T reimbursement incentive for tags received with MRP transactions will result in reduced costs and savings to DOD. Distribution instructions will be provided telling activities where to send tags reported as excess to the ICP.

(2) Tags sent back without MRP transactions will not result in PCH&T reimbursement to the customer; however, they will be reused and result in significant reduction in cost to DOD. RFID tags returned without MRP transactions may be sent to either of the following addresses:

SW3100 Transportation Officer DDSP New Cumberland Facility Building Mission Door 113-114 New Cumberland, Pa. 17070-5002	SW 3224 DEF Dist Warehouse 10 25600 South Chrisman Road Tracy, Ca 95304-9150

(3) Excess tags may be turned in with proper documentation (e.g. DD Forms 1348-1A or 1149) to any DLA Disposition Services Office world-wide. Customers will receive no reimbursement for this turn-ins, but this will result in an overall savings to future incurred transportation costs.

e. The Services, other requisitioners, and users may opt to establish their own retail operation for used RFID tags and incur the cost of refurbishment themselves.

5. Active RFID Tag Use.

a. RFID Tag Management. RFID tags are an item of supply that will be used IAW with DOD, Service, and/or Geographical CDR issuances. However, since they are a necessary component of DOD's ITV capability, there are business process requirements which will be followed in order to ensure the RFID infrastructure reliably reports ITV information.

(1) Active RFID tags are designed for reuse and DOD Components are responsible for tag management and reuse, regardless of the method they are acquired.

(2) The tags will be operationally checked prior to each use (the tag will beep when the battery is installed to indicate the power is on).

(3) If a tag is written in a location other than the location where it will be attached to a shipment, the tag may need to be deactivated (battery polarity reversed) during its movement to the cargo attaching site to preclude false reporting of shipment location. Deactivating the tag does not erase the data stored in the tag.

(4) When a shipment is terminated/delivered or the tag is stored, the tag must be deactivated (battery polarity reversed) to preclude false reporting of tag assignment or shipment location.

(5) The legacy ST-654 tag can be written three different ways using either a wireless RF interrogator/write device, an interface data cable, or a Tag Docking Station with an adapter sleeve inserted (sleeve is not required to write an ST-410 tag). Procurement data are as follows:

Item Description

- Savi ST-654 Data Cable, RS-232 (DB9) Connection (Model STA-1030 or Model STA-1031) (OEM SAVI).
- Savi Docking Station Adapter for the Savi ST-654 (Model SDSA-654-01) (OEM SAVI).

(6) The C-clamp style legacy ST-656-I and 675-I tags do not work with the Savi Docking Station (SDS-2002 or SCT-KIT-B-101) or Docking Station Adaptor (SDSA-654-01). The Savi Write Adapter cable (Model STA 1031) for the ST-654 and ST-656-I/675-I tags can be used in conjunction with a docking station to write 67X series tags. If no docking station is present, the Model STA-1030 cable may be used. Data can also be written to the ST-656-I/675-I tags using a wireless interrogator/write device.

(7) The new ISO/IEC 18000-7 format tags (identified with a 14-digit ID number on the tag label) are commissioned/written using either a USB cable or via RF transmission.

(8) After an RFID tag is commissioned/written, the complete RFID shipment data generated for the RFID process will be sent to the appropriate RF-ITV System server before the cargo begins movement. If this is not done, the RF-ITV System server may report the tag's new movement/locations for cargo data previously written to the tag file.

b. RFID Tag Mounting on Shipments

(1) The electrical connection port on the tag will be covered with the rubber cap unless being accessed for tag processing.

(2) The tag ID number and its related bar code will not be obscured by user applied labels.

(3) The tag battery compartment will not be covered with a label such that it cannot be opened to access the battery.

(4) Tags will be secured to the shipment with the optional commercial mounting brackets, magnetic mounts, or with two high-strength plastic/wire tie straps (each with at least 10 pounds of tensile strength – recommended are 50-lb tensile strength plastic tie straps). The use of high-strength tie straps is especially important for tags secured to the exterior netting of 463L System air pallets.

(a) Tags secured to unpackaged equipment, equipment in ISO flat racks, or 463L System pallet netted loads will be secured in a visible location close to the MSL, if labeled, or the pallet ID placard.

(b) Tags that are tied/strapped to the exterior surface of SEAVANs or RO/RO trailers will be attached to the vertical, locking door bar (above the locking handle so as not to interfere with its operation) on the left rear door (facing the container) – the right door is usually opened for inspection/customs access. When possible, put the tag under or between the vertical locking bars in a corrugated channel. The tag will be attached so it never extends above/beyond the exterior surface or an exterior protrusion of the container to such a degree that the tag may get scraped off when loading the container into a ship's stow cell. Tags that are attached to containers with magnetic mounts must also be securely fastened to the magnetic fixture. Tags designed with special mounting features will be attached IAW their application instructions.

(c) Tags constructed in a "C" clamp form (e.g. Savi ST-656-I or ST-675-I) so as to be placed onto the left door of an ISO 668: 1995(E) Series 1 freight container will only be used for that purpose.

6. Active RFID Shipment Data Content Level Detail (see Table 208-3). For data-rich tag requirements, RFID shipment data content level detail must be encoded in the active RFID tag if the data element is identified in the Active RFID Data Requirements at Appendix K as a mission essential or conditional entry. For license plate tag requirements, the Appendix K RFID shipment data content level detail is not encoded in the tag's memory, but it is sent to the RF-ITV System server.

a. Shipment content level detail includes the asset detail data elements that describe the asset plus the cargo detail data elements necessary to minimally identify and handle each level of a complete shipment entity, which is a single shipment unit, a consolidated shipment unit, or a manifested load. The most basic shipment entity is a single box or unpacked item marked with a shipment unit identifier.

(1) Asset detail is the fundamental information necessary to describe the physical characteristics of a single asset and the characteristics that identify that asset.

(2) Cargo detail describes the accountable characteristics of the included assets, the physical characteristics of the packaged shipment, and the respective cargo identifiers and handling characteristics.

b. The content level detail data may be obtained from requisition documents, shipment status transactions, Advance Shipment Notice (ASN) transactions (ATCMD, manifest, shipment status, and MILSTRIP status information), consolidated shipment notice transactions, the TCMD, and commercial carrier transactions.

c. The content level detail TCN generated for RFID Layer 4 freight containers may be derived from TCMD header records, manifest header information, or the MSLs that mark the cargo. The TCN for consolidated movements has several colloquial titles such as: lead TCN, header TCN, prime TCN, or conveyance TCN. The TCN is unique and not duplicated by subordinate TCNs within the consolidation or unitized load.

NOTE: The active RFID shipment data requirements at Appendix K are the legacy and current data formats structured to accommodate legacy and new RFID tag capabilities. The active RFID data requirements will be updated to include the content level detail data listed in Table 208-3 as RFID tag capabilities are upgraded and data becomes available in supporting systems.

7. Active RFID Shipment Data TCMD Detail. The active RFID shipment data requirements at Appendix K include a requirement to encode shipment unit or manifest TCMD record information using the DLSS MILS 80-column format. If the TCMD information is in a format other than the DLSS MILS format, it cannot be encoded on the tag or sent to the RF-ITV System server.

   a. TCMD entries are conditional data (must be provided if available).

   b. The MILS 80-column format is being phased out by DOD, but some or all of the TCMD data elements remain as critical information required for supply chain processing. The TCMD element information in the RFID tag memory or in the respective RFID shipment data on the RF-ITV System server are now used by transshipper activities to pre-lodge advance shipping data into their automated information systems when ATCMD information is not available.

   c. Table 208-4 identifies the TCMD detail data elements (which are in addition to the content level detail elements identified in Table 208-3) that may be available within an active RFID tag.

8. Active RFID Transactions.

   a. RFID shipment data files and interrogator reads will be generated and forwarded to the regional RF-ITV System server IAW established DOD data timeliness guidelines published in this regulation (see Table 202-2, Timeliness Evaluation Criteria) and the Joint Publication 4-01, Joint Doctrine for the Defense Transportation System in-transit visibility reporting requirements.

      (1) The complete RFID shipment data will always be sent to the RF-ITV System Server even in cases where the RFID shipment data is generated for a data-rich RFID tag and then truncated IAW the active RFID Tag Data Format Specification because of tag memory limitations. See Appendix K.

      (2) RFID shipment data and nodal events are further transmitted to the Integrated Data Environment/Global Transportation Network) Convergence (IGC) and other global asset visibility systems as appropriate.

   b. Transaction formats for transferring RFID shipment data to and from the RF-ITV System server will be as negotiated between the sending and receiving parties using interface requirements/design documents. Contact the PM J-AIT Office for the latest formats and documents.

G. PASSIVE RFID TAG

1. Passive RFID tags reflect energy from the reader/interrogator or receive and temporarily store a small amount of energy from the reader/interrogator signal in order to generate the tag response. Passive RFID requires strong RF signals from the reader/interrogator, and the RF signal strength returned from the tag is constrained to low levels by the limited energy. This low signal strength equates to a shorter range for passive tags than for active tags.

2. Passive RFID Responsibilities.

   a. Logistics automated information systems involved in receiving, shipping, and inventory management will use passive RFID to perform business transactions, where appropriate, IAW Service/Agency implementation schedules.

   b. It is the responsibility of those DOD activities that ship or receive material to procure and operate sufficient quantities of passive RFID equipment (e.g., interrogators/readers, write stations [printers], tags) to support required operations as the sites implement passive RFID for receiving and shipping.

3. Passive RFID Marking Requirements. DOD suppliers/vendors and Components will resource and implement use of passive RFID tags IAW this regulation, Service/Agency implementation schedules, and other implementing documents which are available from http://www.acq.osd.mil/log/rfid/index.htm; they are MIL-STD-129, the Supplier Implementation Plan, the United States Department of Defense Suppliers' Passive RFID Information Guide, the United States Department of Defense Internal Guide to Passive Radio Frequency Identification (RFID), the Class of Supply Look-up Tool, and DFARS 252.211–7006, Radio Frequency Identification.

   a. RFID technology is being implemented through a phased approach, applied both to supplier requirements and DOD sites. Passive RFID marking for shipments of goods and materials is being phased in by procurement methods, classes/commodities, location, and layers of packaging at the case and pallet level (as defined by MIL-STD-129 terms to be shipping containers, exterior containers within palletized unit loads, and palletized unit loads).

   b. DOD will use passive RFID tags, readers, and complementary devices that comply with the Electronic Products Code (EPC) global Class 1 Generation 2 specification and the performance requirements of MIL-STD-129. The DOD will still be expected to process the following older generation EPC tags: Class 0 and Class 1 Generation 1.

   c. Bulk commodities will not be tagged IAW these passive RFID tagging requirements. Bulk commodities are products carried or shipped in rail tank cars; tanker trucks; other bulk, wheeled conveyances; or pipelines. Examples of bulk commodities are sand, gravel, bulk liquids (e.g., water, chemicals, or petroleum products), ready-mix concrete or similar construction materials, coal or combustibles such as firewood, and agricultural products (e.g., seeds, grains, animal feeds).

4. Passive RFID Electronic Transactions. Transportation data, to include arrival and departure information, will be available for each node in the transportation pipeline and that transportation receipt conformation will be captured IAW Service/Agency implementation schedules. To achieve the requirements via RFID transactions of record, the DOD electronic transactions for departure, for transshipment, and for shipment unit receipt have been modified to ensure the transactions can be used with reference to the shipment's RFID tracking number. DOD Component automated information systems may use the transactions to automatically generate the required departure, arrival, and shipment unit receipt transactions based on RFID interrogation and processing IAW the Supplier Implementation Plan schedules.

   NOTE: For this requirement, requisition document receipt does not equate to shipment unit receipt. The commodity line items shipped under a requisition document number could be packaged in one or more shipment units.

   a. To effectively utilize RFID events to generate arrival and departure transactions of record in DOD logistics systems, RFID tag data with the associated shipment content level detail information must be resident in the DOD data environment so that information systems can access this data at each RFID event (i.e., tag read).

      (1) DOD contractually requires commercial suppliers to provide standard EDI Ship Notice/Manifest 856 transactions IAW the ASN Federal Implementation Convention (IC) via approved electronic transmission methods (e.g., EDI, web-based, or User-Defined-Format files) for all shipments using Wide Area Workflow IAW the applicable Defense Federal Acquisition Regulation Supplement rule.

      (2) Internal DOD sites/locations and shippers will use the EDI IC 856S Shipment Status transaction, the EDI IC 856A Due-In Notice, or the EDI IC 856A Shipment-Consolidation Notice, as applicable, to report the association of TCN and RFID tag information.

   b. The EDI transaction sets enable the sender to describe the contents and configuration of a shipment in various levels of detail and provide an ordered flexibility to convey information. The Federal IC 856 and DLMS Supplement 856S and DTEB 856A transaction sets have been modified by the appropriate DOD controlling agencies to ensure the transactions can be used to list the contents for each shipment of goods as well as additional information relating to the shipment such as: order information; product description to include physical characteristics, the item count in the shipment, and item UID information; type of packaging to include container nesting levels within the shipment; and marking to include the RFID tracking number, carrier information, and configuration of goods within the transportation equipment.

   c. Passive RFID Frequency Spectrum Management. When passive RFID devices are used in other than CONUS and US possession locations, DOD components will forward requests for frequency allocation approval via command channels to the cognizant military frequency management office to ensure that RFID tags comply with US national and OCONUS HN spectrum management policies. See MIL-STD-129 for RFID tag frequency information.

H. SATELLITE-BASED ITV

As the DOD continues to expand its use of satellite-based ITV systems, it becomes increasingly important for the information to be available to many users in summarized formats. If satellite-based ITV systems used by the DOD Services and Agencies provide data feeds to the Army PEO-EIS PM J-AIT RF-ITV System server, PM J-AIT office points of contact for system interface specifications and agreements are available at http://www.ait.army.mil

I. UNITIZATION

1. Unitization is the assembly of a group of containers or items into a single load. Unitization encompasses, but is not limited to, consolidation in a container, placement on a pallet or load base, or securely binding together. Guidance for palletization and banding of unit loads is found in Military Handbook MIL-STD-147E, Palletized Unit Loads.

2. As per guidance found in MIL-STD-129, unit packs, containers, palletized unit loads, and unpacked items do not require individual address/bar code markings if they are unitized by the shipper of origin into a single shipment unit and loaded into a SEAVAN for delivery as a complete load to the ultimate consignee. The TCN for the single shipment unit inside the SEAVAN will be different from the TCN for the SEAVAN.

J. INSTRUCTIONS FOR COMPLETING THE MSL

1. Human readable text, Code 39 linear bar codes, and a PDF417 symbol will be placed on each MSL. Some entries are keyed to numbered blocks on the DD Form 1387 and some are in addition to the form's requirements. The human readable unit of measure will be provided in US standard terms (e.g., pieces, inches, feet, pounds for measured items) and the data values will be rounded up to the nearest whole number with leading zeros suppressed. Also see ANSI MH10.8.1.

2. The shipment planning, documentation, and movement of unit move cargo marked IAW the following MSL completion instructions will be as described in Appendix O, Unit Move Documentation and this Regulation Part III, Appendix H, Unit Move Documentation, and Service regulations, directives, and field manuals. For unit moves, a JOPES TPFDD provides timing, priority, and mode selection for movement of cargo and equipment. Port calls are used to notify deploying units to report to the POE for onward movement and these notices will designate POE, specify reporting date and time, and identify carrier and mission number. In Table 208-2, selected data fields are shown as blank for unit moves to accommodate classification considerations and because unit move cargo does not normally free flow into POEs for onward movement.

3. In addition to Table 208-2 elements, data for the following elements must be shown on the MSL for the conditions shown:

   All Shipments: A PDF417 2D symbol will be printed on all MSLs IAW Appendix X.

   All Unit Move Shipments: Unit Line Number (ULN), Length (in.), Width (in.), Height (in.), Unit Identification Code (UIC), Commodity/Special Handling Code (air or water), Vehicle Serial Number, and Equipment Description. The Unique Item Identifier (UII) is only encoded in the PDF417 2D symbol – it is not printed as text on the MSL.

   Army Unit Move Shipments: Bumper Number, Model Number.

   Personal Property: Personal Property BL Number, Carrier Name, Tare Weight, Net Weight, and Owner's Name.

4. The following data is optional:

   Additional Information: Equipment Serial Number, NSN, Commercial Carrier Tracking Number and/or bar code.

   Local Processing Data: Shippers, for example DLA CCPs, unit deployment sites, ammunition storage sites, may add internal processing information to the label as long as it is clearly marked and does not interfere with the orientation and placement of data as outlined in ANSI MH10.8.1 -- see example Table 208-1 for DLA data.

K. UNITED NATIONS (UN) WPM REQUIREMENTS

1. Shippers providing WPM will ensure that any packing material that consists/made of wood (to include, but not limited to, dunnage, pallets, boxes, cleats, crates, and frames) meet the phytosanitary requirements set forth in DOD 4140.01-M-1, Compliance For Defense Packaging: Phytosanitary Requirements For Wood Packaging Material (WPM).

   a. All WPM is required to meet the requirements of International Standards for Phytosanitary Measures Publication (ISPM 15), Guidelines for Regulating Wood Packaging Material in International Trade, Food and Agriculture Organization of the United Nations (FOA), Rome (2002) with modifications to Annex I (2006). These requirements are detailed in 7 CFR 319.40, Foreign Quarantine Notices. This standard requires WPM used in international trade to be treated. The approved treatments are:

      (1) Heat treatment to a minimum wood core temperature of 56º C for a minimum of 30 minutes or

      (2) Fumigation with methyl bromide.

      NOTE: DOD does not recommend using this option.

      (3) The compliant WPM also must be marked with the International Plant Protection Convention (IPPC) logo, Figure 208-5.

   b. Additional information on WPM requirements can be found at: http://www.aphis.usda.gov/newsroom/hot_issues/wood_packing.shtml **(*)** and the American Lumber Standard Committee, Inc. web page, http://www.alsc.org/ **(*)**.

      All DOD personnel handling, using, managing, or auditing WPM are required to complete certification training. Training can be found at: https://tarp.navsisa.navy.mil

L. BLOCKING, BRACING, DUNNAGE, AND SHORING FOR AIRLIFT CARGO

1. Blocking and Bracing. Blocking and bracing is used to secure material in a container, on a skid or in a conveyance (e.g., truck or railcar). Blocking is the use of cut pieces of dimensional lumber, typically fastened to the top deck of the structure or inside a container. Blocking is used to provide a railing around the edge of the product to block the product in place to prevent shifting from side to side or front to back during transit. Blocking also refers to the use of wedges or chocks to prevent the inadvertent shifting of wheeled cargo intransit. Bracing prevents the lateral movement of the product within the container. Braces are secured to the interior walls and at times to the inside top of the container.

2. Dunnage. Dunnage is loose packaging material used to secure freight during transportation. Dunnage can be used to keep product away from container walls, to separate products, as a void fill, to reduce shifting and to minimize abrasion. Specialized dunnage for certain shipments (usually in a pre-assembled kit form) must be returned to the origin shipper.

3. Shoring. Shoring refers to the protection of the conveyance (normally aircraft) by using materials to respond to floor limitations (Pounds per Square Inch [PSI]) or clearance limits. Standard sized lumber and plywood are both used to shore aircraft loads. Shoring is used to protect the aircraft floor, distribute cargo load over a larger area of aircraft floor (and substructure), and, on occasion, to reduce the ramp-angle during vehicle loading (see Military Handbook 1791, Designing for Internal Aerial Delivery In Fixed Wing Aircraft). The shipper is responsible for any required shoring when not provided by the APOE or airlift unit. Equipment will be designed to minimize the requirements for shoring to limit the logistics burden during air movement and minimize the volume of solid waste generated. The shipper is responsible for any required specialized shoring

IAW technical order shipment instructions when not provided by the APOE or airlift unit. The following types of shoring may be required for airlift:

a. Approach shoring (step-up shoring). Approach shoring is used to reduce the ramp angle that a vehicle must traverse during aircraft on/ offloading. Reduction of the ramp angle becomes necessary to avoid interference problems where there are minimal underside, overhead, or overhang clearances. Approach shoring requires large amounts of lumber and is not an acceptable alternative to designing to have adequate clearances.

b. Floor protection shoring. Shoring that is required to protect the aircraft ramps and cargo compartment floor from damage during on/offloading and flight of tracked vehicles or vehicles with wheels that have lugs, cleats, studs, metal rolling surfaces or small diameters.

c. Parking shoring. Shoring that is required under the wheels or tracks of vehicular cargo prior to loading to reduce PSI exertion on the aircraft floor by increasing the wheel or track contact area.

d. Rolling shoring. Shoring that is required to distribute weight on the cargo floor during on/offloading.

e. Sleeper shoring. Sleeper shoring is used to prevent the movement of a vehicle due to gust and flight maneuver load conditions where tires or suspension system cannot withstand these loads without failure or depression producing slack in tiedown devices. This type of shoring is placed between the aircraft floor and a structural part of the vehicle (e.g., frame).

This 2D symbol contains data for the MSL, TCMD, and 10 supply line items.

Figure 208-1. Military Shipping Label, Generic Cargo

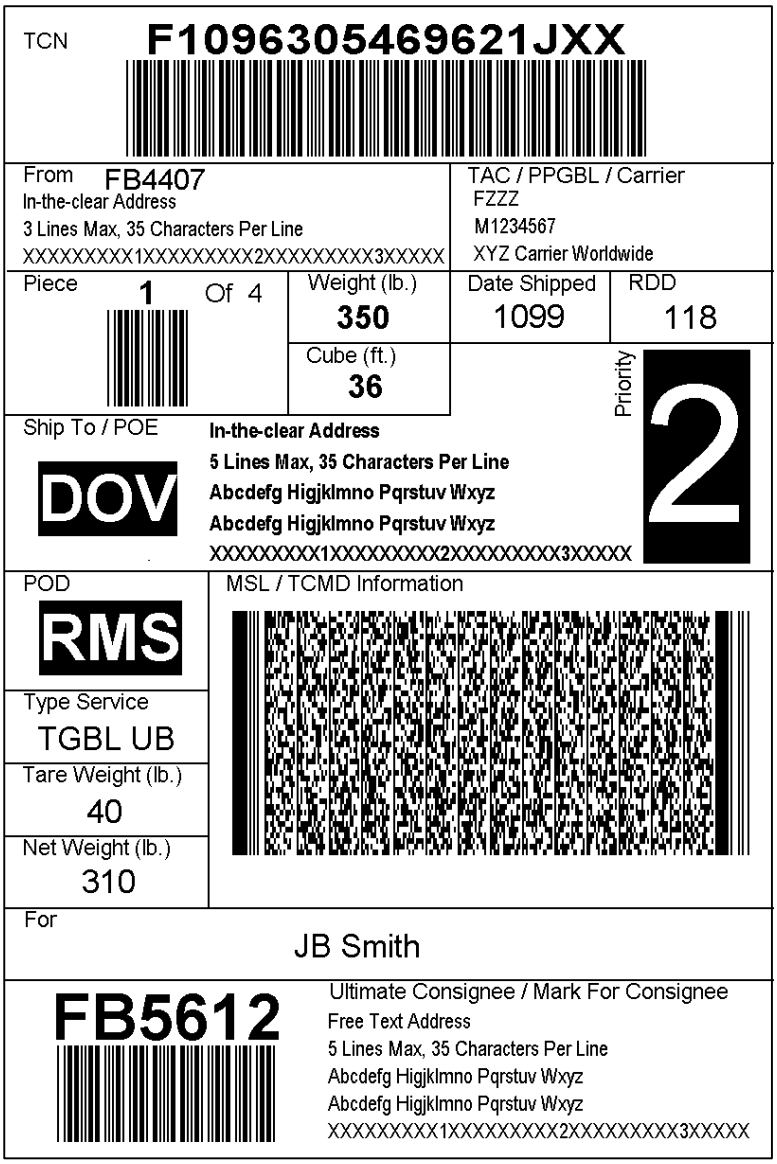

Figure 208-2. Military Shipping Label, Personal Property

Figure 208-3. Military Shipping Label, Unit Move

MILITARY SHIPMENT LABEL		Form Approved. OMB No. 0704-0188
1. TRANSPORTATION CONTROL NUMBER		2. POSTAGE DATA
3. FROM		4. TYPE SERVICE
5. SHIP TO/POE		6. TRANS PRIORITY
7. POD		8. PROJECT
9. ULTIMATE CONSIGNEE OR MARK FOR	10. WT. *(This piece)*	11. RDD
	12. CUBE *(This piece)*	13. CHARGES
	14. DATE SHIPPED	15. FMS CASE NUMBER
	16. PIECE NUMBER	
	17. TOTAL PIECES	

DD FORM 1387, JUL 1999 PREVIOUS EDITION IS OBSOLETE.

NOTE: The DD Form 1387 does not have sufficient space for the required 2D symbol. This form will be used only for DOD contingency operations where manual entry is the only means available to document DTS shipments.

Figure 208-4. DD Form 1387, Military Shipment Label

Figure 208-5. Sample IPPC Certification Mark as Applied by a Commercial Activity

The example in Figure 208-5 describes the mark applied to dunnage.

NOTE:

a. Trademark - the identifying symbol, logo, or name of the accredited Agency (e.g., DOD).

b. Facility Identification - the packaging activity's DODAAC or DDC code (e.g., DDSP, DDJC) or the DOD contractor/vendor facility identification or the commercial facility that supplied and/or heat treated or fumigated the wood.

c. Heat Treated or Methyl Bromide mark abbreviation.

d. Country Code – US.

e. Approved International symbol for compliant wood packaging material.

f. Used strictly for dunnage, otherwise left blank.

Figure 208-6. Example of DOD Permanent Mark Applied by an Authorized DOD Activity

The DOD "Pest Free" marking will display the letters "DOD", the words "Certified Pest Free", and the Department of Defense Activity Address Code (DODAAC) or DLA Defense Distribution Center (DDC) code (e.g., DDSP, DDJC). The DODAAC or DDC code provides receivers and shippers of DOD stock with the identification of the original packaging or shipping activity.

Table 208-1. ICPs

AGENCY	DSN TELEPHONE	DSN FAX
AIR FORCE		
420 SCMS/GUMA (AFGLSC), Tinker AFB OK	339-2121	
418 SCMS/GULA (AFGLSC), Hill AFB UT	777-4995	
406 SCMS/GUMA (AFGLSC), Robins AFB GA	468-2771	
ARMY		
TACOM/ARDEC	793-6164	793-8204
CECOM (AMSEL-LC-LEO-E)	992-2616	992-8759
AMCOM (AMSAM-MMC-MM-DP)	746-2526	788-2521
TACOM (AMSTA-TR-E/PKG)	786-5286	786-7788
DLA		
DLA Customer Support Network	877 352-2255	
DSCC-VSP	850-8774	850-1901
DSCP-ITD (General and Industrial)	444-3776	444-7500
DSCR-RZS	695-4454	695-4392
DSCP-MSCBP (Medical)	444-4189	444-8139
DSCP-HROS (Subsistence)	444-5353	444-9043
DESC-DO	800 268-7633	
MARINE CORPS		
MCLB Albany GA (CODE 581)	567-6786	567-5505
NAVY		
NAVICP (CODE P0771)	442-2183	442-4965
NAVICP (CODE M0772.12)	430-2784	430-3480
NOLSC (CODE 413.31	430-3142	430-8603
NOLSC-AMMOPAC	735-8506	735-8505

Table 208-2. Instructions for Completing the MSL

DD FORM 1387 BLOCK NO.	SUGGESTED BLOCK TITLE	MSL DATA STRUCTURE
Data Description		
Block 1	Title: **TCN**	Data: 17 characters (Code 39 standard characters A to Z, 0 to 9, and $) and Code 39 bar code. Do not use the extended Code 39 character set, (i.e., full ASCII).
In-the-clear TCN text and linear bar code using 1/2-inch high Code 39 format.		
Block 2	Title: **TAC**	Data: Four characters
Leave blank if neither apply. a. TAC is applicable to shipments moving by the DTS. b. For metered mail, attach the stick-on metered postage to or near this block. c. For permit mail, enter the Service/Agency mail authorization, for example First Class Mail Postage and Fees Paid Defense Logistics Agency Permit No G-53		
Block 3	Title: **From**	Data: Three lines of 35 characters
The consignor DODAAC/CAGE and in-the-clear address. For mail, include the ZIP code.		
Block 4	Title: **Type Service**	Data: Clear text not limited but may be coded as no more than 10 characters in the 2D symbol.
In-the-clear text (e.g., Frt LTL, Air Expss, Expss Mail, TGBL UB, DPM HHG). Will be Blank for Unit Move. The in-the-clear text may be derived from the Method or Type Code at: https://www-tmds.c2.amc.af.mil/TMDS/ , then select DTR Data, Transportation Method, and Display Data from the Action Legends box for the Generic Cargo MSL or from the Personal Property TCN field 15 description (Appendix L. Paragraph I) for the Personal Property MSL.		
Block 5	Title: **Ship To/POE**	Data: Three characters and/or Five lines of 35 characters
Ship To in-the-clear address or the three-digit air/water POE code and its in-the-clear address. For mail, include the ZIP code. For overseas mail, include the Postal Concentration Center code.		
Block 6	Title: **Trans Priority**	Data: One digit
Bold text 3/4 inches tall. Will be blank for Unit Move.		
Block 7	Title: **POD**	Data: Three characters
Three-digit air/water POD code or blank. Blank for classified Unit Move. In-the-clear location name may be included.		
Block 8	Title: **Project**	Data: Three characters
The three-character project code or blank.		
Block 9	Title: **Ultimate Consignee/Mark For**	Data: Code 39 bar code and five lines of 35 characters
The ultimate consignee or mark for consignee in-the-clear address and DODAAC or MAPAC (see Appendix E) linear bar code using 1/2-inch high Code 39 format. Blank for classified Unit Move.		

DD FORM 1387 BLOCK NO.	SUGGESTED BLOCK TITLE	MSL DATA STRUCTURE
Block 10	Title: **Weight**	Data: Digits not limited as clear text but may be coded as no more than five characters plus an optional two character unit of measure suffix in the 2D symbol.
Actual gross weight (numeric value of this piece) with unit of measure. Round to next whole digit and do not zero fill.		
Block 11	Title: **RDD**	Data: Three characters
Three-digit code or blank. Blank for classified Unit Move.		
Block 12	Title: **Cube**	Data: Digits not limited as clear text but may be coded as no more than four characters plus an optional two-character unit of measure suffix in the 2D symbol.
Cube (numeric value of this piece) with unit of measure. Round to next whole digit and do not zero fill.		
Block 13	Title: **Charges**	Data: Blank
No known requirement. Blank. Previously used to document FMS case CONUS inland freight charges on number one piece of the shipment unit.		
Block 14	Title: **Date Shipped**	Data: Clear text not limited but must be coded as four characters (YDDD) in the 2D symbol.
In-the-clear date (for example YDDD, YYYYDDD, or DD-MMM-YYYY). Will be Blank for Unit Move. Do not use the Date Shipped Code from Appendix RR.		
Block 15	Title: **FMS Case Number**	Data: Three characters
Extracted from supply/shipping documents or blank.		
Block 16	Title: **Piece Number**	Data: Code 39 bar code and digits not limited as clear text but may be coded as no more than four characters in the 2D symbol.
Piece number (numeric value assigned to this piece) of the cargo documented by the TCN for this shipment unit or partial shipment unit and a linear bar code using 1/2-inch high Code 39 format. Do not zero fill. A split shipment will not be renumbered. Piece Number may be expressed as “Piece Number of Total Pieces” to save space on the label -- only the Piece Number has a Code 39 bar code; the word “of” and the total number of pieces are not shown in the Code 39 bar code.		
Block 17	Title: **Total Pieces**	Data: Digits not limited as clear text but may be coded as no more than four characters in the 2D symbol.
Total number (numeric value) of pieces documented by the TCN for this shipment unit or partial shipment unit. Do not zero fill. A split shipment will not be renumbered. Total Pieces may be expressed as “Piece Number of Total Pieces” to save space on the label -- the Total Pieces value is not shown in the Piece Number Code 39 bar code.		

Table 208-3. Asset Detail

CONTENT LEVEL DETAIL

Asset Detail.

The minimum data elements required to describe the physical characteristics of a single asset and the characteristics that identify that asset are:

✓ National Stock Number (NSN) ✓ Nomenclature/Description ✓ Model Number ✓ Condition Code ✓ Serial Number/Bumper Number ✓ Unique Item Identifier (UII) element(s) as applicable	✓ Line Item Number (LIN)/Package Identification (PKGID) ✓ Ammunition/Explosives Lot Number ✓ Department of Defense Identification Code (DODIC) ✓ Commodity Class of Supply (e.g., I, II, III)

Cargo Detail

Minimum data elements necessary to provide cargo detail for each shipment unit are:

✓ Requisition Document Number ✓ Required Delivery Date (RDD) or expedited shipment and handling codes ✓ Project Code ✓ Asset (item) Quantity ✓ Unit of Issue (U/I) ✓ 'From' Routing Indicator Code (RIC) ✓ Shipment Transportation Control Number (TCN) – for single shipment unit ✓ Intermediate TCN – for a multi-level consolidated shipment ✓ Conveyance (lead) TCN – for a consolidated shipment ✓ Commercial Carrier Shipment Tracking Identifier ✓ Transportation Priority ✓ Sender (Consignor) DODAAC/CAGE Code ✓ Receiver (Consignee) DODAAC ✓ Ship Date ✓ Port of Embarkation (POE) Code ✓ Port of Debarkation (POD) Code	✓ Container Number (e.g., owner's marked number to include owner code, serial number, and check digit (no special symbols) ✓ Shipment Piece Number ✓ Shipment Piece Weight ✓ Shipment Piece Cube ✓ Shipment Total Pieces ✓ Shipment Total Weight ✓ Shipment Total Cube ✓ Outsize (over 72 in) Length/Width/Height ✓ Commodity Code (air/water) ✓ Special Handling Code (air/water) ✓ Water Type Cargo Code ✓ Unit Identification Code (UIC) ✓ Unit Line Number (ULN) ✓ Operation/Exercise Name ✓ Hazardous Material (HAZMAT) Shipment Descriptors as applicable (including ammo and explosives), United Nations Identification Number (UNID), Class or Division Number, Net Explosive Weight (NEW), Compatibility Group.

Table 208-4. TCMD Detail Elements which are in Addition to Asset and Cargo Detail

- ❑ TCMD Document ID Code
- ❑ Container Number Code
- ❑ Federal Supply Classification
- ❑ Short Shelf Life Code
- ❑ Air Dimension Code
- ❑ Mode/Method Code
- ❑ Type Pack Code
- ❑ Estimated Time to Arrive Code (at POE)
- ❑ Transportation Account Code (TAC)
- ❑ Courier Transfer Station (CTS) Code
- ❑ CTS and POE Collocated Indicator
- ❑ SEAVAN Ownership Code
- ❑ Van Length
- ❑ Consignee Distribution Code
- ❑ Total Shipment Units in Van
- ❑ Capacity (cube (ft)) of Van
- ❑ SEAVAN Contents – Pieces
- ❑ SEAVAN Contents – Weight (lb)
- ❑ SEAVAN Contents – Cube (ft)
- ❑ SEAVAN Owner Name
- ❑ SEAVAN Origin ZIP Code
- ❑ Van Temperature Range
- ❑ Van Length Ordered
- ❑ Van Seal Number
- ❑ Van Second Seal Number
- ❑ Van Second Seal Applier DODAAC
- ❑ Van Ocean Carrier Code
- ❑ Number of Beam Assemblies in Van
- ❑ Stop-off Number and DODAAC
- ❑ Stop-off Consolidation Code
- ❑ Basic Issue Item (BII) Pieces
- ❑ Outsize Pieces with Dimensional Data
- ❑ Outsize Weight (lb) of 1 Piece
- ❑ Outsize Cube (ft) of 1 Piece
- ❑ Round Count (ammo)
- ❑ Lot Number – Pieces
- ❑ Lot Number – Weight (lb)
- ❑ Lot Number – Cube (ft)
- ❑ Vehicle Model Year
- ❑ Vehicle Model Make
- ❑ Private Owned Vehicle Model Year
- ❑ Private Owned Vehicle Make
- ❑ Personal Property Owner Name
- ❑ Personal Property Owner Grade
- ❑ Personal Property Type Code
- ❑ Net Weight of DPM Shipment
- ❑ Standard Carrier Alpha Code
- ❑ Private Owned Vehicle License State
- ❑ Private Owned Vehicle Plate Number (last 5)
- ❑ Private Owned Vehicle Color
- ❑ Personal Property Civil Address
- ❑ Travel Order Number
- ❑ Travel Order Issuing Organization
- ❑ Travel Order Accounting Disbursing Station
- ❑ Not Otherwise Specified Cargo Description
- ❑ Liquor Type
- ❑ Liquor Bottle Size
- ❑ Liquor Bottles per Case
- ❑ Cigarette Cartons per Case
- ❑ National Motor Freight Classification
- ❑ Transportation Commodity Code Description
- ❑ Classified Shipment Container Number
- ❑ Classified Shipment Seal Number
- ❑ TGBL Name of Origin Carrier
- ❑ TGBL Number
- ❑ Miscellaneous Remarks
- ❑ Missile Serial Number
- ❑ Clear Text Address for Household Goods
- ❑ Hazardous Material (HAZMAT) Shipment Descriptors as applicable (including ammo and explosives): Proper Shipping Name, Technical Name, Reportable Quantity indicator, Waste indicator, Limited Quantity indicator, Cargo Aircraft Only indicator, Toxic Inhalation Hazard Zone indicators, Total Quantity of Described Material (pieces, type pack, weight or volume), Classification, Security Risk Category, Protective Service requirements, Packed Date statement (before Jan 1990), Packaging Exemption or Waiver number

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