



**MCTP 13-10C**  
**(Formerly MCRP 4-11.3G)**

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# **Unit Embarkation Handbook**

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**U.S. Marine Corps**

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**PCN 147 000004 00**

DEPARTMENT OF THE NAVY  
Headquarters United States Marine Corps  
Washington, D.C. 20350-3000

4 April 2018

CHANGE 1 to MCTP 13-10C  
Unit Embarkation Handbook

1. This publication has been edited to ensure gender neutrality of all applicable and appropriate terms, except those terms governed by higher authority. No other content has been affected.
2. File this transmittal sheet in the front of this publication.

Reviewed and approved this date.

BY DIRECTION OF THE COMMANDANT OF THE MARINE CORPS



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Publication Control Numbers:

Publication: 147 000004 00

Change: 147 000004 01

CD&I (C 116)

2 May 2016

ERRATUM

to

MCRP 4-11.3G

UNIT EMBARKATION HANDBOOK

1. Change all instances of MCRP 4-11.3G, *Unit Embarkation Handbook*, to MCTP 13-10C, *Unit Embarkation Handbook*.
2. Change PCN 144 000144 00 to PCN 147 000004 00
3. File this transmittal sheet in the front of this publication.

PCN 147 000004 80

DEPARTMENT OF THE NAVY  
Headquarters United States Marine Corps  
Washington, D.C. 20380-1775

29 July 2013

FOREWORD

The success of any operation depends on proper mobility and embarkation planning and execution, whether movement is by land, sea, or air. For units to rapidly deploy, commanders must ensure their units maintain the highest degree of embarkation readiness.

Marine Corps Reference Publication (MCRP) 4-11.3G, *Unit Embarkation Handbook*, addresses the doctrine, techniques, and procedures for effectively managing a unit embarkation program and planning and executing mobility and embarkation operations. In the case of amphibious embarkation operations, a Marine expeditionary unit is used as an example throughout.

The target audience for MCRP 4-11.3G is the noncommissioned officer (NCO) through captain in the mobility/embarkation military occupational specialty and other NCOs/officers assigned unit embarkation responsibilities.

The guidance and relevant information herein provides commanders and their staffs an appreciation of the internal workings of a unit embarkation section and the critical role it plays in a successful unit deployment. This publication provides uniformity across the Marine Corps for integration into standing operating procedures.

This publication cancels MCRP 3-31B, *Amphibious Ships and Landing Craft Data Book*, dated 29 August 2001 and supersedes MCRP 4-11.3G, *Unit Embarkation Handbook*, dated 10 December 2004.

Reviewed and approved this date.

BY DIRECTION OF THE COMMANDANT OF THE MARINE CORPS



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Publication Control Number: 144 000144 00

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# SUMMARY OF CHANGES

- Changed “Marine Corps Forces, Atlantic” to “Marine Corps Forces Command” and “MARFORLANT” to “MARFORCOM” throughout.
- Chapter 7, Sealift, provides updated web address for Blount Island Command’s Marine Corps Prepositioning Information Center.
- Appendix A, Time-Phased Force and Deployment Data, changed Military Transportation Management Command (MTMC) to Surface Deployment and Distribution Command (SDDC).
- Appendix L, Amphibious Ships and Landing Craft:
  - ◆ Excerpted from MCRP 3-31B, *Amphibious Ships and Landing Craft Data Book*, which is cancelled upon approval of this publication.
  - ◆ Replaced MEF with MEB in the Amphibious Assault Ship (Multipurpose) United States Ship Wasp (LHD-1) Class section.
  - ◆ Defined the amphibious cargo ship (LKA) in Amphibious Transport Dock United States Ship Austin (LPD-4) Class section.
  - ◆ Added landing craft air cushions (LCACs) to the vehicle type able to be launched from the LPD-17 class ships.
  - ◆ Updated the purpose of the landing craft air cushion.
  - ◆ Updated the purpose of the landing craft, utility.

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## Glossary

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# CHAPTER 1

## DUTIES AND RESPONSIBILITIES OF UNIT PERSONNEL

Due to the complexity of embarkation planning and execution, assigned personnel must be trained and qualified to perform the myriad duties necessary to properly plan, prepare, and execute deployment and redeployment of their unit.

The unit commander has overall responsibility for unit embarkation readiness. Familiarity with the following embarkation operations elements and the unit embarkation program provides a baseline of information to address embarkation issues:

- Assignment and training of personnel in embarkation duties.
- Embarkation techniques and procedures.
- Conduct of force deployment planning and execution (FDP&E).
- Handling, stowage, and transportation of hazardous materials (HAZMAT).
- Movement control procedures during deployment to move cargo from the unit origin (base or camp) to seaports of embarkation (SPOEs) and aerial ports of embarkation (APOEs).
- Location of primary APOEs and SPOEs.
- General characteristics and capabilities of military and commercial transport aircraft and amphibious and commercial shipping.
- Preparing supplies and equipment for movement by all transportation modes.
- Maintenance of the garrison unit deployment list (UDL) in accordance with local standing operating procedure (SOP).

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### Unit Embarkation Officer

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The unit embarkation officer represents the commander in all embarkation matters. The unit embarkation officer is a Marine officer of any military occupational specialty (MOS) who has been assigned the duties and responsibilities

required to ensure the unit can deploy in an orderly and efficient manner. Each unit at the battalion/squadron level should establish embarkation billets on an additional duty basis if not already provided for in the unit's table of organization. Responsibilities include but are not limited to the following:

- Keeping the commander informed about embarkation readiness.
- Ensuring adequate orders, directives, and letters of instruction (LOIs) are maintained and published to satisfy all embarkation requirements.
- Creating and/or maintaining a turnover folder and desktop procedures.
- Ensuring reports, load diagrams, and deployment data are correct in content and format.
- Coordinating with the major subordinate command (MSC) embarkation section on any unique policies and procedures.
- Ensuring an embarkation representative is present at ports of embarkation (POEs)/ports of debarkation (PODs) during deployments/redeployments.
- Planning and conducting unit embarkation readiness training and inspections.
- Assigning and training personnel for embarkation duties.
- Maintaining knowledge of embarkation techniques and procedures, to include familiarization with the handling, stowage, and transportation of HAZMAT/hazardous cargo.
- Providing input into the FDP&E process and validation to support its execution.
- Understanding movement control procedures used during deployment to support the transport of cargo from the unit origin (base or camp) to the POEs.
- Obtaining knowledge of general characteristics and capabilities of military and commercial

transport aircraft and amphibious and commercial shipping.

- Being familiar with primary APOEs, SPOEs, and PODs.
- Knowing how supplies/equipment are prepared for shipment for all modes of transportation.
- Ensuring the garrison UDL is maintained in accordance with current Marine air-ground task force Deployment Support System II (MDSS II) computer-based training instructions, the local SOP, and chapter 3 of this publication.
- Maintaining liaison with appropriate movement control agencies.
- Maintaining unit lift requirements for surface and air transportation.
- Maintaining a record of all embarkation systems equipment, surplus radio frequency identification (RFID) tags and tag writing equipment, military shipping label (MSL) printers, and portable deployment kits throughout the unit's MSCs.
- Monitoring the readiness of embarkation equipment.

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### Unit Embarkation Specialist

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Logistics/embarkation specialists (MOS 0431) are assigned down to the battalion/squadron/separate company level. They are formally trained in logistics/embarkation and assist the unit embarkation officer with his or her duties. Unit embarkation specialists should be capable of fulfilling all MOS requirements as outlined by Navy/Marine Corps Departmental Publication (NAVMC) 3500.27B, *Logistics (LOG) Training and Readiness (T&R) Manual*. Unit embarkation specialists are responsible for training section embarkation representatives within their units.

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### Embarkation Representative

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An embarkation representative is normally assigned to a company, battery, or section and is

responsible to the commander or officer in charge (OIC) for its embarkation readiness. Embarkation representatives can be Marines from any MOS and are usually assigned as an embarkation representative as a collateral duty.

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### Major Subordinate Command Embarkation Officer

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The MSC embarkation officer (MOS 0430, limited duty officer [LDO], major billet) is available to assist Marine air-ground task force (MAGTF) and major subordinate elements (MSEs) (regimental or group, MOS 0430, warrant officer/chief warrant officer billet) embarkation officers. The MSC embarkation officer represents the commanding general (CG) in all embarkation matters. Duties include but are not limited to the following:

- Serving as the single point of contact (POC) for all embarkation matters.
- Exercising staff cognizance over embarkation policy, procedures, training, and inspections.
- Reviewing subordinate command transportation requests for accuracy and completeness.
- Maintaining liaison with the Marine expeditionary force (MEF) strategic mobility office, adjacent MSCs, subordinate organizations, and external deployment support agencies.
- Verifying, as required, Level IV movement data as part of the time-phased force and deployment data (TPFDD). Chapter 5 and appendix A provide details on the TPFDD development process.

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### Strategic Mobility Officer

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A strategic mobility officer (SMO) is an MOS 0430, LDO lieutenant colonel who can be assigned at Headquarters, Marine Corps (HQMC), MEF, Marine Corps component command levels, and at United States Transportation Command (USTRANSCOM). Strategic mobility officers at

HQMC, MEFs, and Marine Corps component command levels coordinate with the SMO at USTRANSCOM and its subordinate commands

(Military Sealift Command, Air Mobility Command [AMC], and Surface Deployment and Distribution Command [SDDC]).

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# CHAPTER 2

## UNIT EMBARKATION PROGRAM

Embarkation personnel must continuously prepare for deployment while in garrison. The unit must be ready to deploy safely, efficiently, and in an orderly manner.

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### Turnover Folders and Desktop Procedures

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Personnel rotations and reassignments can have a negative impact on unit readiness and day-to-day embark operations. The impact of personnel turnover is lessened by the proper use of turnover folders and desktop procedures.

All unit personnel assigned to an embarkation billet should ensure turnover folders and desktop procedures are properly prepared and maintained. Since most unit embarkation officer/chief duties are the same, establishment of a single turnover folder for these billets is acceptable. See appendix B.

As part of the turnover folder/desktop procedures, the unit embarkation officer should maintain a list of personnel who are specially certified as having completed the following courses:

- Certification of Hazardous Cargo for Transportation.
- Aircraft Load Planners.
- International Maritime Organization, International Convention for Safe Containers (CSC) Container Certification.
- Nonmanufactured Wood Packing.
- Military Customs Inspectors-Excepted.
- Department of Homeland Security (DHS), US Customs and Border Protection (CBP).

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### Embarkation Reference Material

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Embarkation personnel will ensure that adequate reference publications and directives are readily available. Readily available can be a hard copy on hand, an electronic copy on storage media (compact disk or external hard drive), or a copy accessible via an Internet site.

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### Inspections

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Inspections reinforce the importance of combat readiness, evaluate the critical areas essential for mission performance, and give commanders a tool to assess unit embarkation readiness. Units should conduct an embarkation inspection of subordinate units on a regularly scheduled basis.

*Note: The results of the most recent inspection should be maintained in the unit embarkation officer's turnover folder.*

### Readiness Assessment Visit

Headquarters, Marine Corps, Logistics Plans, Policies, Strategic Mobility Division (Code: LP) is available, if desired, to provide an assessment visit for embarkation readiness by the Marine Corps component commander. The primary goal of an assessment visit is to assist the command in identifying areas within the strategic mobility umbrella that could improve overall readiness of the command and within designated units (as required). The results of the visit will assist

HQMC (Code: LP) to improve policies and procedures where needed. Headquarters, Marine Corps (Code: LP) normally designates the senior embarkation officer (MOS 0430, LDO lieutenant colonel) to coordinate the visit with the respective Marine Corps component command SMO.

### **Commanding General's Readiness Inspection**

The scheduling and managing of a commanding general's readiness inspection (CGRI) occurs on three levels: by the Commandant of the Marine Corps, Marine Corps component command inspector general, and MEF and MSC inspector staffs. It enables higher headquarters (HHQ) to assess unit embarkation readiness. A CGRI is usually conducted every two years in accordance with local directives.

### **Logistic Readiness Assessment/Logistic Readiness Inspection**

The MSC embarkation officer manages the embarkation portion of the logistic readiness assessment/logistic readiness inspection program. Typically coordinated by the maintenance management officer, this program consists of inspections within all functional areas of logistics. These assessments and inspections indicate the overall logistic readiness of a unit. The designated MSC representative reports the results to the CG.

### **Regiment/Group Readiness Inspection**

This type of inspection is normally conducted by the next HHQ. It should be conducted at least annually and is recommended before a CGRI.

### **Staff Assistant Visit**

Normally, a staff assistance visit (SAV) will be conducted prior to a formal readiness inspection. An SAV is conducted in the same manner as a CGRI or logistic readiness assessment, but results are not provided to the HHQ in the chain of command. The unit commander will be briefed upon

SAV completion. Units request an SAV from their next HHQ.

### **Battalion/Squadron Level and Below Inspections**

Inspections are conducted down to the using unit—company, battery, or section. The unit embarkation officer must establish and maintain an inspection schedule as part of the unit embarkation program to maintain embarkation readiness per the guidelines established by local SOP. All subordinate organizations to be inspected should be notified via an embarkation inspection schedule/letter and, upon completion, be provided results to ensure corrective action is taken on discrepancies. See appendix C for sample documentation. Unit embarkation personnel should ensure copies of all inspection results and the action taken to correct identified discrepancies are properly maintained within the turnover folder of the unit embarkation officer, noncommissioned officer (NCO), or embarkation representative. Inspection results are typically maintained for two years.

Embarkation personnel at the battalion/squadron and company levels must have procedures to accomplish inspections to ensure all critical aspects of embarkation readiness can be checked down to the individual section level, such as S-1, supply, or motor transport.

### **Company/Section**

Inspection procedures are developed to check embarkation boxes, containers, pallet boards, vehicles, and equipment markings and to update the UDL.

The embarkation NCO will conduct inspections with the embarkation officer, note all problems, and then correct them in a reasonable amount of time. Companies may request assistance through the embarkation section.

The inspector will examine the stowage designator located on the upper left corner on three sides

of the embarkation container, box, or pallet board. The item will be measured to determine its cube size and the planned loaded weight checked to ensure the correct data is on the UDL.

All vehicles and equipment will be checked for correct markings. The recommended checklist to use for inspections is the MSC CGRI checklist (see app. D), which ensures all inspection areas have been considered. The local SOP should be consulted to ensure proper format and content are maintained.

### **Unit/Section**

The embarkation NCO will inspect individual sections on a regular basis. The following are examples of pertinent questions:

- Is there a sufficient number of boxes, containers, pallets/pallet boards, and dunnage on hand to embark the unit's table of equipment (TE), special allowances, required consumable supplies, and other required non-TE items?
- Do boxes and containers display proper tactical markings (correct weight and cube)?
- Do vehicles display proper tactical markings?
- Are expeditionary cans properly marked?
- Does information on boxes/vehicles match the garrison UDL?
- Does the embarkation NCO maintain a current garrison UDL?
- Is the embarkation NCO aware of any changes that may affect the garrison UDL?
- Is the serviceability of all boxes, containers, pallets, and tie-down devices adequate?

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### **Areas Inspected**

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Inspections should cover administration, management, preparation, MDSS II/automated information system (AIS) proficiency, the garrison UDL, and supplies.

### **Administration**

The unit is evaluated on the reference material available, turnover folders, desktop procedures, documentation of previous readiness assessment visits and inspections, and corrective action taken to resolve discrepancies.

### **Management**

A unit should have a sufficient quantity of serviceable embarkation boxes, pallets, pallet boxes, pallet boards, dunnage and shoring, banding material, fording equipment, and appropriate procedures for packing, packaging, and preservation (PP&P) of supplies. A unit's basic staging and movement plan to satisfy actual contingency deployment preparations should be in place.

### **Preparation**

All embarkation containers, vehicles, supplies, and equipment will be inspected to ensure tactical and content markings are present and all items are ready to embark. Tactical and content markings are checked using the garrison UDL.

### **MAGTF Deployment Support System II/ Automated Information System Proficiency**

Proficiency tests should be administered to determine the ability of unit embarkation personnel to use the MDSS II and other AISs required for embarkation planning and execution. Personnel should be able to do the following:

- Use MDSS II to source a notional exercise or contingency UDL from the garrison UDL and prepare the notional UDL for air, surface, and land movements by assigning carriers and generating transportation control numbers (TCNs).
- Create exports and imports to and from MDSS II and joint AISs to create loading plans (see chap. 3).
- Use automated identification technology (AIT) for in-transit visibility (ITV) and UDL management.

- Write (burn) data to RFID tags.
- Demonstrate a working knowledge of the single mobility system.

### Garrison Unit Deployment List

The garrison UDL audit portion of the evaluation is a critical area that ensures all containers, vehicles, supplies, and equipment are accounted for using the currently approved version of MDSS II. Strict standards for adherence to report formatting and accuracy should be established in HHQ SOPs to develop and maintain deployment data. This data is used to develop deployment plans at the HHQs. See chapter 3 for more details on garrison UDL.

### Embarkation Supplies

Units need to either maintain an ample supply of embarkation supplies (e.g., wheel scales, aircraft chains and tie-down devices, dunnage, and shoring) or have established SOPs to obtain them.

### Scale Templates

Since the advent of deployment support AIS, there is no longer a requirement to maintain scaled templates for every vehicle or equipment item to accomplish detailed load planning for amphibious shipping or certain classes of Military Sealift Command shipping and AMC aircraft. However, there may be a requirement to accomplish air and sealift load planning manually using scale templates not contained in deployment support systems' libraries. Sealift templates will be scaled to 1/8 inch = 1 foot; airlift templates will be scaled to 1/4 inch = 3 feet.

### Reports

Major subordinate commands normally establish formats and the type of embark reports with respective due dates from their subordinate units. Sample reports include garrison UDL and the

logistics/embarkation billet and training (recommended to be submitted quarterly).

### Security Clearances

Secretary of the Navy Instruction 5510.30B, *Department of the Navy (DON) Personnel Security Program (PSP) Instruction*, requires a personnel security investigation for personnel who handle sensitive information that, if available to the public, could be detrimental to the security of the United States. Since embarkation personnel routinely handle sensitive information, they must be eligible for a SECRET clearance.

### Training

Competent, well-trained personnel significantly contribute to increased readiness and overall efficiency of the unit. All personnel must receive proper formal school and on-the-job training in embarkation-related doctrine, principles, techniques, procedures, and unit requirements. Personnel in embarkation billets should request HQMC-funded formal school embarkation training. Personnel pursuing formal training must coordinate with their respective MSC embarkation section for training requirements.

### Mission-Oriented Training

Mission-oriented training comprises individual and collective training that provides Marines with the skills, knowledge, and attributes to discharge duties to support a unit's mission. Unit embarkation officers will ensure, at a minimum, the following mission-oriented training is included in the unit's annual training plan:

- Garrison database and UDL file management and reconciliation procedures.
- Refresher training on FDP&E processes (to include the annual review of the unit's contingency operation plans [OPLANs]).

- Preparing a unit's containers, vehicles, supplies, and equipment for embarkation (to include weighing, tactical marking, and center of balance determination and marking techniques).
- General characteristics and capabilities of military and commercial aircraft, amphibious ships, landing craft, and amphibious vehicles.
- Unit HAZMAT and hazardous cargo familiarization/preparation training.

### **Skill Progression Training**

Skill progression training provides Marines additional MOS skills and knowledge to perform at an advanced level. Formal schools, along with the training and readiness manual events for occupational field 04, form a base of skills progression training that a unit embarkation officer can use to plan effectively for individual and unit training requirements.

The NAVMC 3500.27B provides the unit embarkation officer with a detailed list of those skills required for a Marine within the MOS. Unit embarkation officers should ensure each Marine is given a copy of NAVMC 3500.27B and each task is completed or they should properly annotate skills mastery in the Marines' records. Unit embarkation officers should conduct MOS proficiency training for all 04 MOS personnel regularly.

### **Formal Schools and Mobile Training Teams**

The Marine Corps Combat Service Support Schools; Expeditionary Warfare Training Group,

Pacific; and other Department of Defense (DOD) agencies offer formal school and mobile training team (MTT) courses. The MSC embarkation section consolidates requirements, publishes schedules, and coordinates embarkation-related training within the MSC. Unit personnel desiring formal school or MTT training should request quota allocations through their MSC embarkation sections. Personnel desiring to attend formal schools or MTTs need to coordinate with HHQ for course availability, duration, and location.

### **Correspondence Courses and Military Occupational Specialty-Specific Professional Military Education**

Correspondence courses and MOS-specific professional military education provide Marines with the knowledge base necessary for increased responsibility and professional advancement. Unlike skill progression training, which leads to a specific skill, professional military education increases overall professional competence through general military education. To enhance professional development of personnel, the unit embarkation officer must ensure the unit's embarkation specialists have enrolled in or completed the following Marine Corps Institute (MCI) correspondence courses:

- Logistics/Embarkation Specialist (MCI 045D).
- Introduction to Amphibious Embarkation (MCI 0430).
- Correspondence Procedures (MCI 0131K).
- Marine Corps Publications and Directives System (MCI 0416B).
- Math for Marines (1334I).

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# CHAPTER 3

## EMBARKATION AUTOMATED INFORMATION SYSTEMS

This chapter addresses MDSS II, its procedures, and the joint AIS and load planning tools used in embarkation planning: the integrated computerized deployment system (ICODES) and the automated air load planning system (AALPS). For more information, refer to the current version of MDSS II, ICODES, and/or AALPS software.

The MDSS II has been designed and fielded to facilitate planning in garrison for MAGTF deployments and to interface with the Joint Operation Planning and Execution System (JOPES) through the joint force requirements generator II (JFRG II) force planning application. Proper use and support of MDSS II is essential to create and maintain a unit's garrison database.

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### Unit Garrison Unit Deployment List

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The MDSS II garrison UDL is the source data used to extract exercise or contingency deployment UDLs that define the movement footprint—the unit's lift requirement. Importing a UDL into JFRG II and the JFRG II interface with JOPES is the process by which detailed force deployment requirements are developed. In this way, in conjunction with the MAGTF planners of the unit operations section, embarkation personnel consolidate all unit lift requirements and provide movement requirements through development of the TPFDD. Such data provide transportation planners with lift requirements for analysis of the feasibility of movement through POEs/PODs and on to final destinations. For additional information, see the Chairman of the Joint Chiefs of Staff Manual (CJCSM) 3122.02C, *Joint Operation Planning and Execution System (JOPES), Volume III (Crisis Action Time-Phased Force and Deployment Data Development and Deployment Execution)*.

The MDSS II garrison UDL is the source for all other UDLs uploaded into JFRG II to develop deployment plans, transportation requirements, ICODES/AALPS (ship/aircraft) load plans and to provide ITV to track the throughput of equipment from unit marshaling areas to the final destination during all movement phases. The garrison UDL is active—it requires routine revision, validation, and refinement to ensure that current data are used to develop UDLs and support deployment or contingency plans.

The garrison UDL reflects all authorized unit equipment in accordance with the applicable TE and any other authorized special allowances that may be deployed with that unit. All boxes, such as publications, computer, and supplies, are to be marked, incorporated into the garrison UDL, and made ready for movement. All TE deficiencies and excess items are also reflected in the UDL.

The garrison UDL is developed in accordance with the MDSS II user's manual and/or the system's help function, local SOP, and the following:

- Mandatory and required data field entries.
- Level of detail.
- Garrison unit deployment list cargo detail.
- Joint Chiefs of Staff (JCS) Cargo Category Code (CCC).
- Deployment plan review.
- Garrison unit deployment list audits.
- Deployment and contingency unit deployment list reviews.

### Mandatory and Required Data Field Entries

A mandatory field is the package identification/serial number field. When records are created and

this field is not correctly populated, an error code prompts the user to enter the appropriate data before any further entries can be made.

Required fields consist primarily of reference data entries, such as unit identification code (UIC), national stock number (NSN), and JCS CCC. Requiring minimum use of these data fields provides flexibility and facilitates UDL queries via the MDSS II ad hoc report capability.

### Level of Detail

The effectiveness of the garrison UDL relies on the accuracy and level of detail of the data it contains. At a minimum, a garrison UDL should be maintained at Level IV detail to reflect accurately its movement requirement. The levels of detail are described as follows:

- *Level I.* Level I is also known as the aggregated level and is expressed as the total number of passengers and total short tons (STONs), total measurement tons (MTONs), total square feet, and/or total hundreds of barrels by unit line number (ULN), cargo increment number, and personnel increment number.
- *Level II.* Level II is also known as the summary level and is expressed as the total number of passengers by ULN and personnel increment number. Cargo is expressed as STONs, MTONs (including barrels), total square feet of bulk, oversize, outsize, and non-air-transportable cargo by ULN and cargo increment number.
- *Level III.* Level III is a detail by cargo category and is expressed as total number of passengers by ULN and personnel increment number. Cargo is expressed as STONs, MTONs (including barrels), total square feet of cargo as identified by the ULN or cargo increment number three-position CCC.
- *Level IV.* Level IV detail is expressed as the number of passengers and individual dimensional data (expressed in length, width, and height in inches) of cargo by equipment type by ULN.
- *Level V.* Level V is detail by priority of shipment and is expressed as the total number of passengers by Service specialty code in deployment sequence by ULN individual weight (in pounds) and dimensional data (expressed in length, width, and height in inches) of equipment in deployment sequence by ULN.
- *Level VI.* Level VI detail for personnel is expressed by name, Service, MOS, and unique identification number. Level VI detail for cargo is expressed by association to a TCN, or single tracking number or item of equipment to include federal stock number/NSN and/or requisition number. Nested cargo, also known as associated cargo, is contained within another equipment item and may be similarly identified.

### Garrison Unit Deployment List Cargo Detail

The garrison UDL will reflect principal end items, HAZMAT, and other assets to provide visibility of unit capability and enable sustainment requirements determination, such as weapons, radios, generators, or cryptologic devices.

The MDSS II provides an “association” function that links cargo, equipment, and vehicle records to capture how the unit will be configured for embarkation, such as placing a box (child) on a pallet (parent) or a pallet on to a truck (parent). As data records are associated, MDSS II automatically updates all its database tables to reflect the combined, as-configured dimensions and weight of affected items.

*Note: When using association, do not change parent record dimensions or weights in a deployment and/or contingency UDL or garrison UDL because the dimensions and weight information will double. Refer to the MDSS II help function or user’s manual for more information.*

### Joint Chiefs of Staff Cargo Category Code

The CCC describes the cargo by type, such as vehicle, rolling stock, ammunition, container, or

HAZMAT. This code is arguably the single most important code in UDLs. It provides transportation planners a breakdown of equipment (by type) for movement and sourcing of lift assets. The CCC helps determine the quantity and type of conveyance required and any special handling equipment needed for deployment support.

### **Deployment Plan Review**

Units create a UDL for each deploying unit or detachment for training or contingencies. The garrison UDL is not the unit's deployment UDL; it is the source document from which the deployment UDL is built. Deployment UDLs are created using the embarkation workbench module within MDSS II.

### **Garrison Unit Deployment List Audits**

Garrison UDL audits should be conducted at least quarterly by unit embarkation personnel (usually done by the embark clerk/NCO). This is generally a routine data quality assurance requirement of the MSC embarkation section.

### **Deployment and Contingency Unit Deployment List Reviews**

The MSC/MAGTF commanders ensure UDLs are validated and adequately reflect the correct information for the actual items scheduled to deploy with the unit/MAGTF that requires transportation support.

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## **Automatic Identification Technology**

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Automatic identification technology includes the use of MSLs and microcircuit technology for logistic applications. Neither a system nor a single product, AIT is a family of technologies that provides a spectrum of capabilities to interface with DOD and commercial information systems. It includes but is not limited to bar coding,

RFID, integrated circuit cards or "smart" cards, memory buttons, magnetic strips, optical memory cards, and biometrics. This technology introduces information system efficiencies through the use of enabling technology and standards. It provides interoperability not only across DOD but also with commercial business partners, ensuring a seamless flow of information and goods. For additional information, see Marine Corps Order (MCO) 4000.51B, *Automatic Identification Technology (AIT)*.

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## **Joint Automated Information System**

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The Marine Corps has a reputation among the Services as being a leader in FDP&E primarily because it has developed and used the MDSS II, JFRG II, and JOPES/TPFDD interface. The joint AIS and applications listed in the following subparagraphs allow users to communicate movement requirements to other Services, JCS, and supported and supporting combatant commanders.

### **Joint Deployment Data Library**

The joint deployment data library is a database library that includes standard deployment and transportation fields from a number of authoritative US Government and commercial sources. Standard files include military standard transportation and movement procedures, HAZMAT, and equipment characteristics.

### **Integrated Computerized Deployment System**

The ICODES is specifically designed to plan for and execute the loading of amphibious ships, maritime prepositioning ships (MPSS), and commercial ships. It provides advanced artificial intelligence capabilities that assist the planner in making timely and efficient stowage decisions. Such planning must first be conducted in MDSS II by assigning the appropriate carriers in the embarkation workbench module, then creating an export file for upload into ICODES.

### **Automated Air Load Planning System**

The AALPS is designed to create commercial and military aircraft load plans. It can import data from MDSS II and joint AIS for aircraft load

planning. The AALPS produces AMC-approved load plans. Like ICODES, AALPS planning must first be conducted in MDSS II by assigning carriers using the embarkation workbench module and creating an export file for AALPS.

# CHAPTER 4

## PREPARING VEHICLES, CONTAINERS, AND EQUIPMENT

This chapter provides guidance to pack, crate, mark, and manifest unit vehicles, containers, and equipment for embarkation. For more information, see Joint Publication (JP) 3-02.1, *Amphibious Embarkation and Debarcation*, and Defense Transportation Regulation (DTR) 4500.9-R, *Defense Transportation Regulation, Part I, Passenger Movement; Part II, Cargo Movement; and Part III, Mobility*.

The unit embarkation officer will ensure that adequate quantities of standard embarkation boxes and serviceable crates, pallets, and containers are on hand for unit deployments as well as sufficient quantities of dunnage, shoring, banding material, and banding accessories to properly configure embarkation containers and pallet loads. Units maintain sufficient quantities of these items to enable embarkation of all TE items, special allowances, supplies, and remain-behind equipment. Garrison property, except for portable scales, should not be considered for deployment.

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### Standard Embarkation Boxes, Crates, Pallets, and Containers

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Standard embarkation boxes, crates, pallets, and containers will be used to the maximum extent possible. Where practical, embarkation boxes and containers are used to store TE assets in the workspace to reduce overall stowage space. Dimensions of locally fabricated boxes may differ depending on geographical location. Refer to the local PP&P SOP for an accurate listing of boxes available for procurement and the dimensions thereof. The following are standards:

- *Standard Publication Box (standard dimensions: 40 x 16 x 15 inches)*. This box has many applications but is primarily used for publications, directives, and unit files. Its

compact and lightweight design facilitates mobile loading and palletization of unit cargo and equipment.

- *Standard Medium Unitized Cargo Box (standard dimensions: 48 x 40 x 44 inches)*. This box is for unitizing equipment, mobile loading, containerization, and 463L pallet building. It fills in for any unit palletized container (PALCON) deficiencies.
- *Standard Tent/Utility Crate (standard dimensions: 102 x 42 x 44 inches)*. This box is for unitizing equipment, mobile loading, containerization, and 463L pallet building.
- *Standard Warehouse Pallet (standard dimensions: 48 x 40 x 96 inches)*. Made of a hard wood stringer construction, this pallet was designed primarily for delivery of palletized unit loads by surface or aerial means. The normal load usually does not exceed 2,800 pounds.
- *United States Marine Corps Standard Container Family*. The Marine Corps standard container family consists of watertight, prefabricated, standard-sized, and reusable cargo containers to stow unit property and consumable supplies. These containers are designed to meet shipping and ground transportation standards. They can be handled by an array of materials handling equipment (MHE) and a variety of surface lift and airlift assets.
  - ◆ *Twenty Foot Equivalent Unit/International Organization for Standardization Containers*. Twenty-foot equivalent unit (TEU)/International Organization for Standardization (ISO) containers measuring 240 x 96 x 96 inches are maintained in the MEF container pools.
  - ◆ *Pallet Container*. The PALCON (table of authorized materiel control number [TAMCN] C4431) measures 48 x 40 x 47 inches and is designed with a standard pallet base and a four-way forklift entry. It has a cargo capacity of 1,000 pounds and can accommodate up to six inserts.

- ◆ *Quadruple Container.* The quadruple container (QUADCON) (TAMCN C4433) measures 82 x 58 x 96 inches. By its double-door entry on both ends, it can be filled with bulk items or fitted with 36 inserts. Maximum load should not exceed 6,500 pounds.
- ◆ *Insert.* The insert is designed to fit into a rack within a PALCON or QUADCON to serve as a drawer-bin storage container for supply activities in garrison or in the field. It may also be employed separately as a portable, watertight, covered field box. The insert measures 45 x 17 x 10 inches and is designed to carry 120 pounds.
- ◆ *Half Container.* The HALFCON [half container] (TAMCN C4906), measures 120 x 96 x 96 inches. It may be used for the mobile loading of hose reels, engines, transmissions, and other oversized cargo. Maximum load weight should not exceed 10,000 pounds.
- ◆ *Water Pump/Storage Module.* The water pump/storage module, which is six containers together and known as a SIXCON (TAMCNs B1580, B1581, B2085, B2086), measures 96 x 80 x 48 inches. It is designed primarily to transport, store, and dispense bulk liquids with the associated pump module.

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## Tactical Markings

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Use of the following standardized marking procedures for vehicles, equipment, pallets, and containers along with Technical Manual (TM) 4750-OD/1, *Paint, Coating, Underbody and Registration Marking for Marine Corps Combat and Tactical Equipment*, and any amplifying SOP will ensure information on the owning organization, general contents, and stowage location is available throughout staging, marshalling, and embarkation and movement of the unit.

### Unit Identification Code Markings

Unit identification code markings identify organizational ownership. All units will use UICs to

identify their vehicles, containers, and equipment. The UIC marking can be engraved, affixed on a dog tag, embossed on unit equipment, or painted on all unit embarkation boxes and containers. Raised letter and number decals obtained through the supply system will be used on vehicles, containers, and equipment painted with chemical agent resistant coating (CARC) paint in lieu of spray-painting the UIC. If raised letter and number decals are not available, the only other authorized substitute for containers and vehicles will be the CARC spray paint. Generic spray paint can be used on pallet boards and embarkation boxes, such as the publications box, medium unitized cargo box, and tent crate. See figure 4-1 for placement of markings for listing of recommended embarkation supplies, equipment, and paint.

For vehicles, containers, generators, and other items requiring square foot stowage areas, UIC markings will be black, 2 inches high, and centered. Where designated marking locations coincide with black paint (camouflage scheme), the marking will be painted earth brown or green.

For embarkation boxes, pallets (pallet boards), and crates, UIC markings will be black, 1 inch high, and placed on one end, one side, and on the top.

### Stowage Designators

A 3-inch white or yellow painted disk (see fig. 4-1) indicates where the cargo is to be stowed aboard ship. Stowage designators are not required on vehicles, QUADCONs, generators, or other square-foot stowed equipment.

Stowage designators will be placed on each pallet board and in the upper left-hand corner of the top, on one side, and on one end of each embarkation box or crate. A white disk identifies cargo that is hold-stowed on the ship on which the owning unit is embarked; however, that cargo does not have to be readily accessible during the ship's transit. A yellow disk indicates cargo that is stowed within the troop office/berthing spaces that must be accessible to unit personnel during transit.

### Unit Personnel and Tonnage Table Number

The unit personnel and tonnage table (UP&TT) number categorizes containers by stowage or handling requirements and JP 3-02.1 provides additional information and uses of the UP&TT number. It will be superimposed and centered on the stowage designator in 1-inch black numbers. Appendix E lists applicable numbers.

### Package Identification Numbers

The package identification number (see fig. 4-1) is commonly referred to as a serial or box number and identifies unit vehicles, containers, boxes, pallets, and equipment. It is a required entry in a UDL that enables tracking of vehicles, cargo, and equipment during transit. The package identification number will not be duplicated within the unit.

### Vehicles, Generators, and Other Items Requiring Square-Foot Stowage Areas

The assigned Marine Corps or manufacturer serial number will be used as the package identification number. Package identification numbers will be black and 2 inches high and are placed on the item per applicable TMs. Where no TM guidance is

provided, the upper left-hand corners (each side, end, and top) are marked. All vehicles and generators will contain the entire serial number preceded by the letters “USMC.” When placement locations coincide with black paint (camouflage scheme), the marking will be painted earth brown or green. All vehicles, generators, and other equipment painted with CARC paint will be stenciled with equivalent spray paint, not standard nontreated spray paint.

For North Atlantic Treaty Organization (NATO) operations, a solid black five-point star marking will be placed on the front and rear of the vehicle to indicate US ownership. (Per NATO Standardization Agreement [STANAG] 2454-Allied Movement Publication [AMovP]-01(A), *Regulations and Procedures for Road Movements and Identification of Movement Control and Traffic Control Procedures and Agencies*).

### Twenty-Foot Equivalent Unit/International Organization for Standardization Container and Quadruple Container Markings

Twenty-foot equivalent unit/ISO containers are marked in accordance with ISO Standard 6346, *Freight Containers Coding, Identification and*

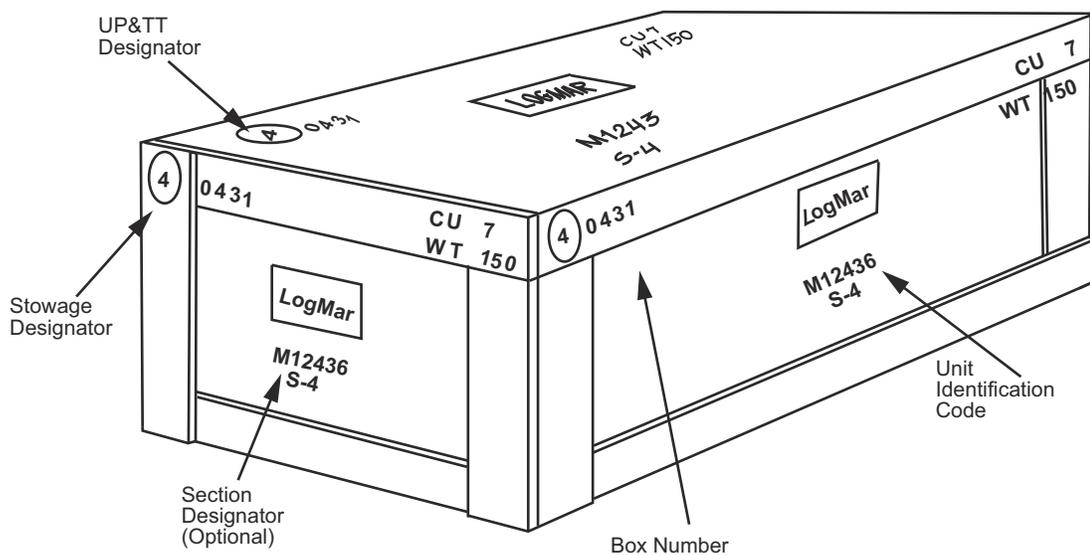


Figure 4-1. Properly Marked Standard Publication Box.

*Marking*, and ISO Standard 1496-1, *Series 1 Freight Containers-Specifications and Testing*.

Twenty-foot equivalent unit/ISO containers and QUADCONs are manufactured with two data plates attached. The first data plate contains the manufacturer's contract date, number, and serial number. The manufacturer's serial number is the principal means to track the container in the Marine Corps supply system. It is used for defense transportation regulation codes documentation, during MDSS II garrison UDL records development, and in load planning and templating functions with the joint AIS load planning tools. The second data plate is the CSC safety approval data plate. It contains the date of manufacture, identification number (ISO registry number), maximum gross weight, allowable stacking weight, and racking test load value. It also has a space on its right side to apply the CSC inspection/reinspection decal.

All TEU/ISO containers (including Marine Corps TE items equipped with ISO fittings) must be recertified for serviceability. The manufacturer delivers the container or QUADCON with a five-year certification. Upon expiration of the initial certification, the unit is responsible to recertify the container or QUADCON.

Details for container operations can be found in JP 4-09, *Distribution Operations*, and STANAG 2236-AMovP-5, *Multimodal Transport Issues*. The STANAG 2236 provides details on TEU/ISO characteristics and load planning. It addresses inspecting TEU/ISOs, planning loads, packing (to include HAZMAT), and documentation and data plate requirements for using containers in a NATO operation.

Each end of the TEU/ISO container or QUADCON is marked in the upper right corner of the right door with the ISO registry number (see fig. 4-2). This number is in 4-inch letters/numbers and has a "USMC" prefix. The ISO registry number, typically located on the left door, consists of 2-inch letter markings that reflect the maximum gross, tare (empty), and net weights of the container in kilograms and pounds.



**Figure 4-2. QUADCON Markings.**

These markings are required to move the container within the Defense Transportation System (DTS) and must be properly maintained for readability. These markings must **not** be removed or painted over.

The top of the container or QUADCON is also marked with the ISO registry number. Both ends of the top are marked in 4-inch letters so they can be read from the nearest end of the container. The UIC markings will be black and 2 inches high. When designated locations coincide with black paint (camouflage scheme), the markings may be moved to allow for painting on a contrasting color background or may be painted earth brown or green.

#### **Embarkation Boxes, Crates, and Pallet Boards**

Package identification numbers will be 1 inch high and marked on the top, one end, and one side, in the upper left corner to the right of the stowage designator on each box and crate, and also in the same position for each pallet board. Units will use a unit-assigned four-digit consecutive number system as a package identification number for its boxes, pallet boards, and container markings. For self-contained items with serial number plates (such as the AN/PRC-114 radio), the last four digits of the serial number can be used in place of a unit assigned package identification number.

### Capability Sets

A capability set is a TE asset that requires packing or crating of its components in more than one container or pallet and that must be shipped together to maintain its operational capability, such as B1226 laundry units. Capability sets may be identified and manifested on the unit's garrison database by using an alpha character following the package identification number, such as 001A or 001B.

### Cubic Feet and Weight

These markings reflect the cubic foot volume and weight of each item. When computing the cubic feet and weight, results will always be rounded up to the next higher whole number. The item marking will reflect the rounded number. Cubic feet are computed by multiplying the length, width, and height in inches of a container or piece of equipment and dividing by 1,728 (Formula:  $L \times W \times H \div 1,728 = \text{cubic feet}$ ).

Vehicles, containers, generators, and other items requiring square-foot stowage do not require cubic feet and weight markings. For boxes, pallets, and crates, cubic feet and weight markings will be 1 inch high, marked on the top, one end, and one side, and placed in the upper right corner.

### Expeditionary Cans

Expeditionary cans will be marked with the UIC in black 1-inch letters and numbers and centered on both sides. If expeditionary cans are black, the marking will be painted in a contrasting color, such as white. Petroleum, oils, and lubricants (POL) cans will be marked with the contents in 2-inch yellow letters on the spout end of the can. Water cans require only the UIC marking since the word "water" is already imprinted on the sides.

### Other Table of Equipment Assets

Small items, such as night vision goggles or small tool boxes, that are mobile loaded, hand carried,

or over-packed in protective boxes or containers should be marked with only the UIC. For small boxes that require marking and 1-inch markings are too large, smaller markings are authorized.

## Administrative Markings

Administrative markings provide amplifying information, such as source, content, and destination of the cargo and equipment. Common forms include placarding and labeling.

### Placards

In addition to the standard transportation movement control document, placards provide unit personnel, in-transit agencies, and transportation coordinators with information that expedites handling and throughput of vehicles, containers, and equipment during embarkation/debarkation (see fig. 4-3).

### Bar Code Labels

Encoded bar code labels that can be scanned provide unit personnel and transportation agencies with an automated means of building databases, conducting inventories, and providing ITV of cargo and equipment.

<b>VEHICLE/CARGO PLACARD</b>	
UNIT LINE NUMBER:	_____
UNLOADING PRIORITY:	_____
LANDING SERIAL:	_____
DESCRIPTION:	_____
UNIT/SECTION:	_____
DRIVER'S NAME:	_____
STOWAGE LOCATION:	_____
SHIP AND HULL #:	_____
REMARKS:	_____
HAZMAT:	YES / NO

**Figure 4-3. Sample Vehicle/Cargo Placard.**

## Automated Identification Technology Labeling

Automated identification technology labels (e.g., MSLs and LOGMARs [logistics applications of automated marking and reading symbols] labels) provide personnel and transportation agencies with an automated means of building load planning databases, conducting inventories, and providing ITV of cargo and equipment. The appropriate shipping labels or RFID tags must be applied per the references governing the mode of movement. Generally, labeling should be applied for each major end item, serialized items (less individual weapon/components, such as night vision goggles or compasses, that move separately within a deployment process), vehicles, ISO containers, boxes, pallets, or crates. Refer to HHQ SOP for placement location of all AIT labels.

## Symbolic Markings

Symbolic markings, such as unit logos or mascots, are **not** authorized; however, section markings below the UIC are authorized but not mandatory.

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## Packing and Crating

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To save stowage space and lessen cargo damage, the following should be considered:

- To the maximum degree possible, maintain uniformity in boxes, crates, pallets, and containers by requesting and using the PP&P section of the Marine logistics group (MLG).
- Pack like items within the same box/container to facilitate identification and accountability.
- Pad and reinforce containers to protect fragile items and prevent damage to the container and its contents.
- Waterproof boxes or crates containing items subject to moisture damage/deterioration.
- Apply corrosion preventive materials or other appropriate preservatives to items requiring such protection.

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## Waterproofing and Corrosion Control

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Waterproofing protects those supplies and equipment subject to weather and moisture deterioration during movement. Refer to TM 4795-OR/1A, *Organizational Corrosion Prevention and Control Procedures for USMC Equipment*, for proper corrosion prevention and control procedures.

Before an amphibious operation or when wet landings are anticipated, certain vehicles, equipment, and communications-electronic items will require waterproofing. Use of authorized corrosive preventive materials/preservatives will be applied per applicable TMs.

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## Palletizing

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To prevent damage to embarkation boxes, containers, and equipment during movement, the palletizing techniques listed in MIL-HDBK [Military Handbook]-774, *Palletized Unit Loads*, must be used. Each pallet must be able to withstand inclement weather and rough handling. This pertains to loading equipment on warehouse pallets (wood or metal) and does **not** pertain to 463L pallets. See chapter 8 and DTR 4500.9-R, Part III for further information on 463L pallet loading. The following guidelines are provided to assist in properly palletizing a unit's standard cargo containers, boxes, and equipment (see fig. 4-4 for a representative illustration of a properly built and banded warehouse pallet):

- A sufficient quantity of serviceable standard pallets will be on hand for all supplies and equipment that will be embarked or remain behind in storage.
- Pallets will have four-way forklift access for loading and handling.
- Pallets will have a stringer construction with a 4-inch overhang on both ends for using lifting slings during crane onloading/offloading.

- Pallet construction will include banding recesses for the banding straps. Place banding straps through the slots on the pallet stringer so they do not interfere with forklift tines.
- Only 1 1/4-inch banding will be used when palletizing cargo. Band in both directions to ensure the load is secure.
- Pallets will be squared off as much as possible to allow stacking or overstay. Depending on their weight, pallets may be stacked three high during staging and while in transit. A 40-inch height is recommended for maximum stowage of pallets. However, 52 inches is considered to be the maximum height allowable for unitized

cargo while embarking aboard amphibious shipping and should not be exceeded.

- Three pallet boards will be maintained for each pallet. The pallet board will be of sufficient size (not to exceed 12 x 18 inches) to accommodate all required markings (e.g., UIC, stowage designator, UP&TT number, package identification number, cubic feet, and weight).
- Tentage and poles not used for ongoing field operations will be palletized/crated in garrison to maintain embarkation readiness.
- Expeditionary cans will be banded to pallets in three rows of seven. Care must be taken in the banding of plastic expeditionary cans to prevent damage.

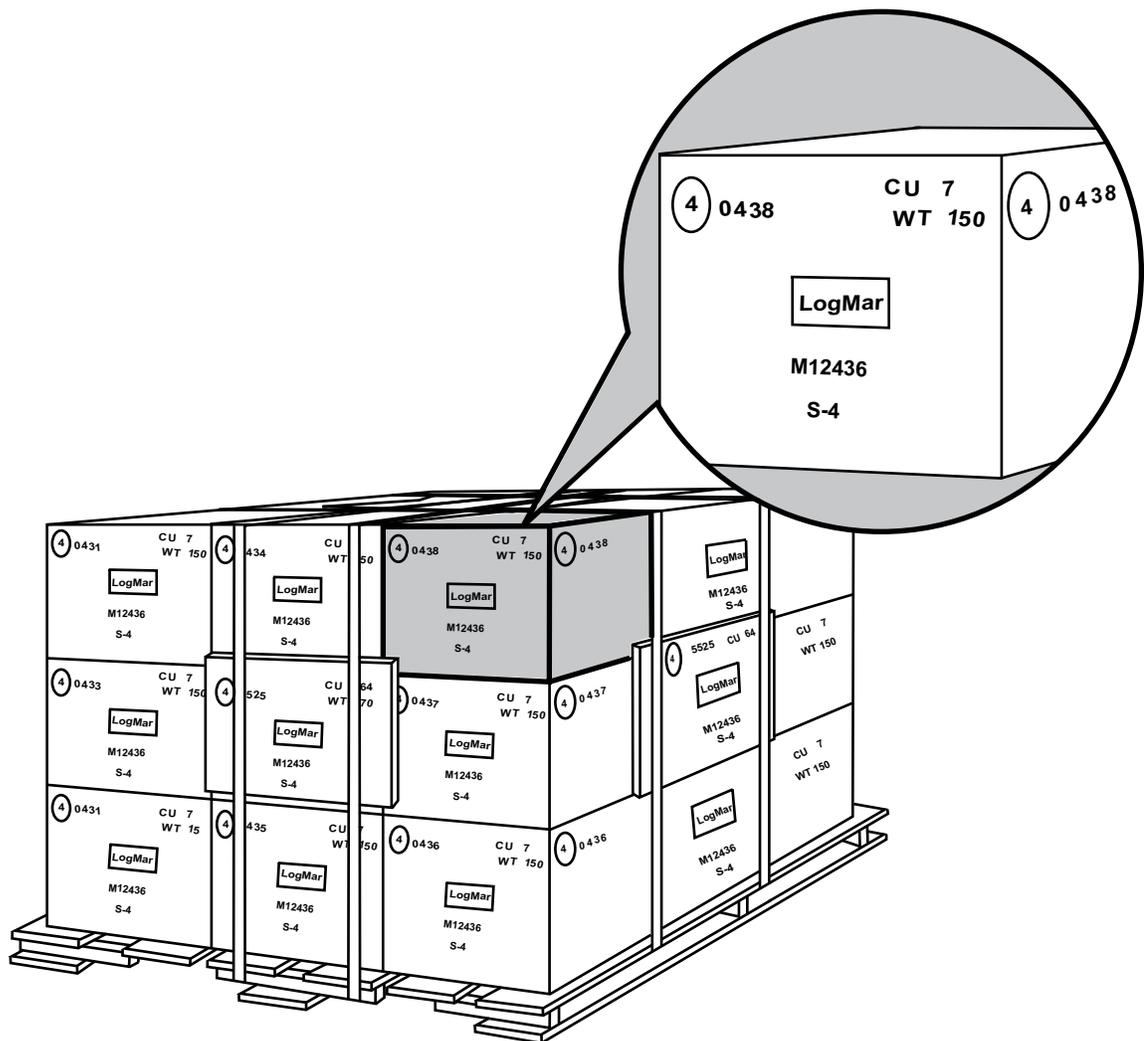


Figure 4-4. Warehouse Pallet Load.

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## Preparing Hazardous Materials for Shipment

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The unit may employ the PP&P to ensure the proper packaging and labeling of their HAZMAT. Though units often overlook packing and packaging of hazardous cargo, all units use and often embark HAZMAT, such as the following:

- Explosives.
- Flammable liquids and solids.
- Oxidizers.
- Corrosive materials.
- Compressed gasses.
- Poisons.
- Irritating materials.
- Etiologic agents.
- Chemical, biological, radiological, and nuclear defense testing and neutralizing substances.
- Commercial lantern fuel, such as Coleman™.
- Cleaning agents.
- Lithium batteries.
- Radioactive materials and other regulated materials and substances that may be dangerous.

Units will review supplies and equipment planned for embarkation and identify those known to be HAZMAT. Any questionable items will be identified to the embarkation section for guidance on packaging and handling/shipping instructions.

Items identified as hazardous are required to have the proper HAZMAT identification labels placed on three sides of the container for shipment. This identification label is used to assign the stowage location aboard the designated transportation asset (ship, aircraft, truck, or rail). Code of Federal Regulations, Title 49, *Transportation*, provides specific requirements and shows label examples.

Embarkation personnel (0431 NCO per the current logistic training and readiness manual) must be certified in preparing HAZMAT for shipment to ensure that unit hazardous cargo has been properly identified, packed, packaged, labeled,

and certified for transportation. The HAZMAT certifiers will use a generic Shipper's Declaration for Dangerous Goods form to document hazardous cargo. The format describes the HAZMAT and provides handling information. Depending on the hazard being shipped, some HAZMAT cannot be transported on aircraft with passengers onboard, so the documentation would have the "Cargo Aircraft Only" annotation where required. Identification of the requirement to transport such material by air should occur as early in the planning process as possible to ensure sufficient airlift is allocated and avoid changes to the air and potentially surface movement plans. Units are required to have MCO P4030.19, *Preparing Hazardous Materials for Military Air Shipments*, readily available. Additional references include the following:

- DTR 4500.9-R, Part II, chapter 204.
- Code of Federal Regulations, Title 46, *Shipping*, and Title 49.
- International Maritime Organization international maritime dangerous goods (United Nations) code.
- NATO STANAGs.
- International Air Transport Association and/or International Civil Aviation Organization regulations.

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## Department of Defense Form 1387-2, Special Handling Data/Certification

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Per DTR 4500.9-R, Part II, the shipper (unit movement or traffic management personnel) must complete DD [Department of Defense] Form 1387-2, *Special Handling Data/Certification*, for all cargo and equipment identified with special characteristics and handling requirements regardless of the mode of transportation (see fig. 4-5). For example, the S-2 wants to ship a three-drawer combination safe. The embarkation representative would ensure that a DD Form 1387-2 is completed and attached to the safe to track it

through transit. The DD Form 1387-2 will inform all concerned in the DTS of the requirement to ensure the safe is secured at all times. The DD Form 1387-2 is considered an additional shipper documentation requirement.

*Note: DD Form 1387-2 is not used to certify HAZMAT.*

### Recommended Embarkation Supplies and Equipment

Embarkation supplies and equipment must be readily available to conduct short-notice embarkation operations and to provide the unit with the equipment to train its personnel (see app. F). Typical uses of the most important items are explained in the following subparagraphs.

#### Banding Wire and Banding Tools

Units should maintain a minimum of two sets of crimpers, cutters, stretchers, and a sufficient quantity of 1 1/4-inch steel banding wire and clips to meet the unit’s pallet building and overall embarkation requirements. A nylon or plastic banding wire system can be substituted if it can safely secure the pallet load.

#### Tool Kit

Unit embark personnel should have hammers, nails, screws, pliers, saws, a drill with bits, and various screwdrivers readily available during embarkation. These tools will assist greatly for fixing boxes or pallets on site.

#### Tape Measure and Calculator

Each embarkation representative should have a tape measure and calculator to determine and verify square foot and cube requirements and dimensions of vehicles, cargo, and equipment.

#### Portable Wheel Scales

Each unit should be authorized (based on the unit TE) to possess scales to weigh and determine the center of balance of unit vehicles, cargo, and equipment.

#### Administrative Supplies

The unit embarkation section should maintain enough supplies to conduct a unit move. Examples include the following:

- Airlift/sealift placards.
- Document protectors.

### SPECIAL HANDLING DATA/CERTIFICATION

1. ITEM NOMENCLATURE	2. NET QUANTITY PER PACKAGE	3. TRANSPORTATION CONTROL NO.
	4. CONSIGNMENT GROSS WEIGHT	5. DESTINATION
6. SUPPLEMENTAL INFORMATION		
This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and in proper condition for transportation according to the applicable regulations of the Dept of Transportation. <b>THIS IS A U.S. DEPARTMENT OF DEFENSE SHIPMENT!</b> (Complete applicable blocks below)		
7. DTR REFERENCE		
8. HANDLING INSTRUCTIONS		
9. ADDRESS OF SHIPPER		10. TYPED NAME, SIGNATURE AND DATE

DD FORM 1387-2, NOV 2004

PREVIOUS EDITION IS OBSOLETE.

Reset

Form Approved/OMB No. 0704-0188  
Adobe Professional 7.0

Figure 4-5. Department of Defense Form 1387-2, Special Handling Data/Certification.

- Staple guns/staples.
- Grease pencils.
- Chalk.
- Duct tape.
- 1-, 2-, and 4-inch stencil sets.
- Spray paint.
- Waterproofing materials.

### **Safety Equipment**

Each unit should maintain a sufficient quantity of safety equipment to meet mobility requirements. At a minimum, each embarkation representative should maintain the required personal protective safety equipment. Safety equipment should at a minimum include plastic hard hats, safety boots or boot caps, work gloves, ear/eye protection, and flashlights with wands and lens filters.

### **Special Ramps and Lifting Slings**

Unit embark sections should maintain special ramps and/or lifting slings to support loading requirements, e.g., ramps for loading helicopters aboard transport aircraft and slings for 155-millimeter howitzers.

### **Tie-down Material**

Units should maintain tie-down material to secure mobile loads. Sufficient quantities of 1/2-inch rope or 5,000-pound capacity cargo straps should be maintained within each unit to accommodate all planned mobile loads for contingency and routine deployments.

### **Padding and Reinforcing Materials**

A sufficient quantity of padding (bubble wrap) and reinforcing materials should be maintained within each unit to pack its supplies and equipment requiring such protection.

### **Vehicle Preparation**

The term “vehicle” pertains to trucks, trailers, forklifts, road graders, bulldozers, tanks, amphibious assault vehicles (AAVs), light armored vehicles, and other rolling stock and tracked equipment. To ensure all vehicles are prepared for embarkation, the following tasks must be accomplished:

- Check engines, fuel lines, and mobile-loaded fuel cans for leaks. Ensure any defects are corrected before moving to embarkation points.
- Ensure vehicles are clean, to include engine compartments, tracks, road wheels, and under-carriages.
- Ensure vehicles are capable of functioning at full operational capability.
- Based on the mode of transportation, remove bows for canvas tops from cargo compartments and attach them to the vehicle’s body. Fold canvas tops and place them in the vehicle storage compartment when required. Remove exhaust stacks/tire racks and place them in the bed of the vehicle to reduce vehicles to their minimum height.
- Identify, in advance, all cargo that is to be mobile loaded.
- Stow mobile-loaded cargo no higher than the highest fixed point of the vehicle (no higher than the cargo compartment side-rack unless containerized in a QUADCON or other type storage container).
- Inspect vehicles and trailers to ensure lifting points, shackles, and pintle hooks are in serviceable condition. All lifting shackles and pintle hooks must have cotter pins whether or not the vehicle has a towed load associated with it.
- Fill embark vehicles with fuel tanks not to exceed three-quarters full. However, depending

on the mode and location of the vehicle on a particular mode of transportation, there may be a specific fuel limitation according to the applicable loading manual.

- Secure secondary loads to the vehicle with a minimum of 1/2-inch rope, cargo straps or chains, and tie-down devices. Secondary loads are mobile loads carried in the vehicle cargo compartment or bed. Mobile loads may be individual equipment or supplies properly palletized on a standard warehouse pallet.
- Determine the accurate vehicle weight during embarkation planning. Be aware that each

mode of transportation has its own specific weight restrictions. Vehicles must be mobile loaded so they do not exceed cross-country weight limitations, thereby avoiding frustrated cargo at staging areas and APOEs/SPOEs. Chapters 6, 7, and 8 cover the specific weighing and marking procedures for overland, sea-lift, and airlift transportation of vehicles.

- Ensure the unit provides all approach, rolling, parking, sleeper shoring, dunnage, chocking, and blocking and bracing material for safe containerization, and the loading and transport of vehicles, supplies, and equipment.

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# CHAPTER 5

## FORCE DEPLOYMENT PLANNING AND EXECUTION

The Marine Corps developed the FDP&E methodology to better plan command and control for deployments; moreover, MAGTF commanders wanted a single source of timely deployment information to identify force requirements and ensure that associated deployment plans supported the concept of employment. They also wanted to present consolidated movement requirements to the combatant commander; joint force commander; and the Commander, USTRANSCOM. The FDP&E methodology provides a means to monitor and influence the flow of Marine Corps component command capabilities and associated warfighting capabilities into an area of operations.

Force deployment planning and execution describes the methodical oversight of deployment plan/TPFDD creation, plan management, and plan execution using standardized policies, guidelines, procedures, and formats. It is a combination of the operations and mobility planning procedures used in deliberate and crisis action planning for mobilization, deployment, employment, sustainment, and redeployment. It includes the execution of those plans through the deployment of forces and their subsequent sustainment to support the concept of operations (CONOPS).

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### Time-Phased Force and Deployment Data

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Timed-phased force and deployment data is a component of JOPES, an integrated joint command and control system that supports military operations planning, execution, and monitoring activities. The JOPES incorporates policies, procedures, personnel, and facilities by interfacing with automated data processing systems, reporting systems, and underlying Global Command and Control System (GCCS) automated data processing support. It provides senior-level decisionmakers

and their staffs with an enhanced capability to plan and conduct joint military operations. See CJCSM 3122.02C, Volume III, and appendix A for more information on TPFDD.

Normally, the MSC and HHQ G-5/JOPES cell will publish a TPFDD LOI for the development of force movement requirements, the sourcing of forces to fulfill identified requirements, and the deployment and redeployment of those forces.

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### Mobility Planning

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The goal of mobility planning is to meet the required delivery dates (RDDs) for personnel, vehicles, supplies, and equipment at the intended destination. Mobility planning involves determining the throughput requirement—the who, what, when, where, and how personnel, materiel, and cargo must move to support the TPFDD and sustain the force.

Mobility planners express initial force movement requirements in terms of tonnage, number of personnel, and distance. As detailed planning continues, tonnage is quantified by classes of supply or principal end items. Distances between specific origins and destinations become movement legs. Mobility planners estimate requirements based on the equipment needed to support the MAGTF and the average distances to move personnel and equipment.

### Force Movement Requirements

Force movement requirements are the personnel, vehicles, supplies, and equipment to be moved and are derived from the UDL and personnel data uploaded into JOPES (TPFDD) through JFRG II. Data is sequenced by required RDD and priority within the RDD. These requirements must be

accurately sourced by deploying units and identified at a minimum of TPFDD Level IV detail before the MAGTF commander passes the consolidated requirement to the combatant commander for validation. The combatant commander submits them to USTRANSCOM for sourcing of the appropriate transportation assets.

### Lift Mode and Source

The selected lift mode and source identifies what types of transportation move a specific ULN between each movement leg; for example, between point of origin (camp, base, or station) and POE, POD, or destination (assembly area). Refer to the HHQ TPFDD LOI for specific mode and source definitions.

### Port of Embarkation

The POE is the geographic point in a routing scheme where cargo or personnel depart, such as a Camp Pendleton unit embarking out of Naval Station, San Diego, aboard amphibious shipping. The POE is Naval Station, San Diego, and the origin is Camp Pendleton. The POE may be a seaport or aerial port where personnel and equipment flow to a POD. For unit and nonunit requirements, it may or may not coincide with the origin.

### Port of Debarkation

The POD is the geographic point where cargo or personnel are discharged. It may be a seaport or aerial port; for unit requirements, it may or may not coincide with the destination.

### Timing

Mobility planners must consider the following:

- RDD at the destination.
- Ready-to-load date: the day relative to an unnamed commencement day (C-day) when unit and nonunit equipment and forces are ready either to depart their home station/origin on organic transportation or begin loading on

USTRANSCOM-provided transportation for movement to the POE.

- Available-to-load date: a day relative to C-day when the unit or nonunit equipment and forces are ready to begin loading on an aircraft or ship at the POE.
- Time/distance factors between the point of origin, POEs, PODs, and the final destination.

### Throughput

Throughput is the average quantity of cargo and passengers that can pass through a port daily from arrival at the port to loading onto a ship or plane or from the discharge from a ship or plane to the exit (clearance) from the port complex. Throughput is usually expressed in MTONs, STONs, or passengers. Reception and storage limitation may affect final throughput. Port throughput data should consider not only port offload capability and capacity, but also the availability of transportation assets operating within the theater capable of moving and sustaining forces away from the port. Matching the strategic TPFDD flow to the theater's reception, staging, and onward movement capability and capacity should prevent port saturation and backlogs that slow the buildup of mission capability.

### Force Protection

Force protection encompasses the security of POEs and PODs, advance or intermediate staging bases (ISBs), and supply depots.

### Special Requirements

Mobility and transportation planners must consider the following:

- Permits needed for oversized loads.
- Routing considerations due to bridge capacities.
- Impact of terrain, climate, and the environment.
- Special allied/NATO movement requirements, as applicable, as outlined in STANAG 2455-AMovP-2(A), *Procedures for Movements Across National Frontiers*.

When determining resources, planners must also consider the characteristics and capabilities of commercial and military modes of transportation as well as the capabilities of host nation transportation and deployment support.

### **Coordination**

Constant coordination among mobility, operations, logistic, and transportation planners is necessary to accommodate changes to the MAGTF commander's CONOPS, lift requirements, movement priorities, and allocations of transportation assets. Changes will require updates to MDSS II and additional resourcing through JFRG II and JOPES to accommodate the changes.

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### **Selecting the Unit Marshalling Area**

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A unit marshalling area is a centralized location large enough to stage personnel, vehicles, supplies, and equipment to be organized and prepared for movement. If space is limited, a movement schedule must be established to phase the movement of personnel and assets through the marshalling area. Doing so will ensure the moving unit can meet inspection and deployment timelines.

### **Accessibility**

The marshalling area should have entry and exit points to accommodate moving vehicles and MHE through the area.

### **Lighting**

Lighting should be available to accommodate work at night. If lighting is not available but required, then requests for floodlight sets should be submitted.

### **Portable Toilets**

Marines must have appropriate sanitary facilities to support operations 24 hours a day and 7 days a

week. Proper coordination must be made with the base or station operations support group via HHQ for portable toilet support.

### **Water Points**

Water is required to hydrate Marines supporting marshalling operations and may be required to conduct agricultural washdown operations. A preventive medicine technician (PMT) must test the water points to ensure the water is potable for hydration.

### **Medical Support**

Medical support should be coordinated with embarking unit aid stations. Corpsmen should be at the marshalling area when conducting operations.

### **Marshalling Area Workspace**

If feasible, embarkation or logistic personnel should coordinate a marshalling area workspace. The workspace may be a tent or an existing building. It should provide transportation, movement control, and sufficient office space and support capability to conduct MDSS II deployment database management, passenger manifesting, convoy assignments, communications (land line and e-mail), and any additional administrative requirements.

### **Communications Support**

Communications support should be coordinated with the embarking unit's S-6. Operations may require e-mail connectivity, telephone lines (land lines and cellular phone support), very high frequency radios, and hand-held radio support.

### **Security Force**

A security force will be required to protect gear from pilferage, specifically if any sensitive gear is prestaged overnight or if called for by the current force protection threat condition. Security will be a key consideration of the MAGTF commander and the staff force protection officer.

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## Organizing the Marshalling Area

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The marshalling area should be organized to prepare unit equipment for movement and to correct any discrepancies identified in equipment/vehicle inspections. Often, the marshalling area will be shared with administrative personnel to process and manifest personnel for transportation. Some areas needed within the marshalling area are discussed in the following subparagraphs.

### 463L Pallet Buildup Area

The 463L pallet buildup area should be large enough to accommodate all the unit's cargo and baggage required to deploy by air. The area needs to be able to stage each 463L pallet on three pieces of dunnage. Additional room should be allocated to allow the use of MHE to access the pallets.

### Mobile Loading

The mobile loading area should be large enough to accommodate the staging of unit vehicles, equipment, and supplies required to be mobile loaded. The area should also provide room for MHE operations.

### Vehicle Staging

Vehicles should be parked so any vehicle can be moved without moving anything else while maintaining unhindered access to the exit point.

### Personnel Processing Station

The personnel processing station is usually located within the marshalling workspace and may require additional desks and chairs for administrative personnel. It should be separated from any cargo and vehicle movement as much as possible and provide sufficient space for passenger manifesting.

## Vehicle Loading Area

The vehicle loading area should be large enough to accommodate buses and tractor trailers. It should be located near the exit point and must be near a loading ramp to load rolling stock onto flatbed trucks.

### Required Equipment

All items required to prepare supplies and equipment should be on hand. Supporting equipment may include the following:

- MHE.
- Portable wheel scales.
- 463L pallets, side and top nets, waterproof bags, shoring, and dunnage.
- Tie-down material/devices.
- Other waterproofing material.
- Flashlights with cones.
- Hard hats.
- Reflective vests.

### Unit Marshalling Area Diagram

A diagram should be drawn (to scale if possible) that reflects the areas, support, and flow through the marshalling area. Copies should be given to all Marines associated with the movement within the marshalling area.

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## Movement Control Agencies

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Embarkation personnel should be familiar with movement control agencies, their functions, and the systems they use, such as the Transportation Capacity Planning Tool, Common Logistics Command and Control System, and Blue Force Tracker. A listing of movement control agencies and their duties and responsibilities are listed in the current version of MCO 4470.1, *Marine Air-Ground Task Force (MAGTF) Deployment and*

*Distribution Policy (MDDP)*, and in HHQ policies and directives. Refer to these documents/publications for clarification of movement control agency support.

### **Major Subordinate Command Unit Movement Control Centers**

Major subordinate command commanders control organic transportation and communications assets and coordinate with the Marine air-ground task force deployment and distribution operations center (MDDOC) to execute deployments. On order, each command activates its unit movement control center (UMCC) to support marshalling and movement to APOEs/SPOEs. Depending on their geographic locations, some MSCs may choose to operate a readiness movement control center, which is similar to an MSC UMCC.

### **Organizational Unit Movement Control Centers**

Every deploying unit down to the battalion, squadron, or separate company level activates a UMCC to control and manage its marshalling and movement.

### **Base Operations Support Group and Station Operations Support Group**

Bases and stations establish operations support groups to coordinate their efforts with those of the deploying units. Like Marine Corps base commands, most air stations have transportation, communications capabilities, and other assets and support useful to all commands during deployment.

### **Flight Ferry Control Center**

In addition to establishment of its UMCC, the Marine aircraft wing (MAW) establishes a flight ferry control center to support and monitor movement of organic deploying fixed-wing aircraft. The center operates under the cognizance of the MAW G-3.

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## **Terminal Operations Organizations**

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Terminal operations organizations (TOOs) are established to support deploying forces at the APOE, aerial port of debarkation (APOD), SPOE, and seaport of debarkation (SPOD). Terminal operations organizations are integral to the deployment and distribution system because they provide support at strategic, operational, and tactical nodes. Terminal operations organization examples are the arrival airfield control group (AACG), departure airfield control group (DACG), port operations group (POG), beach operations group (BOG), and railhead operations group. Terminal operations organizations will be task-organized, manned by the MLG and/or logistics combat element, and augmented by the MSCs as required.

### **Arrival Airfield Control Group/Departure Airfield Control Group**

The AACG/DACG provides the interface between the deploying force and the AMC contingency response group (CRG), element, or team. Its mission is covered in detail in DTR 4500.9-R, Part III and Marine Corps Warfighting Publication (MCWP) 4-11.3, *Transportation Operations*.

### **Port Operations Group**

The POG provides control, coordination, and support at designated SPOEs/SPODs. It also provides traffic control, MHE, and stevedore support for loading ships.

### **Beach Operations Group**

The BOG provides control, coordination, and support at designated beaches. Beach operations groups provide traffic control, MHE, and stevedore support for throughput during amphibious and/or joint logistics over-the-shore operations.

**Railhead Operations Group**

The railhead operations group will provide the expertise in loading and securing equipment on different types of railcars. They also provide traffic control and coordination at the railhead.

**Airlift Liaison Element**

The deploying unit commander establishes an airlift liaison element (ALE) at the airhead to

coordinate between the deploying unit and the AACG/DACG.

**Sealift Liaison Element**

The deploying unit commander establishes a sealift liaison element (SLE) at the port to coordinate between the deploying unit and the POG.

# CHAPTER 6

## OVERLAND MOVEMENT

Overland movement is an integral part of strategic mobility, embarkation, and deployment operations. It is the movement of unit vehicles, rolling stock, equipment, and supplies from staging or unit marshalling areas to the APOE/SPOE for loading aboard aircraft or shipping in accordance with the unit embarkation plan for further transport to the designated area of operations. Once in the area of operations, overland movement and requests for overland transportation support must be coordinated through the designated US theater support organization, host nation support agreements, or organically within the MAGTF to ensure unit equipment moves as scheduled from the APOD/SPOD to the tactical assembly areas.

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### Transportation Modes

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All units should examine their deployment requirements and follow the mobility planning process described in chapter 5. Units must consider using organic assets first when determining their transportation requirements. Any requirements beyond the unit's organic capability should be identified as early as possible to HHQ so external support can be coordinated expeditiously.

The number of personnel and the volume of freight generally combine to define overland movement requirements. These requirements can be satisfied using commercial buses, trucks, or rail. Unit movement planners should contact their local MDDOC, Marine air-ground task force movement control center (MMCC), or distribution management office (DMO) to determine current costs for each type of commercial transportation mode/carrier available. Capturing these costs is critical to documenting movement costs associated with exercise or contingency transportation budgets and forecasting future

requirements. Each mode has a specific capability to support unit movement. See appendix G for the general capabilities of each mode.

### Marine Corps Motor Transport Assets

The Marine Corps has a wide range of tactical vehicles used during day-to-day operations to satisfy units' external overland transportation requirements. The MLGs have the bulk of these assets to support the resident MEF. These vehicles range from high mobility multipurpose wheeled vehicles (HMMWVs) to the heavy-lift logistics vehicle system replacement (see fig. 6-1). Marine Corps TM 11240-15/4C, *Motor Transport Technical Characteristics Manual*, lists fielded motor transport assets.



**Figure 6-1. Logistics Vehicle System Replacement.**

### Commercial Buses

Each bus normally carries 44 to 48 passengers. Buses have limited baggage capability in cargo bays under the bus and should not be used to transport cargo, such as publications boxes, desk-top computers, or night vision goggles. Unit representatives should plan for three sea bag equivalents per passenger. When planning to move passengers by commercial bus, a baggage

vehicle must also be available since the baggage that will accompany passengers will not fit within the cargo area of the bus.

### Commercial Trucks and Trailers

Various types of commercial freight modes are ordered by the MDDOC/DMO to move unit equipment. The modes needed depend on the type and configuration of unit containers, equipment, and supplies; for example, a heavy equipment transport would be required to transport an AAVP-7 [amphibious assault vehicle personnel variant 7] or an M1A1 Abrams tank. Commercial trucks move personal baggage, embarkation boxes, PALCONs, QUADCONs, and unit vehicles. Typical commercial trucks ordered included the following:

- Flatbed trailers (45 to 48 feet) to move standard embarkation boxes, PALCONs, QUADCONs, or TEU/ISO containers (see fig. 6-2).
- Low-bed trailers normally used for light armored vehicles, AAVs, tanks, or trucks mobile loaded with maintenance vans or shelters.

- Enclosed trailers (48 feet), normally used for baggage or bonded cargo.
- Explosives trailers include all HAZMAT/explosive ordnance trailers and are coordinated through the base or station DMO. State highway requirements and Coast Guard classes of hazards will dictate the type of commercial assets needed.

### Rail

To reduce costs, commercial and DOD rail are used in lieu of commercial trucks to transport heavy lift requirements or when moving units long distances.

### Bi-Level Car

The bi-level car is normally used to transport HMMWV variants. It is designed to hold ten vehicles (five on the top deck and five on the lower deck) with a height restriction of 76 inches on the lower deck. Top deck height restrictions are based on overpass clearance requirements peculiar to the route between the departure and arrival railhead.



Figure 6-2. Flatbed Trailer with Quadruple Containers.

### **Department of Defense-Owned Railcars**

Department of Defense-owned railcars are positioned at various bases to support movement of oversized equipment (M1A1 Abrams tank or AAVs) for training or contingencies. Most cars measure 89 feet (normally referred to as “89 footers”) and have a wooden deck.

### **Flatbed Cars**

The two types of flatbed cars, also referred to as “89 footers,” are steel decked and wooden decked. Steel decked cars transport a wide variety of wheeled assets while wooden decked cars specifically transport steel tracked assets, such as bulldozers.

### **Container Cars**

Container cars are specifically designed to carry four standard TEU/ISO containers. They can also transport QUADCONs when they are locked together in a group of four using the locking device designed for QUADCONs.

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## **Request Procedures**

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Request procedures require planners to consider the lead time necessary to make requests as well as the related time constraints. Such procedures also have specific format guidelines.

### **Timeline**

Typically, each type of commercial transportation conveyance will have a different timeline for requesting support. Local SOP and availability of commercial assets will ultimately dictate request submission timelines. The following typical commercial request timelines will assist the overland movement planner in requesting support:

- *Bus.* The optimal request submission is seven working days before movement date and the minimum request submission is 48 hours before movement date.

- *Freight.* It is preferred that the request submission is submitted 15 working days before movement date and the minimum request submission is 7 working days before movement date.

*Note: Explosive ordnance movements normally require a minimum of ten days lead time. Check local SOP.*

### **Format**

The format for submitting external transportation support requests is determined at the local level. Transportation of things (TOT)/transportation of people (TOP) request procedures vary from base to base and are normally determined by the MDDOC or base DMO (see app. H and app. I). Review the local SOP to determine the correct format.

### **Onload/Offload Time Constraints**

When using commercial transportation assets, onload and offload time parameters are restrictive and differ with the type of commercial asset used. The general timelines in the following subparagraphs are for commercial movement planning.

### **Buses**

Buses are normally ordered to be in position for loading a minimum of one hour before scheduled departure time. Units are responsible for ensuring buses depart in sufficient time to arrive at the final destination and that they do not exceed the total time allocated for the movement. Exceeding the contracted time will increase costs, as buses are typically ordered by the hour. Also, a delay in passenger movement could occur if the bus driver exceeds the maximum driving hours per day allowed by the US Department of Transportation and state transportation agencies.

### **Bonded Cargo**

Normally, there is a two-hour unloading/offloading time contracted for bonded cargo. Any delay that exceeds the contract will result in a user-delay charge. Delay charges vary by geographic

location and company. Contact the local DMO for current charges.

### **General Cargo**

Typically, there is a two-hour onloading/offloading time allowable under contracts for general cargo. Delay charges vary by geographic location and company. Contact the local DMO for current charges.

### **Railcars**

Normally, there is no specific time requirement to complete the onloading/offloading of railcars. Units must finish loading in sufficient time to allow cars to be massed/staged to meet the scheduled “pull,” or departure, time. The local DMO will provide units with this time.

### **Materials Handling Equipment**

It is the using unit’s responsibility to coordinate MHE and ensure operators are available during the onloading/offloading of commercial assets. Normally, MHE requests are coordinated with the submission of unit TOT/TOP requests.

### **Cargo Staging**

To expedite loading commercial assets, it is recommended that the unit’s cargo and equipment be staged *at least 24 hours* before the desired pickup time.

### **Vehicle Loading Site**

Bonded cargo should be staged at the loading site *no earlier than 6 hours before the desired pickup time but no later than 2 hours prior*. General cargo should be staged *no later than 24 hours* before the desired pickup time. Vehicles and equipment

should be staged at the loading site *no later than 24 hours* before the desired pickup time.

### **Railhead**

Cargo and vehicles to be loaded on railcars should be staged at designated railhead staging areas *no later than 24 hours* prior to desired loading time. However, 36 hours prior is considered optimum to provide the rail inspectors ample time to conduct preloading inspections.

### **Documentation**

Base and station DMOs may operate differently based on location. Some agencies require all commercial carriers to report to the local DMO to complete load documentation, while others opt to delegate the documentation process to the unit executing the move. Check local DMO SOP. If the documentation process is delegated to the moving unit, a completed government bill of lading (GBL) must be provided to the base or station DMO and deploying unit *before* any cargo, equipment, or vehicle departs the base or station on commercial carriers. The GBL forms the basis to determine the overall commercial transportation costs of the unit’s deployment and it provides chain-of-custody receipt accountability of unit equipment loaded by the carrier. The GBL is the transaction receipt used to release funds to cover the transportation costs. Refer to the local MDDOC/DMO procedures and DTR 4500.9-R, Part II for detailed information on the GBL.

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### **Hazardous Materials Listing**

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All HAZMAT being shipped must be identified before requesting transportation. Figure 6-3 is a sample form to be used and submitted with the commercial transportation request.

REQUEST TO SHIP HAZARDOUS MATERIALS  
VIA COMMERCIAL TRANSPORTATION

EVERY COLUMN MUST BE COMPLETED AND TURNED IN TO THE MOVEMENT COORDINATOR WITH THE TRANSPORTATION REQUEST. CALL XXX-XXXX FOR ASSISTANCE.

UNIT: \_\_\_\_\_

POC: \_\_\_\_\_

TELEPHONE NUMBER: \_\_\_\_\_

PKG or Item ID Number: \_\_\_\_\_

PROPER SHIPPING NAME <sup>1</sup>	HAZARD CLASS OR DIVISION	UNITED NATIONS NUMBER	PACKING GROUP	QUANTITY/WEIGHT	TOTAL QUANTITY/WEIGHT

<sup>1</sup>Found in MCO 4030.19H.

Legend

PKG package  
ID identification

**Figure 6-3. Hazardous Materials Listing for Commercial Transportation Example.**

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# CHAPTER 7

## SEALIFT

This chapter provides responsibilities, guidance, and procedures to plan and conduct sealift embarkation operations using US Navy amphibious shipping, Military Sealift Command shipping, and the maritime prepositioning force (MPF).

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### Amphibious Embarkation Planning

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Amphibious embarkation planning must begin early and proceed concurrently with all other planning; this cannot be overemphasized. Such planning requires detailed knowledge of the characteristics, capabilities, and limitations of ships and their relationship to the personnel, supplies, and equipment to be embarked. The timely and effective embarkation of units aboard ships can only be achieved through detailed planning and careful execution of plans. Amphibious embarkation planning requires constant coordination among all Marine Corps and Navy command levels and a mutual understanding of the requirements of each. Before an amphibious exercise or operation, unit embarkation personnel should completely review the following:

- JP 3-02, *Amphibious Operations*.
- JP 3-02.1, *Amphibious Embarkation and Debarkation*.
- Marine Corps Reference Publication (MCRP) 4-11C, *Combat Cargo Operations Handbook*.
- Commander, Naval Surface Forces Instruction (COMNAVSURFORINST) 4621.1/ Commander, United States Marine Corps Forces Command Order (COMMARFORCOMO) 4621.1/Commander, United States Marine Corps Forces, Pacific Order (COMMARFOR-PACO) 4621.1B, *Landing Force Spaces, Ship's Loading Characteristics Pamphlet (SLCP), Troop Regulations (Troop Regs) and Amphibious Embarkation Documentation*.

### Landing Force Organization for Embarkation

The landing force (LF) can be organized for embarkation into embarkation groups, units, elements, and teams. For the purposes of this publication and ease of understanding, the LF organization for embarkation will be that of a Marine expeditionary unit (MEU) embarking as part of an amphibious ready group (ARG).

### Amphibious Embarkation Key Billets

To facilitate embarkation planning and execution, embarkation personnel should be familiar with the general duties and responsibilities of the key Navy and Marine Corps billets associated with an ARG/MEU deployment. Table 7-1, on page 7-2, provides a quick guide and the following subparagraphs offer further amplification.

#### **Commander, Landing Force**

The commander, landing force (CLF) is the officer designated in the initiating directive as the commander of the LF for an amphibious operation. The MEU commander, normally a colonel, is designated the CLF by billet. Embarkation planning responsibilities include the following:

- Determining LF requirements for assault shipping.
- Developing LF organization for embarkation.
- Identifying embarkation support requirements.
- Ensuring the preparation of detailed embarkation loading plans.

#### **Commander, Amphibious Task Force**

Commander, amphibious task force (CATF) is the Navy officer designated in the initiating directive as the commander of the amphibious task force (ATF). Amphibious squadron (PHIBRON) commander is designated the CATF by billet for

**Table 7-1. Landing Force to United States Navy Counterpart Relationships.**

LF BILLET	NAVY BILLET	REMARKS
CLF	CATF	Coequal status. Together the forces of the CLF and CATF combined with Navy amphibious ships comprise the amphibious force.
LF embarkation officer	CATF CCO	The LF embarkation officer and the CATF CCO conduct the predominance of the deliberate planning involved with the embarkation of the LF and naval beach group detachment personnel, cargo, and equipment. The LF embarkation officer is the direct representative of the CLF in embarkation matters; likewise, the CATF CCO is the CATF's advisor on all LF onload/offload matters.
COT	Ship's CO	The COT is designated the embarkation team commander. As such, the COT and ship's CO work together to ensure the personnel, cargo, and equipment assigned to their specific ship (team) is embarked in accordance with timelines. The COT reports to the CLF; the ship's CO reports to the CATF.
TEO	Ship's CCO	The detailed load planning and sequence of events relative to a specific ship are coordinated between the TEO and the ship's CCO. The TEO is the direct representative of the COT for embarkation matters; the ship's CCO represents the ship's captain as his/her embarkation expert.
Transport element embarkation officer	Not applicable	The transport element embarkation officer does not have a Navy counterpart. He/She is in general support of the TEOs, ensuring personnel, cargo, and equipment are marshalled, staged, moved, and embarked in accordance with published timelines. Element embarkation officers are found in all MSEs. They are the special staff officers in the area of embarkation within their MSEs. They receive guidance from the LF embarkation officer.

the ARG. Normally, the PHIBRON commander is a Navy captain (billet title is commodore). Embarkation planning responsibilities include the following:

- Proposing assault shipping, landing craft, and sealift allocations to the commander, expeditionary strike group.
- Providing ship's loading characteristics pamphlets (SLCPs) to the CLF.
- Organizing Navy forces (specifically CATF staff and supporting detachments) for embarkation.
- Preparing movement orders for ships.
- Approving LF embarkation and loading plans.
- Planning for external support (port operations).
- Advising the CLF on Navy support and naval forces embarkation requirements.

### ***Ship's Commanding Officer***

The ship's commanding officer (CO) is the highest authority aboard the ship. All personnel

aboard ship, including embarked personnel, are subject to the CO's orders. All orders from the CO to embarked personnel will be transmitted through the commanding officer of troops (COT).

### ***Commanding Officer of Troops***

On a ship that has embarked units, a designated officer (usually the senior embarking unit commander) is responsible for the administration, discipline, and training of all embarked units. The COT is ultimately responsible for the embarkation of LF personnel and assets aboard his/her respective ship and is also assigned as the embarkation team commander.

### ***Transport Group Embarkation Officer***

The MEU embarkation officer is normally the transport group embarkation officer. Many of the duties and responsibilities for higher-echelon embarkation officers are discussed in JP 3-02.1 for larger amphibious operations and are handled by the MEU embarkation officer for ARG/MEU

deployments. Responsibilities of the transport group embarkation officer include the following:

- Heading the embarkation section on the special staff of the CLF.
- Preparing the LF embarkation plan for approval by the CLF.
- Ensuring load plans are completed for ships allocated to the LF.
- Maintaining a copy of the landing plan and loading plan for all ships assigned to the LF.
- Coordinating all onloading/offloading LF activities.
- Maintaining a complete and current file of SLCPs for amphibious ships and loading characteristics data for other type ships that may be assigned to support the LF.
- Obtaining and maintaining the embarkation data for the LF.
- Preparing LF organization for embarkation and assignment to shipping (OE&AS) in conjunction with principal staff officers of the embarkation group and subordinate commanders.
- Obtaining data on materials handling requirements and MHE.
- Coordinating preparation of a berthing and loading schedule (BALS) with the ATF combat cargo officer (CCO).
- Advising team embarkation officers (TEOs) in the loading plans preparation.
- Functioning as a member of the LF tactical-logistical (TACLOG) group on a designated ship during the ship-to-shore movement.
- Coordinating the execution of the landing plan in concert with embarked units, the ATF CCO, appropriate staff officers, and department heads.
- Possessing knowledge in the use of unit movement AIS and load planning systems.
- Maintaining a complete and current file of landing force operational reserve material (LFORM) loading plans for all ships assigned for an operation that have LFORM embarked.
- Possessing familiarity with the capabilities and limitations of seaports, aerial ports, and landing beaches that are designated for LF use.
- Scheduling and assigning the marshalling, staging, and embarkation areas.

### ***Amphibious Task Force Combat Cargo Officer***

The ATF CCO is the PHIBRON staff CCO for a MEU-sized LF. The general duties and responsibilities of the ATF CCO include the following:

- Advising and assisting the CATF on all matters pertaining to the onloading/offloading of LF personnel, supplies, and equipment.
- Acting as liaison officer between the commodore and the corresponding embarking troop commander.
- Maintaining an SLCP file for those ships within the squadron.
- Reviewing all embarkation/debarkation plans.
- Maintaining copies of all load plans of ships in the ATF to include LFORM stowage.
- Maintaining a complete and current file of LFORM loading plans for all ships assigned.
- Coordinating the execution of the landing plan in concert with the LF embarkation officer, appropriate staff officers, and department heads.
- Coordinating staging and pre-embarkation inspections with the LF embarkation officer and preparing the BALS.
- Performing unit embarkation officer functions for the embarking Navy support element (NSE).
- Compiling and transmitting periodic reports to higher authority.
- Referring to MCRP 4-11C and JP 3-02.1 for a detailed list of ATF CCO duties.

### ***Team Embarkation Officer***

The TEO is a commissioned officer assigned from the embarking unit who forms the nucleus of the embarkation team. Assignment as a TEO is temporary but, upon appointment, the TEO should be provided formal TEO training and relieved of other duties. General TEO duties include the following:

- Acting as the direct representative of the embarkation team commander in matters pertaining to team embarkation and cargo loading.
- Maintaining liaison between the embarkation team commander and the ship's CO.
- Preparing detailed loading plans for the ship to which embarkation teams are assigned. The

ship's CCO may assist the TEO in loading plans preparation.

- Coordinating and supervising loading plans execution.
- Assisting in planning for and executing off-loading.
- Possessing knowledge in use of unit movement AIS and load planning systems.
- Maintaining a copy of and being familiar with the LF landing plan.
- Possessing knowledge of seaports, aerial ports, and other designated landing areas, such as beaches.

### ***Ship's Combat Cargo Officer***

The ship's CCO is typically a warrant officer qualified in the embarkation field. All amphibious assault ships are assigned a CCO except the dock landing ship (LSD) 41 Class where a Navy officer, normally the ship's first lieutenant, functions as the ship's CCO. The CCO is a member of the ship's company and is a department head reporting to the CO via the executive officer. The amphibious assault ship-general purpose (LHA)/amphibious assault ship (multipurpose) (LHD) CCO is assigned three enlisted combat cargo assistants (CCAs). The amphibious transport dock (LPD)-17 CCO will have two CCAs, and the LPD-4 and LSD-49 class ship CCOs each have one CCA assigned. The CCA is a staff NCO and is a member of the ship's complement. General duties of the CCO include the following:

- Acting as the direct representative of the ship's CO in embarkation matters and other LF-related issues.
- Maintaining liaison with the TEO and ATF CCO.
- Assisting the TEO in the preparation of detailed loading plans for the ship.
- Coordinating landing plan execution in concert with the ATF and LF embarkation officers, appropriate staff officers, and department heads.
- Assisting in planning and executing embarkation/debarkation.
- Submitting reports to HHQ in accordance with COMNAVSURFORINST 4621.1/COMMARFORCOMO 4621.1/COMMARFORPACO 4621.1B.
- Coordinating with the ship's department heads and executive officer to ensure material condition of the LF spaces is maintained to a deployment ready condition.

The ship's CCO should refer to MCRP 4-11C and JP 3-02.1 for a detailed list of duties.

### ***Transport Element Embarkation Officer***

For MEU deployments, the transport element embarkation officer is usually a commissioned officer or warrant officer assigned the duties of the embarkation officer at the MSE level. Qualified assistants (MOS 0431) should be assigned early in the planning phase. The transport element embarkation officer may or may not be the unit embarkation officer while in garrison depending on the scope of the deployment and task organization. The duties of the transport element embarkation officer are similar to the duties of the unit or element embarkation officer described in JP 3-02.1 and generally include the following:

- Heading the embarkation section on the special staff of the MSE.
- Preparing, in conjunction with the principal subordinate commanders and staff officers of the element, the OE&AS table for approval by the MSE commander.
- Assigning and scheduling the use of cargo assembly areas, vehicle staging areas, and embarkation points to subordinate embarkation elements or teams. Assignments are based on the marshalling area and embarkation area assignments made by the MEU embarkation officer.
- Preparing the complete unit embarkation plan for approval by the MSE commander.
- Providing required embarkation data to respective TEOs.

- Coordinating all MSE loading activities.
- Functioning as a member of the TACLOG on a designated ship during the ship-to-shore movement.
- Maintaining a copy of the ship load plans.
- Maintaining a copy of the LF landing plan.

### Ship's Loading Characteristics Pamphlet

Early in planning, embarkation personnel must review the SLCPs for their assigned ships. The purpose of the SLCP is to provide embarking units information on the physical characteristics, methods of loading and stowage, operating procedures, and capabilities/limitations of a specific ship. Each ship publishes an updated SLCP every three years—sooner if there is a major deviation from the published SLCP.

### Embarked Troop Regulations

In addition to the SLCP, each amphibious ship has published embarked troop regulations. Embarked troop regulations detail the policies and procedures to which embarked LF and NSE personnel must conform. Embarkation personnel must completely review the SLCP and troop regulations in the early stages of planning. Together, the SLCP and troop regulations provide important capabilities and constraints to be considered prior to detailed planning. General topics of troop regulations include the following:

- Command relationships.
- Embarkation.
- Billeting, messing, medical, and sanitation.
- Emergency procedures and general regulations.
- Security.
- Cleaning and preservation.
- Discipline and confinement.
- Troop security force.
- Ammunition and HAZMAT handling.
- Debarkation.
- Communications.

### Landing Force Operational Reserve Material

Landing force operational reserve material is a package of contingency and war reserve supplies prepositioned on amphibious ships. The LFORM consists of rations, POL, field fortification material, and ammunition (supply classes I, III, IV, V[W], and V[A], respectively). The quantitative requirements for the LFORM are based on notional planning figures for up to fifteen days of sustainment for a MEU with 2,400 personnel. Table 7-2, on page 7-7, shows the ten classes of supply.

#### ***Landing Force Operational Reserve Material Supplement***

Each LFORM-carrying amphibious ship's CCO is required to publish an LFORM supplement once all classes of the LFORM have been embarked. The LFORM supplement is a load plan depicting stowage locations for all classes of the LFORM. Prior to developing ship load plans, the ship's LFORM supplement must be reviewed.

#### ***Responsibility***

It is the consolidated effort of the ship's staff to ensure the LFORM is properly loaded and managed. The COT will also participate in the ship's periodic LFORM inspections, which are not wall-to-wall inventories/inspections. The COT is required to inspect the magazines and general cargo storage areas where LFORM products are stowed to assess the overall material condition of these contingency items. The following two references provide more information:

- Commander, Naval Surface Force, Pacific (COMNAVSURFPAC) and Commander, Naval Surface Force, Atlantic (COMNAVSURFLANT) Instruction 4080.1G/Commander, Marine Corps Forces Command Order 4000.10J/Commander, Marine Corps Forces, Pacific Order 4080.2E, *Landing Forces Operational Reserve Materiel (LFORM) Aboard Amphibious Warfare Ships of the U.S. Atlantic and Pacific Fleet*.

- COMNAVSURFPAC Instruction 4080.1D/ Commanding General, Fleet Marine Forces, Pacific Order 4080.2D, *Prepositioning of Landing Force Operational Reserve Materiel (LFORM)/Mission Load Allowance (MLA) and Other Contingency Materiel Aboard Amphibious Warfare Ships of the U.S. Pacific Fleet.*

### **Issue**

Landing force operational reserve material may only be issued or used in support of actual contingency operations or with the approval of a numbered fleet commander or Commander, United States Marine Corps Forces Command/United States Marine Corps Forces, Pacific authority. Although the ship's CO, through his/her ordnance/weapons officer and supply officer, is ultimately responsible for the LFORM onboard, the COT will ensure that LFORM ammunition and supplies are not inadvertently mixed with training allocations.

### **Embarkation Milestones**

Early in the planning phase, the LF embarkation officer and ATF CCO will coordinate to develop embarkation milestones to be included in the ARG/MEU plan of action and milestones message sent to all the units of the amphibious force. Embarkation milestones identify actions and reports required to affect planning and embarkation of all LF and NSE assets throughout the ARG/MEU predeployment work-up period through the final deployment load-out. The following reports are critical to this effort:

- NSE augmentation message.
- Organizations for embarkation and assignment to shipping.
- Landing craft availability table.
- BALS.
- Valid surface landing plan and/or serial assignment table and the helicopter team wave and serial assignment table.
- Ship load plans and LFORM supplement.

- Shipboard LF accommodations inspection or shipboard inspection summary reports.
- Ammunition shortfall and/or LFORM shortfall message.
- Embarked personnel material report.
- LFORM inspection report.
- SLCP validation report.

See MCRP 4-11C for detailed information on reports listed above. Also see appendix J for a detailed listing of milestones as related to the designated embarkation day (E-day). E-day is the day LF personnel, supplies, and equipment begin embarkation aboard amphibious or commercial ships.

### **Unit Deployment List**

Using MDSS II, all embarking units (to include the LF, CATF staff, and the naval beach group detachment) will provide a UDL identifying all vehicles, equipment, boxes, pallets, and containers to the designated TEO for consolidation. The TEO will merge the UDLs, complete carrier assignments in the embarkation workbench module, generate TCNs, and then export the resulting embarkation plan file to ICODES to develop detailed load plans. Embarkation personnel at the unit level may have to provide UDL development and load planning support for up to three TEOs.

### **Load Planning**

The TEO is responsible for his or her assigned ship's ICODES ship load plan deck diagrams. The load plan will incorporate all cargo, vehicles, and equipment authorized to be loaded in LF ("green") stowage spaces on the assigned ship. The load plan will include the LFORM and the ship's organic equipment, such as MHE or aviation support equipment from a UDL provided by each ship's CCO. Load plan development is a team effort of the TEO and the assigned team embarkation assistants, the ship's CCO/first lieutenant, the LF embarkation officer, and the ATF CCO. The load plan is designed to support the LF

**Table 7-2. Classes of Supply.**

<b>Class I</b>		Rations	Foodstuffs, subsistence, and rations.
<b>Class II</b>		General Supply	Clothing, tentage, tool sets, individual equipment, and all textile or leather items.
<b>Class III</b>		POL	Petroleum products, including fuel, oil, and lubricants.
<b>Class IV</b>		Barrier Materials	Construction materials, barrier materials, lumber, pickets, barbed wire, concrete, bricks, and similar materials.
<b>Class V</b>		Ammunition	All ammunition and explosives, including pyrotechnics and explosive training items.
<b>Class VI</b>		Personal Demand	Personal demand items, such as chewing gum, cigarettes, soft drinks, razor blades, candy, and other items that are selected by personal preference.
<b>Class VII</b>		Major End Items	Complete pieces of equipment by themselves that do not lose their identity through use, such as trucks, tanks, guns, and power units.
<b>Class VIII</b>		Medical	All medical supplies, such as medicines, medical equipment, and dressings.
<b>IX</b>		Repair Parts	Repair parts and subcomponents used as replacement parts for other equipment, which include major subassemblies, such as engines and transmissions.
<b>X</b>		Civil Affairs Items	Items that include equipment for economic development and general civilian assistance, such as farm tractors and school supplies.

landing plan/scheme of maneuver ashore. All ship load planning will be accomplished using the data resident in the unit's UDL.

### **Supporting Documents**

When submitting the ICODES deck diagrams to the COT for review and approval, the TEO will

ensure that the following documents are included (refer to JP 3-02.1 for additional information):

- Load plan cover sheet.
- Cargo and loading analysis table.
- Vehicle summary and priority table.
- UP&TT summary report.

### **Load Plan Approval**

The TEO, in conjunction with the LF embarkation officer, develops the load plan and submits it to the COT for review/approval. Once the load plan has been approved by the COT, it is normally submitted to the LF embarkation officer, then to the ship's CO via the CCO. The CCO will verify that all requirements and any restrictions are considered in the load plan. The CCO typically staffs the load plan through the chief engineer, damage control assistant, and the ship's first lieutenant prior to submitting it to the ship's CO. Once approved by the ship's CO, deviations from the load plan are not authorized without the express consent from the COT and the ship's CO.

### **Templates**

Load planners must ensure each loaded item's template contains the following minimum information for vehicles and containers/pallets:

- Vehicles—
  - ◆ Vehicle priority number.
  - ◆ Landing serial number.
  - ◆ Vehicle height.
  - ◆ Marriage designator (if required).
  - ◆ Vehicle description.
  - ◆ Owning organization (UIC).
  - ◆ Vehicle weight.
  - ◆ TCN.
- Containers/pallets—
  - ◆ UIC.
  - ◆ Description of contents.
  - ◆ Gross weight.
  - ◆ Height.
  - ◆ Offload priority number.
  - ◆ TCN.

## **Types of Loading**

### **Administrative**

An administrative loading method gives primary consideration to achieving maximum use of billeting and cargo space.

### **Combat**

A combat loading method gives primary consideration to providing the ability to debark troops and cargo ready for combat rather than for economy of space. Combat loading has three categories: combat unit loading, combat organizational loading, and combat spread loading. Additional information on types of loading is found in JP 3-02.1.

*Note: For amphibious embarkation planning, all loads will be combat loads.*

### **Broken Stowage**

In stowing cargo, a percentage of space is invariably lost between boxes, vehicles, and around stanchions/obstructions. For planning purposes, these losses are expressed in terms of a percentage known as broken stowage. Detailed information on broken stowage factors and broken stowage loss is found in JP 3-02.1.

## **Embarkation Guidance**

Embarkation guidance relative to a sealift deployment will be provided in a published embarkation plan or embarkation LOI. The LF will publish the overall embarkation plan and submit it to the MSEs and the CATF. Major subordinate elements will subsequently publish an embarkation LOI for their subordinate units. Appendix K provides a sample embarkation plan.

## **External Support Requirements**

The LF embarkation officer will coordinate with the LF G-3/S-3 and G-4/S-4 sections to satisfy requirements that affect the entire MAGTF, such as port and beach requests, ship berthing/loading scheduling, portable toilets, and commercial

transportation. The TEO or element/unit embarkation officer will identify any specific external requirements to the LF embarkation officer. Final coordination of support requirements leads to the movement, marshalling, and staging plans, which are used by LF and CATF planners to develop a BALS. Once completed, the CATF will publish a BALS naval message to all ATF units and, approximately ten days prior to E-day, the LF, MDDOC, MSEs, and supporting port authority representatives will join for a port-opening meeting that addresses the following concerns.

### ***Transportation***

Transportation requests in excess of organic assets will be forwarded to the LF movement coordinator. The movement coordinator, usually the MEU S-4 chief, will be identified early in planning. The movement coordinator will include all MSE requirements and attend all MMCC TOT/TOP movement conferences necessary to finalize the movement plan.

### ***Materials Handling Equipment***

Nonorganic MHE support will be requested by the element embarkation officer in conjunction with movement requirements and submitted to the LF movement coordinator. Requests for support include lighting, wash down points, forklifts, cranes, and wreckers to support the movement plan.

### ***Slings and Cargo Net***

Devices used to lift heavy objects include slings for vehicles, chime hooks, pallets, bridles, and cargo nets. Coordination with the TEO is required to ensure the ship has the appropriate equipment. If equipment requires special slings or other special lifting devices not organic to the ship, the embarking unit must provide them.

### ***Dunnage, Shoring, Chocking or Blocking, and Bracing Materials***

It is the using unit's responsibility to ensure it has enough of these materials to secure loads, protect

unit equipment, and adhere to ship regulations. A review of the SLCP or liaison with the ship will indicate existing requirements. If dunnage, shoring, chocking or blocking, and bracing materials are required that are beyond the using unit's capabilities, then embarking units will prepare consolidated estimates and submit them to the LF embarkation officer. The LF embarkation officer will coordinate with the S-4 supply section to source the requirement. The SLCPs, JP 3-02.1, and MCRP 4-11C contain additional information on these items.

### ***Troop Embarkation***

Troops embark amphibious ships by helicopter, landing craft, ship's accommodation ladder, and temporary roll-on/roll-off ramps down to the well deck for pierside onload/offloads. The safest and most efficient means will be determined through careful coordination among the LF embarkation officer, the ATF, and ship's CCO per embarkation plans. Refer to MCRP 4-11C and the SLCP for detailed procedures.

### ***Advance Party***

The advance party is routinely embarked 24 to 48 hours before the main body at the SPOE. Detailed information on personnel augmentation requirements is included in the SLCP. The advance party consists of the following:

- The ship's platoon.
- Cooks.
- Food service attendants (with current mess physicals).
- Guard personnel (if required).
- Billeting guides.
- Any other ship augments.

### ***Main Body***

The main body movement from the garrison location to the SPOE should be phased to prevent congestion upon arrival at the pier. Upon arrival at the SPOE, the main body will form into loading teams or sticks by berthing area. Billeting

guides will meet loading teams at the pier and escort them to their respective berthing areas. Billeting guides should be made available to provide squad-size or platoon-size unit tours for the first few days to ensure Marines are familiar with all spaces aboard ship.

### ***Landing Force Spaces***

Serviceable LF spaces are key to the overall combat readiness of an amphibious ship. Working with the ship's department heads, the CCO aboard each ship ensures all LF spaces are available for troop embarkation within 48 hours of notice. Before troops embark, a joint inspection of all spaces must be conducted by ship and LF billeting representatives. A billeting officer should be designated for each amphibious ship. Refer to MCRP 4-11C, and COMNAVSURFORINST 4621.1/COMMARFORCOMO 4621.1/COMMARFORPACO 4621.1B.

### ***Inspection of Troop Living Spaces***

Prior to embarkation and debarkation, a habitability inspection between the COT and ship's representatives will be conducted in all LF berthing, administrative, and personal hygiene spaces. This inventory/inspection will identify the total quantity and condition of furnishings and the quality of life condition of all LF spaces. The COT is responsible for ensuring that the habitability inventory/inspection is properly and promptly conducted.

### ***Reimbursement for Inventory Losses***

Upon completion of the debarkation inventory/inspection, the ship's representative will submit an initial report of missing or damaged property to the COT for reconciliation and reimbursement of associated costs. Unreconciled items or costs will be forwarded concurrently for resolution via the unit's chain of command to Commander, United States Marine Corps Forces Command/United States Marine Corps Forces, Pacific and Commander, Navy Surface Force, Atlantic/

Commander, Naval Surface Force, Pacific through the ship's chain of command.

### ***Encroachment***

Encroachment exists when the ship's company uses LF spaces without authorization. There are, however, two situations when ship's company may be authorized to occupy LF spaces:

- 48-hour restoration: The ship is able to restore the spaces to their original purpose within 48 hours.
- Permanent authorization: The ship's company can permanently occupy LF spaces with an approved ship alteration. A ship alteration can only be approved by the Navy and Marine Corps Service headquarters.

### ***Troop Bedding***

Amphibious ship COs are required to provide the following to each embarked LF Marine or Sailor:

- One mattress.
- Four sheets.
- One or two blankets (one blanket for Commander, Naval Surface Force, Atlantic ships; two blankets for Commander, Naval Surface Force, Pacific ships).
- One pillow.
- Two pillowcases.

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## **Military Sealift Command**

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The mission of the Military Sealift Command is to provide an immediate sealift capability in support of a contingency operation, armed conflict, or other emergency.

### **Measurement Units**

Knowledge of the following weight and volume measurements is required to plan for Military Sealift Command ship loads:

- Long ton: 2,240 pounds.
- STON: 2,000 pounds.

- Metric ton: 2,200 pounds.
- MTON: 40 cubic feet.
- Bale cubic capacity: the space available for loading cargo up to the inside of the cargo battens on the frames and to the underside of the beams that make up the superstructure of a ship. This measurement in cubic feet is used to compute the space available for general cargo.

### **Military Sealift Command Ship's Loading Characteristics Pamphlets**

Military Sealift Command SLCPs are similar to those prepared for amphibious ships. Unit embarkation personnel should contact their HHQ to obtain a specific SLCP. For general information on loading characteristics and considerations, refer to SDDC Transportation Engineering Agency Pamphlet 700-4, *Vessel Characteristics for Ship Loading*.

### **Loading Military Sealift Command Ships**

The SDDC is the agency responsible for the import cargo handling and ship loading for Military Sealift Command ships. Embarkation planners must complete the following:

- Make liaison with SDDC early in planning to identify ship loading and Military Sealift Command ship load planning capabilities and constraints.
- Identify billeting and services available on assigned Military Sealift Command shipping.
- Coordinate with the ship's master or first mate on the number of embarked personnel. Because of limited facilities and messing and berthing capacity, most Military Sealift Command ships are restricted in the number of personnel who can accompany the embarked vehicles and equipment load.
- Determine if cots; sleeping bags; meals, ready to eat (MREs); water; and heads are required.
- Prepare and submit Worldwide Port System export files from MDSS II and ship load plans to the SDDC.

- Identify onload support requirements to the LF embarkation officer. The LF embarkation officer will arrange for stevedores and longshoremen for loading and securing loads.
- Create MSLs and affix them to all cargo and equipment. Military shipping labels are required on all cargo and equipment transported on transportation provided/coordinated by Military Sealift Command or SDDC.

### **Unloading Military Sealift Command Ships**

The SDDC is also the agency responsible for the unloading of Military Sealift Command ships at the SPOD. Embarkation planners should coordinate offload requirements with HHQ and/or SDDC.

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## **Maritime Prepositioning Force**

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### **Background**

The MPF remains one of the Marine Corps' premier deployment options available to support amphibious and expeditionary operations. Coupled with intertheater airlift, use of the MPF greatly reduces the deployment timeline by having equipment prestaged aboard MPSs.

### **Maritime Prepositioning Ships Squadron**

Maritime prepositioning ships are specially configured and assigned to maritime prepositioning ships squadrons (MPSRONs) to transport nearly everything Marines need for initial military operations—from tanks and ammunition to food, fuel, spare parts, and engine oil. The MPF is organized into two MPSRONs, each commanded by a Navy captain: MPSRON-2 is usually located at Diego Garcia and MPSRON-3 is normally in the Guam/Saipan area. Figure 7-1, on page 7-12, shows an example of an MPSRON-2 ship. In addition to Marine Corps-designated ships, MPSRON staffs oversee all other prepositioning ships in their geographic operating areas.

Each MPSRON carries sufficient equipment and supplies to sustain approximately 15,000 personnel (a Marine expeditionary brigade [MEB]) with up to 30 days of select supply items. Each ship can discharge cargo pierside or while anchored offshore using lighterage carried aboard. This capability gives the Marine Corps the ability to operate in developed and underdeveloped areas

of the world. For more information on MPF operations, refer to MCWP 3-32, *Maritime Prepositioning Force Operations*. Detailed information on MPF and each MPS prepositioned load can be found on the Blount Island Command's Marine Corps Prepositioning Information Center Web site at <https://mcpic.bic.usmc.mil/iMcpic/default.aspx>.



**Figure 7-1. USS 1stLt Baldomero Lopez.**

# CHAPTER 8

## AIRLIFT

This chapter provides guidance for units planning and preparing for the air movement of personnel, supplies, and equipment by AMC-provided aircraft (see fig. 8-1); operational support airlift (OSA) aircraft; and common-user, commercial, or organic aircraft. These airlift resources support JCS-directed deployments/exercises, unit deployment program unit rotations, or unit training deployments.

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### Planning Requirements

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Air movement planning must be flexible to facilitate rapid changes to the number and type of aircraft provided, the allowable cabin loads of assigned aircraft, and mission requirements. Basic information, detailed data, and knowledge of planning and preparations procedures are required to register accurately a unit's airlift requirements through airlift requests to HHQs for contingency or scheduled exercise planning. Basic AMC aircraft capabilities and loading considerations are listed in DTR 4500.9-R, Part III. JP 3-17, *Air Mobility Operations*, provides information regarding units and coordination requirements for unit

deployments and redeployments through an APOE/APOD.

### Basic Information

Mobility and embarkation personnel involved in airlift planning and operations at all levels must be familiar with the following:

- Capabilities of the departure and arrival airfields to support the number and type of aircraft to be used.
- Airfield operating hours and their effects on the movement.
- Availability of support equipment at the departure and arrival airfields and staging and marshalling areas.
- POCs at each location supporting the airlift.
- Availability of permanent or expeditionary messing and billeting facilities.
- Any unique requirements inherent to the unit.

### Detailed Data

It is important that timely, accurate data be developed, validated, and provided to HHQs. Such data forecast the quantities of personnel, supplies,



**Figure 8-1. C-17 Globemaster III.**

and types of equipment to be airlifted. Unit planning will be continuous and supported by use of MDSS II and AALPS.

### Knowledge

Unit personnel must be trained to identify, prepare, and marshal cargo and equipment for air movement operations. Table of equipment-specific items that have airlift-unique characteristics or special loading requirements should be documented in unit desktop procedures and turnover folders. Cargo and equipment configurations and/or characteristics that require special planning/handling for airlift include, but are not limited to, the following:

- Any item requiring palletizing that exceeds a length of 20 feet.
- Items that exceed a height of 96 inches.
- Vehicles having an axle load in excess of 10,000 pounds or a wheel load exceeding 5,000 pounds.
- All hazardous cargo.

### Qualifications

Skills of personnel assigned to plan and supervise air movement operations should be continuously reviewed and evaluated.

#### ***United States Air Force Training***

The MSC embarkation office coordinates Air Force MTTs and also schedules Air Force-sponsored training.

#### ***Unit Training***

Organizations should conduct indoctrination and periods of instruction and/or mission-oriented training for air movement operations. Such training should include, but not be limited to, the following:

- Waterproofing of cargo/equipment, tactical markings, banding, and palletizing.
- Building, weighing, and marking 463L pallets.

- Reducing height of vehicles and equipment and cargo mobile loading techniques.
- Weighing, marking, and center of balance computation techniques for cargo, vehicles, and equipment.
- Hazardous cargo familiarization and preparation.
- Airlift documentation requirements.
- Plane team commander's (PTC's) responsibilities.

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### Special Assignment Airlift Mission Requests

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Special assignment airlift missions (SAAMs) are airlift requirements, including JCS-directed/coordinated exercise requirements, that require special consideration due to the number of passengers involved, weight or size of cargo, urgency of movement, sensitivity, or other factors that preclude the use of channel airlift.

All SAAM requests from the MSC will be submitted in the format included in DTR 4500.9-R, Part I and Part II and/or through the SAAM Request System. Submission dates and message formats will be per local SOP. Requests for SAAMs are characterized as follows:

- Routinely prepared and submitted when requesting AMC airlift in support of unit deployment program, unit rotations, and training deployments (continental United States [CONUS] and/or outside CONUS) when the use of JOPES has not been directed.
- Initiated and verified for accuracy by the deploying unit, the MSC embarkation officer, and the MEF SMO and validated by the Marine Corps component command SMO.
- Forwarded to USTRANSCOM by the Marine Corps component command SMO to the AMC for sourcing of aircraft.
- Typically required to be submitted to the MSC and accompanied by an electronic copy of the notional load plan for each plane load requested.

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## Joint Airborne/Air Transportability Training and Dual-Role Airlift Support Requests

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The use of joint airborne and air transportability training (JA/ATT) and dual role (DR) airlift support provides an opportunity to conduct joint Marine Corps and Air Force aircrew qualifications and load team proficiency skills development. Through the use of JA/ATT missions and DR, aviation elements are provided with inter-theater airlift assets at no cost in support of scheduled events (training, exercise, and employment plans). When using a JA/ATT, the supported unit is responsible for MHE support at the APOE and APOD. The transportation of required MHE support needs to be considered during the airlift budgeting process. The JA/ATT mission includes the following:

- Air drop.
- Air assault.
- Static load.
- Certification of new equipment.
- Combat support training (flare, leaflet, spray).

*Note: Dual roles are used to take advantage of refueling air missions to move cargo and equipment with the refueling mission. If a DR associated with a pre-existing Marine air refueling mission falls out (i.e., is not required, is cancelled, or cannot be filled), the secondary requirement/request of the DR (typically cargo/passenger movement) will also fall out.*

Additional JA/ATT and DR procedures can be obtained through the respective chain of command G-3/S-3 and/or G-4/S-4 offices.

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## Commercial Air Movement Requests

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Commercial air movement requests are routinely prepared and submitted when requesting commercial chartered or scheduled passenger airlift in support of unit movements within CONUS and when the use of JOPES has not been directed. All

commercial air movement requests shall be submitted in accordance with local SOP. Commercial air movement requests shall include deployment and redeployment requirements.

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## Cost Estimates

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United States Government airlift rates and non-US Government airlift rates can be obtained through the single mobility system. Refer to single mobility system in order to obtain a cost estimate. After an initial estimate is completed, consider the following to reduce the overall cost of the SAAM:

- Request one aircraft vice two where possible to reduce positioning/depositioning costs.
- Request a larger movement window to reduce the number of aircraft required to operate the mission.
- Plan dove-tails, i.e., using one aircraft to support deploying/redeploying units from the same APOD/APOE by coordinating the modification of the aircraft internal load configuration and unit arrival, staging, and departure times.
- Submit requests, known as horseblanket requests, to use a previously scheduled tanker, such as a KC-10/KC-135, in a dual use role to carry passengers/cargo while the refueling mission is being executed. Horseblanket requests are primarily used for, but not limited to, MAW units.

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## Airlift and Transportation Working Capital Fund

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The Transportation Working Capital Fund is a management tool used by the AMC to allocate DOD airlift and provide flexibility to expand to meet changing airlift needs. This management system provides visibility of costs for the air movement of passengers and cargo. Additional Transportation Working Capital Fund information

can be accessed via AMC's 618th Tanker Airlift Control Center Web sites.

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## Airlift Forecasts

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Local procedures dictate requirements for forecasting airlift needs, typically short-range forecasts (monthly to 120 days) that depict all scheduled, coordinated, and/or pending airlift requirements. The MSC embark section normally consolidates subordinate unit SAAM requirements and submits them to the MEF SMO, who consolidates and forwards the entire MEF forecast to the Marine Corps component command SMO. Accurate forecasting of airlift requirements will help to ensure appropriate airlift funding and assets will be provided in the amounts, quantities, and configurations needed or desired. Changes to the short-range forecast are required when there are any additions, deletions, and/or significant changes to the passengers/cargo load configurations that would affect airlift requirements.

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## Operational Support Airlift Requests

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Operational support airlift requests are routinely prepared and submitted when requesting Joint Operational Support Airlift Command and Navy Air Logistics Office airlift in support of unit and/or administrative movements. All OSA requests will be prepared in accordance with DTR 4500.9-R, Part I using DD Form 2768, *Military Air Passenger/Cargo Request*, with further guidance in MCO 4631.10A, *Operational Support Airlift Management*.

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## Joint Operation Planning and Execution System Airlift Requests

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Normally, airlift in support of an OPLAN is provided by a designated TPFDD plan identification

number within JOPES. See chapter 5 and appendix A for more information. Embarkation personnel should obtain a copy of and familiarize themselves with the TPFDD LOI obtained from their unit JOPES section.

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## Changes to Airlift Requests

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Changes to requests are required when the desired movement dates require change and/or the cargo/passengers detail may impact the quantity and type of airlift support requirements. Local SOP will dictate requirements for identifying changes.

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## Air Mobility Command Channel Movement

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Channel airlift is a common-user airlift service provided on a scheduled basis between two points. These requests will be submitted in accordance with DTR 4500.9-R, Parts I and II and local SOP. The two types of channel airlift service, requirements and frequency, and examples of how the Marine Corps uses them are discussed in the following subparagraphs.

### Requirements of Airlift Channel

Service is provided based on the amount of cargo to move through a given established channel. For example, when 20 tons of cargo are staged and awaiting airlift for an established requirements channel destination, the channel mission is operated.

### Frequency of Airlift Channel

Service is flown on a scheduled basis. For example, every Tuesday and Thursday an AMC channel mission may be operated to Diego Garcia in the Indian Ocean for US forces (to include MPSRON-2). This AMC frequency channel was established to satisfy an ongoing resupply requirement for the Navy. The frequency channel

validator (Chief of Naval Operations in this case) must continue to guarantee AMC enough revenue to pay for the frequency of service and to keep the channel operating.

**Uses for Channel Airlift**

The Marine Corps uses AMC channel airlift to move individuals or small groups of personnel, high priority cargo (normally supply/resupply items), and unaccompanied baggage (code J shipment). Passenger and cargo/mail channel rates are used by the DMO to determine airlift channel traffic. For example, Marines and dependants who fly to Okinawa on a B747 from Los Angeles may be flying on a contracted AMC channel aircraft.

**Air Clearance Authority**

Each Military Service branch has an airlift clearance authority that reviews and electronically clears (approves) channel movement requirements. The Marine Corps’ airlift clearance authority is located at Marine Corps Logistics Base, Barstow. During peacetime, most Marine Corps cargo sent via AMC airlift channel is destined for Hawaii or Okinawa or Iwakuni, Japan. Cargo and personnel for the forward-deployed MEUs from both coasts are sent using AMC airlift channel as well. The airlift clearance authority also clears airlift channel cargo during wartime.

**Multimode—Special Assignment Airlift Mission Comparison**

Channel airlift is used to move small amounts of passengers and cargo, typically at a cost less than that of a SAAM. However, the number and locations of APOEs and APODs where channel missions are operated are limited. Cargo may not be able to move at the desired time. On the other hand, SAAM airlift is used to move entire units. The requesting unit can request specific APOEs/APODs and desired movement dates. For

example, a radio battalion detachment may need to move from Hawaii to Korea in January. The amounts used in Table 8-1 for sealift and airlift are based on fiscal year 2010 rates and subject to change. The detachment consists of 38 passengers, 12 HMMWVs, 4 QUADCONs, and 1,000 pounds of security cargo requiring 2 escorts.

*Note: If these items are transported via Military Sealift Command shipping, they may have to be containerized, which is an extra cost to be added to the port handling and inland transportation costs associated with the sealift.*

This lift requires two C-17 equivalent loads. Often, a SAAM request would be submitted for two C-17s to support this deployment. For purposes of this comparison, the notional costs to move the detachment via mixed common-user transportation modes are shown.

Multimode shipments require more lead time for coordination. The sealift leg of this shipment could take 2 to 3 weeks or 8 to 10 weeks, depending on ship availability and staging times. The key question: Is the cost savings worth the additional time? In this case, the unit cannot

**Table 8-1. Airlift Transportation Costs.**

38 PAX @ \$910 each (Via commercial airlines or AMC channel)	\$34,580
12 HMMWVs and 4 QUADCONs (Via SDDC Liner Ocean Transportation Program)	\$28,408
Security cargo/2 escorts (Via AMC channel airlift)	\$3,746*
<b>Total</b>	<b>\$66,734</b>
* Rates based on FY10 TWCF rates of 1.926 dollars per pound for 1,000 pounds of cargo (\$1,926) from Hickam AFB, Hawaii to Osan AB Korea, plus \$910 x 2 for the 2 escorts (\$1,820).	
<b>SAAM COSTS</b>	
C-17 Costs	\$402,976
Hickam AFB, HI, to Osan AB, Korea, to Hickam AFB, HI	
Savings: \$336,242	
Legend	
AB	airbase
PAX	passengers
TWCF	Transportation Working Capital Fund
FY	fiscal year
AFB	Air Force base

likely do without the equipment for 8 to 10 weeks (valuable training work-up time), a factor that needs to be weighed. Therefore, cost is not necessarily the key determinant in selecting modes of transportation.

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## Airlift Documentation

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As identified in DTR 4500.9-R, Parts I and III, the following forms are used for load planning and documenting cargo and passengers to be airlifted. Airlift documentation is a deploying unit's responsibility.

### Aircraft Load Plans

All organizations will prepare and submit aircraft load plans using the MDSS II UDL and AALPS. Typically, a minimum of seven copies of the final load plan are required for movement operations. Refer to DTR 4500.9-R, Part III for documentation requirements.

One copy of the final load plan should be submitted to the MSC G-4 embarkation office upon completion of the moving unit/Air Force joint inspection typically not later than 24 hours before the scheduled aircraft departure. Refer to local SOP for submission requirements. When it is not feasible to use an automated load planning system, units will prepare and submit manual load plans using the appropriate DD Form 2130 series forms, *Aircraft Load Plans*. When the use of JOPES load plans is directed, the unit must be prepared to submit C-17 and C-5 aircraft load plan options to the AMC's 618th Tanker Airlift Control Center prior to a mission being assigned.

### Passenger Manifests

Accurate passenger manifests are mandatory to ensure the accountability of personnel embarking aboard aircraft. Responsibility for the preparation, correction, and validation of the passenger manifest rests with the G-1/S-1. Assignment of a

G-1/S-1 representative to the deploying unit's ALE for passenger manifesting and reporting purposes during movement operations is required. All passenger manifests will be prepared and attached to each submitted aircraft load plan in the format and quantities listed in DTR 4500.9-R, Part III.

### Duties and Responsibilities of the Plane Team Commander

The PTC duties and responsibilities are detailed in DTR 4500.9-R, Part III. Copies of this information should be provided with the passenger manifests to each PTC assigned.

### Cargo and Equipment Preparations

Preparing supplies and equipment for air shipment is a unit responsibility and will normally be accomplished in the unit marshalling areas. Preparation includes packing, crating, unitizing, marking supplies and equipment, and preparing vehicles for loading (including the provision of special slings if required).

### Computing Center of Balance

Defense Transportation Regulation 4500.9-R, Part III provides detailed information on the proper procedures for computing the center of balance of the various types of equipment and vehicles.

### 463L Pallet System

The 463L pallet system is the cargo palletizing system used by the DTS for air movement. Detailed pallet building instructions are provided in DTR 4500.9-R, Part III.

The 463L system consists of a 463L pallet, two side nets, and one top net (see fig. 8-2). This system is a worldwide mobility asset and is controlled and monitored by USTRANSCOM via AMC in accordance with DTR 4500.9-R, Part VI, *Management and Control of Intermodal Containers and System 463-L Equipment*.

## Shoring and Dunnage

Shoring and dunnage is required when tracked vehicles, helicopters, metal containers, bins, and vehicles with hard rubber tires are loaded. Shoring and dunnage prevents damage to the aircraft cargo floor and 463L pallets. Providing shoring and dunnage is the responsibility of the moving unit. Requirements should be identified prior to or early in deployment planning. Units should maintain 50 percent of the total required shoring and dunnage for air and amphibious embarkation. Shoring and dunnage will be stored in the unit area and, to the maximum extent possible, properly preserved and protected from the elements. Information about the sizes and quantities of lumber for the required dunnage should always be available so that units can procure additional shoring or dunnage, such as

through open purchase requisition, in a timely manner should the need occur.

## Marshalling and Staging

The deploying unit is responsible for coordinating all marshalling and staging requirements. The marshalling area is located at the home station or the APOE in certain situations. If a unit desires the marshalling area to be located at the APOE, coordination with the DACG/CRG must be made prior to the first chalk's arrival. The unit prepares equipment and supplies, assembles them into chalks for shipment (in load order), and delivers them to the alert holding area where administrative control is turned over to the DACG.

It is the deploying unit's responsibility to arrange for the movement of its equipment to and from

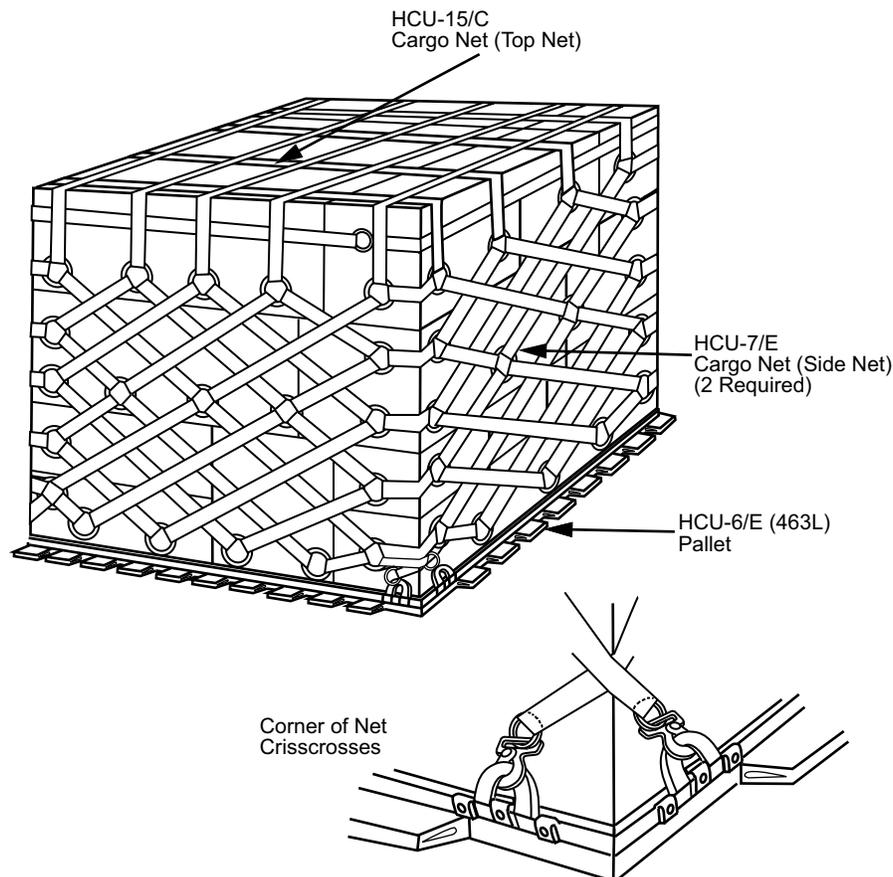


Figure 8-2. 463L Pallet System.

the designated marshalling and staging areas. The using unit is responsible to ensure sufficient MHE is available at the APOE/APOD.

### **Movement of Individual Weapons and Small Arms Ammunition Aboard Commercial Aircraft**

Defense Transportation Regulation 4500.9-R, Parts I and III, provide detailed information on moving individual weapons on contracted commercial aircraft, such as regularly scheduled commercial service. An example would be moving three personnel from II MEF to Italy or Germany on orders (with weapons authorized) to support a joint task force (JTF) that, because of airlift non-availability, must use scheduled airline service.

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### **Actions at the Aerial Port of Embarkation**

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Detailed responsibilities of supporting and supported units at the APOE can be found in DTR 4500.9-R, Part I and Part III, and JP 3-17. Local policy/SOP guides passenger and cargo arrival showtimes at the APOE. The following is typically covered in local directives:

- Showtime at the APOE for supplies and equipment for each aircraft load.
- Joint inspection schedule.
- Passenger and baggage showtime at the APOE. Troop and baggage transportation from the marshalling area to the staging area will be requested by the moving unit. At the APOE, the MSC embarkation representative will be prepared to turn over the appropriate number of corrected passenger manifests to the DACG. Baggage will be palletized, weighed, and marked if using AMC aircraft or weighed and made ready for stowage if using commercial aircraft.
- Showtime for units using OSA. Allow enough time for weighing/tagging baggage and manifesting personnel one hour prior to aircraft departure.

Actual staging/showtimes should be in accordance with local SOP, but may require adjustment depending on the airflow/situation. Only the AACG/DACG has the authority to adjust required showtimes to accomplish an orderly air-lift evolution.

### **Alert Holding Area/Call Forward Line**

The alert holding area/call forward line is the DACG's area of responsibility. The alert holding area/call forward line is located at the APOE and the specific location of each must be coordinated with the DACG/CRG prior to moving units from the marshalling area. The DACG will coordinate with the moving unit's ALE to call forward aircraft chalk loads. The main purpose of this area is to ensure all items to be moved are properly prepared for the joint inspection conducted by representatives of the unit, DACG, or CRG.

### **Loading Ramp/Ready Line**

The CRG receives control of the chawks from the DACG and conducts additional briefings and inspections as required. All responsibilities for movement from this point forward are the responsibility of the Air Force. The CRG will coordinate with the DACG to call forward all chawks. The CRG may require load team augmentation.

### **Joint Inspection Procedures**

The joint inspection is conducted between the moving unit, DACG, and Air Force airlift support personnel. Prior to the presentation of the aircraft load for joint inspection, the following items should be prepared:

- Shipper's declaration of dangerous goods, if applicable.
- Passenger manifest.
- Cargo manifest (load plans) reflecting actual data.
- Shoring/dunnage, if applicable.

Once the moving unit passes the joint inspection, AMC becomes responsible for the cargo and equipment in that particular chalk. A joint inspection is documented on a DD Form 2133,

*Joint Airlift Inspection Record*. Refer to DTR 4500.9-R, Part III, for detailed requirements, guidance, and a checklist.

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# CHAPTER 9

## REDEPLOYMENT PREPARATIONS

Embarkation personnel and other redeployment planners must be familiar with CBP, an organization under DHS. When returning from an exercise or operation, embarkation planners must ensure that time is allocated for inspections before redeployment. Embarkation planners should thoroughly review DTR 4500.9-R, Part V, *Department of Defense Customs and Border Clearance Policies and Procedures*, and Chief of Naval Operations Instruction (OPNAVINST) 6210.2, *Quarantine Regulations of the Navy*, to ensure all requirements are met.

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### Customs and Agriculture Inspections Responsibilities

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#### Department of Defense

Headquarters, Department of the Army, Assistant Secretary of the Army for Acquisition, Logistics and Technology is the DOD executive agent for the military customs inspection program. Under the supervision of the CBP, the military customs inspector conducts customs and agriculture inspections on personnel and material leaving the overseas theater. Overseas unified commanders are responsible for compliance with DTR 4500.9-R, Part V, which establishes guidelines for processing and shipping DOD-sponsored retrograde material. Inspectors must also comply with DOD Directive 5030.49, *DoD Customs and Border Clearance Program*, which establishes policies and procedures authorizing military customs inspectors to inspect material and personnel returning to US customs territory.

#### United States Marine Corps Forces, Pacific/ United States Marine Corps Forces Command

Marine expeditionary forces request assistance with redeployment issues that relate to customs and agricultural inspections (e.g., organic manpower capabilities exceed ability to conduct inspections) from United States Marine Corps Forces, Pacific (MARFORPAC)/United States Marine Corps Forces Command (MARFORCOM).

#### Marine Expeditionary Force

The MEF's senior inspector usually has the final military authority during customs/agriculture inspections and washdowns, but the ultimate final authority rests with the CBP (DHS). The MEF usually provides guidance and oversight of Marine Corps inspection program and CBP inspection program. Typically, the MEF—

- Coordinates external border clearance requirements and provides technical advice on customs/agriculture inspections and agriculture washdowns.
- Provides deploying units with a detailed briefing on customs/agriculture inspections and agriculture washdowns. Resources at this level include applicable references and support from senior inspectors. Senior inspectors may come from the MLG or the supporting establishment (military police for military customs inspectors and the medical battalion; the naval regional medical center or Navy hospital for the Navy entomologist and PMTs).

- Receives requests submitted to the senior inspector for inspection teams.
- Budgets and provides funds for the temporary additional duty (nonunit-related personnel) of inspection teams for contingency operations and training exercises.

### **Deployed MAGTF Command Element and the Logistics Combat Element**

The deployed MAGTF command element and the logistics combat element coordinate the following:

- Schedule the senior military customs inspector, PMT, and CBP officials for coordination meetings and briefings.
  - Conduct troop information classes by the senior military customs inspector and PMT and CBP representatives (if available) prior to and during the deployment.
  - Identify shortfalls and propose solutions where washdown facilities are inadequate at the proposed final overseas backloading port, base, or airport. The deployed MAGTF command element coordinates required support with in-country contacts or liaison agencies. Additional requirements may include fresh water washdown facilities at a final overseas port or site.
  - Determine the scope and extent of agriculture washdown requirements based on the amount of equipment and supplies that require washing and inspecting.
  - Schedule briefings with the senior inspector, CBP officials, and appropriate staff members.
  - Develop a detailed plan for customs/agriculture inspections and washdown operations.
  - Ensure washdown equipment is available.
  - Develop and enforce inspection and cleaning procedures.
  - Determine equipment and supplies that were not exposed to foreign soil contamination and that will not be offloaded for the washdown. These items should be listed and certified by letter to the senior inspector to be uncontaminated.
- Identify potential contamination problems from previous operations concerning backloading equipment, supplies, and vehicles.
  - Provide the senior inspector with the required personnel and equipment, to include additional inspectors, vehicles, radio operators, and radios, for the customs and agriculture inspections and agriculture washdown.

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### **Restricted and Prohibited Articles**

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United States border clearance laws and regulations prohibit the import of certain items or restrict import by placing specific conditions or prescribing quantity limitations. For detailed information and a list of restricted/prohibited articles, refer to DTR 4500.9-R, Part V. Every country has unique border clearance laws for customs and agriculture. Many times military customs inspectors are US and host nation officials. It is essential that liaison be established with the host nation or appropriate US representative, such as the embassy or combatant commander J-4 when planning a deployment to or from a foreign country.

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### **Military Customs Inspection Procedures**

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Customs inspections usually depend on the mode of transportation used for the redeployment. Units may have resident military customs inspectors who have been certified through military customs inspector training provided by CBP.

If returning to CONUS by amphibious shipping, units should follow the guidelines listed in MCRP 4-11C; however, if units are redeploying by air, a military customs inspector, in concert with APOD control agencies, will be responsible for the inspection. The military customs inspector will inspect all unit gear prior to pallet buildup and usually after equipment, containers, or boxes to be palletized have completed the washdown

process. He/She will then inspect all unit vehicles and stand-alone containers. Unit representatives should be on hand to provide access to any secured containers or boxes as required.

Once the vehicle, pallet, or container has been inspected, the item will be tagged with a serialized tag or some other means to ensure that access is secured until the item returns to CONUS. Before boarding aircraft, the military customs inspector will ensure all personnel are inspected for restricted, prohibited, and controlled items. All personnel will complete a CBP declaration form and units will coordinate with the military customs inspector to ensure this requirement is met.

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## Customs and Border Protection Declaration Forms and Terms

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### Tariff (Duty) Exemptions for the Armed Forces

There are different tariff (duty) exemptions for different situations. The US Armed Forces are given some unique exemptions not given to a US citizen tourist returning to the customs territory of the United States (CTUS). If military members return with items acquired abroad that exceed their personal exemption, they must pay the appropriate tariff (duty). Tariffs range from 2 to 35 percent and are subject to change.

### Customs Territory

All vessels and aircraft arriving from ports outside of the CTUS must be cleared by the CBP. The CTUS comprises the fifty States, the District of Columbia, and Puerto Rico.

### Extended Duty

All members of the US Armed Forces serving on naval vessels are considered to be permanently deployed if they have served on the vessel for 120 days outside of the CTUS or have left the

CTUS with the intention of serving on a vessel for 120 days.

### Nonresident Exemption

Any military personnel serving outside of the CTUS on an extended-duty deployment may claim the status of nonresident when returning to the CTUS for a short visit (more than 72 hours), provided that person intends to return to his/her duty station abroad. This includes leave and temporary additional duty.

### Customs Declaration

The CBP requires that all articles acquired abroad be declared in writing. For a complete list of customs terms and phrases, see DTR 4500.9-R, Part V.

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## Customs and Border Protection Washdowns

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The federal government, through the Code of Federal Regulations, Title 7, *Agriculture*, prohibits the introduction of any animal, plant, or material that is considered harmful to this country's agriculture. The CBP has been assigned enforcement authority for the Act. The purpose of an agriculture washdown and certification is to prevent introducing harmful public health or agricultural agents from entering the US on military equipment. Refer to OPNAVINST 6210.2 for a description of DOD's support for the United States Public Health Service and the United States Department of Agriculture effort to prevent such introductions. This reference prohibits the redeployment of vehicles and cargo from a foreign country unless they are free of animal, pest, and soil contamination. Refer to COMNAVSURFORINST 4621.1, COMMARFORCOMO 4621.1, and COMMARFORPACO 4621.1B for further information on conducting a washdown with amphibious shipping backloads and redeployments.

## Planning

Detailed planning and logistical forethought must be given to selecting the washdown site and ensuring sufficient supplies and equipment are available to conduct the washdown. Planning should culminate in a backload/washdown conference to be attended by all participating commands and inspectors. During planning, the organization and training of washdown crews should be emphasized. Drivers and assistant drivers must understand the importance of remaining with assigned vehicles and accessory vehicle items throughout the washdown, which ensures timely movement of vehicles and security of accessory vehicle items and cargo. Detailed organizational planning combined with training should result in a suitable washdown crew schedule with adequate NCO supervision at each washdown point. To assist in preparing further agriculture inspections, planners work with embarkation personnel to isolate material that was not exposed to contamination and verify it as such. The material is then segregated in the holds of specific cargo areas using wire screening or ropes to separate it from materials that have gone ashore. Inspectors may check these areas during the early stages of agriculture washdowns to ensure they are free of such contaminants as dirt, debris, fruit, or beverage cans.

## Selecting and Equipping a Washdown Location

A washdown location requires specific physical facilities for effective cleaning and inspection of all supplies and equipment. In addition, a military inspector familiar with CBP requirements with previous washdown experience should be consulted and included on reconnaissance trips to prospective washdown locations.

### **Hardstand**

The availability of hardstand is one of the major limiting factors in how long a washdown takes.

Hardstand is a hard surface which, even when wet, will not allow any soil to be transferred to vehicles, supplies, and equipment. Areas where hardstand is absolutely essential are those associated with the actual washing of vehicles, those used for offloading and cleaning the vehicle accessory items, staging areas for clean vehicles awaiting backload, and all roads in between the above areas. When inspecting the hardstand area, planners must consider the runoff of wash water into marine environments. Any fuel or other contaminants from the vehicles being washed may go directly into such an environment, causing harm to shellfish or other marine life. Planners must evaluate the need for berms or other containment strategies and the possibility of reusing the runoff water. Washdown areas for vehicles and equipment cleaning, and the staging areas for cargo and mobile loads should support all phases of the washdown and inspection process. Based on the expected pace of the backload operation, a clean vehicle staging area should be established and capable of staging clean, inspected gear.

### **Fresh Water Availability**

Large quantities of fresh water are consumed quickly during washdown operations.

*Note: Salt water will corrode vehicles.*

Approximately 250,000 gallons are required for an average MEU (2,400 personnel and related equipment) with 300 wheeled vehicles using fire hoses (as depicted in table 9-1) operating at the minimum recommended pressure of 90 pounds per square inch (psi). In many areas only gray water is available. Gray water is defined as non-saline, but with a number of contaminants from prior use. Though not used for sewage purposes, storage of this water and the absence of chlorine make it a potential disease carrier for those in close contact with it during the washing operations. Basic immunizations are recommended. In addition to the amount of water required and available, the adequacy of the water pressure should be considered.

## Environmental Considerations

Planners must assess the potential adverse impact of the agriculture washdown operation and take all reasonable actions to minimize the effects of gray water and contaminants on the local environment. Contaminants must be captured and removed to authorized collection areas.

## Washrack Requirements

The design and number of washracks will largely determine the speed at which the agriculture washdown can be conducted. Washracks should be designed for safety, placing vehicles on and off the rack while maintaining unrestricted access to all vehicle surfaces for the cleaning personnel. Adequate working clearance between the bottom of the vehicle and the ground is essential because the undercarriage of each vehicle must be washed, inspected, and rewashed and reinspected if necessary before being allowed off the washrack. If the vehicle is too close to the ground, the efficiency of the work crews and the inspection/rewash process is hampered, considerably extending the washdown time. The number of washracks required will vary with the amount of time available. Historically, the agriculture washdown proceeds at an average rate of one vehicle per individual washrack per hour of daylight. A person should be designated to guide the vehicles up and down the washracks to maintain a safe throughput rate.

## Water Pump Requirements

The design, output, and reliability of pumps can affect the speed of a washdown operation. Each washrack should have a minimum of two hose lines. The pumps should be capable of sustaining a minimum output pressure of 90 psi for many hours of continuous use. Fire department pumper trucks will work well and are usually available at any seaport, airport, or military base. Several

hose lines with 90 psi outputs can be routinely operated off a single truck. A supply of new hoses should be kept in reserve.

## Agriculture Washdown Equipment

Prior planning is necessary to determine requirements and request appropriate support when working overseas. Coordination and assistance will be required from the host facility/nation. Equipment recommended for a successful washdown is listed in table 9-1 on page 9-6. This list requires modification based on the unit size, the washdown location, and available host nation support. All locks on compartments, boxes, tool chests, and other locked items will need to be removed before inspection. If keys cannot be found, provisions should be made to cut the locks. Proper tools, any tire irons, wrenches, special screwdrivers, or other required tools need to be available to remove dual tires, gun mounts, plates, and floor mat bolts on different vehicles.

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## Agriculture Inspectors

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Military inspectors usually consist of at least one Navy entomologist and a number of PMTs sourced by the MEF from the MLG's medical battalion, the naval regional medical center, or the nearest Navy hospital. Military inspectors must maintain strict compliance with CBP (DHS) guidelines to ensure an unhindered and timely re-entry approval into CONUS by CBP and US Public Health Service officials. Military inspectors will vary depending on their branch of Service. Navy Medical Department PMTs are certified through Bureau of Medicine and Surgery Instruction 6250.12C, *Pesticide Applicator Training and Certification for Medical Personnel*. Normally PMTs work for the Navy entomologist. All military inspectors serve at the discretion of the CBP/DHS. Marines can fall under this category after completing training

**Table 9-1. Notional Equipment List for a MEU Washdown.**

EQUIPMENT	QUANTITY
Vehicle washracks	4
Floodlight set	6
Rough terrain forklift	4
Cranes	As required
Air compressor	2
Water truck (5,000 gal)	1
Water tank (3,000 gal) or SIXCON	2; 7-8
Flatbed trucks to move supplies	As required
Pump (55 gal or more per minute)	2
"Y" gates	3
Fire hose (1 1/2in), 600 ft	2 per washrack
Fire hose (2 1/2in), 200 ft	2 per washrack
Fire nozzles (2 per washrack)	8
Steam jenny	Minimum 2 (as required)
Steam manifold (6 stations)	1
Steam hose (1/2 in, 12 ft)	6
Steam hose (1 1/2 in), 300 ft	1
Cold/wet weather clothing	40 sets (assorted sizes)
Hard hats	40
Rubber gloves	20 pair (assorted sizes)
Rubber boots	15 pair (assorted sizes)
Safety goggles	40
Ear plugs	Box
Flashlights and batteries	24
Straw brooms	40
Putty knives	200
Small flat bladed screwdrivers	Minimum 12 (to clean tracks)
Steel rod (5 ft)	12
Wire brushes	100
Scrub brushes	100
Rags	As required
Garden hoses/nozzles	75
Vacuum cleaner (wet/dry) (as required for aircraft and vehicles)	Minimum 6
Waterless hand cleaner	Equivalent of 1 gal
Portable head	1 per 25 persons daily (varies)
Legend	
ft	foot/feet
gal	gallon
in	inch
SIXCON	six containers together

provided by the CBP. Military inspectors perform the following:

- Establish necessary administrative requirements, which are reviewed by CBP officials who conduct any final inspections that may be required at the point of entry.
- Attach inspection certification tags to each vehicle after cleaning/inspection has been completed.
- Maintain an inspection log to track the number of vehicles and to insure a double check for the tagged vehicles.

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## Customs and Border Protection Inspections

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When redeploying, cleaning equipment and conducting an agriculture inspection overseas do not preclude a CBP plant protection and quarantine program inspection upon return to CONUS. The CBP can require this additional inspection; however, close coordination with the CBP usually results in no further inspections or delays at the CONUS port of entry. Rigid CBP (DHS) inspection standards allow only a thin film of road dust on vehicles and equipment at the CONUS final port of entry. Because of these stringent standards, inspections of vehicles and equipment will be conducted only during daylight hours. Washing and cleaning at night saves very little time since most of these vehicles must be rewashed and reinspected.

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## Washing Standards

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Standards differ based on the degree that vehicles, containers, and equipment were exposed to contaminants. Vehicles typically get washed prior to re-embarkation aboard ship after an operation or exercise. Cleanliness of equipment en route to the final washdown location aboard amphibious shipping will range from lightly soiled to heavily contaminated. When lightly soiled, a limited

washdown will typically satisfy CBP requirements. For units that deployed overseas using Military Sealift Command shipping or AMC aircraft and whose equipment had prolonged exposure to contaminants, a more rigorous washdown is required.

### **Limited Washdown**

A limited washdown may be conducted on vehicles and equipment that had minimum exposure to the environment during operations and where such exposure would be harmless from the standpoint of agricultural or public health concerns. The most common example is road dirt or dust from traveling on a hard-surface road or highway.

### ***Ships***

Cleaning of all stowage areas for vehicles or equipment that were contaminated is required. This includes cleaning soil from recessed areas of the decks, such as clover leafs, pad eyes, and tie-down channels, and under shelving from corners and other hard-to-reach areas. Lower decks on certain amphibious ships can be submerged in salt water to satisfactorily eliminate contamination problems.

### ***Large Aircraft***

For aircraft that operated from a hard-surface airfield, protected areas, such as wheel wells and around cargo or passenger doors, are cleaned. Cargo and flight decks are visually inspected and cleaned if necessary.

### ***Amphibious Vehicles and Landing Craft***

For AAVs; LARC-Vs [lighter, amphibious resupply, cargo, 5-tons]; landing craft, air cushion (LCAC); and landing craft, utility (LCUs) ensure the troop compartment, crew area, the crew's personal equipment, as well as all areas that have been exposed to salt water during operations are cleaned. If vehicles washed with salt water are to be transported on aircraft, all salt

water must be removed or contained to prevent contamination of aircraft with corrosive salt solutions that can seriously damage airframes.

### **Comprehensive Washdown**

This level of washdown is accomplished for vehicles, equipment, and supplies exposed to contamination during sustained operations ashore. Supplies and equipment mobile-loaded on contaminated vehicles are offloaded. Accessory items and palletized supplies are staged in a pest-free area for cleaning. Vehicles proceed to a steam or washing station as determined by inspectors. Upon final inspection, material from mobile loads is reloaded aboard vehicles and the clean vehicles and supplies are re-embarked.

### **Fixed-Wing and Rotary-Wing Aircraft**

The cabin area, cockpit, wheels, wheel wells, skid/runner bars, under deck plates, panels, flap wells, other areas where foreign soil may have lodged, and personal equipment of crew and pilot are cleaned.

### **Ground Vehicles**

Cleaning motor vehicles usually consumes the greatest amount of time and causes the most delays. Before arrival at the washrack, the following must be completed:

- Sweep or vacuum the vehicle cab and all storage and tool compartments.
- Remove the battery, clean it and the battery box, and replace the battery.
- Remove the outside dual wheels and spare tires; place in the back for later cleaning at the washrack.
- Remove all padlocks, seat cushions, detachable sideboards, canvas sides/tops, and any personal gear brought ashore; leave at the mobile load staging area.
- Handpick or sweep any grass or vegetation from the radiator.

- Let down the sides of all trucks that are equipped with collapsible sides.
- Scrub and scrape as necessary.

At the washrack, vehicles will be hosed down with high pressure (recommend minimum 90 psi) fresh water or steam (steam may remove valuable protective coatings) paying particular attention to undercarriages, fender wells, axles, springs, bumpers, wheels, and recessed areas. As a corrosion prevention measure, salt water is not used for cleaning vehicles. Inspect each vehicle thoroughly to ensure that all soil is removed, using a flashlight, screwdriver, or putty knife where necessary. The following are common problem areas that cause backups at inspection checkpoints:

- Topside access areas—
  - ◆ Floor boards.
  - ◆ Battery boxes.
  - ◆ All storage/tool compartments.
  - ◆ Motor compartments.
  - ◆ Wheels and tires.
  - ◆ Windshield base (folding windshield).
  - ◆ Front and rear bumper hollows and braces.
  - ◆ Radiator front.
  - ◆ Truck beds.
  - ◆ All other spaces where soil might be found.
- Underside access areas—
  - ◆ Fender wells (front and rear) including access openings for tail light wiring.
  - ◆ Rocker panels.
  - ◆ Frame (fore and aft).
  - ◆ Coil spring wells (front and rear).
  - ◆ Transmission support beam.
  - ◆ Rear suspension A-frame (pivot points and drain holes).
  - ◆ Trailer hitch bolt recess.
  - ◆ Front, side, and rear body lips.
  - ◆ Drive shaft tunnel.
  - ◆ Power take-offs.
  - ◆ Axle brackets.
  - ◆ Fuel tanks (between body and tank).
  - ◆ Transaxle brackets.

- ◆ Leaf springs.
- ◆ Air tank braces.
- ◆ Drain and access holes.
- ◆ Universal joint between body parts.

## Tracked Vehicles

Cleaning tracked vehicles is by far the most difficult and time consuming washdown task. It is strongly recommended that cleaning on board ship be accomplished as soon as possible after the final contingency operation or exercise because of the excessive amount of time required to properly clean them. All soil impacted in the treads, around the rubber cleats, in the tread connectors, between and behind tread guides and roller supports, and all other spaces must be removed. Interiors must be soil-free, including the battery box. The bilges may contain some sand, but only if it is mixed with salt water. If tracked vehicles are to be transported on aircraft, all salt water must be removed or contained to prevent contamination of aircraft with corrosive salt solution. Tracked vehicles may be cleaned in the ship's well deck if enough space for one complete revolution of tread is available. Tracked vehicles may be cleaned on shore only if they can be backloaded without recontaminating the treads.

## Cleaning of Supplies and Equipment

Embarkation boxes, field desks, communications equipment, and similar items must be thoroughly cleaned with hand brooms, rags, and other nonwater methods, giving specific attention to cracks, crevices, and recesses. Personnel must clean pallets and loads of compacted soil and vegetation. Padlocked boxes must also be inspected, so responsible personnel with keys must be standing by to open them; otherwise, locks will be cut to access the boxes. Camouflage nets are difficult to clean properly, so hand cleaning, although time consuming, is the most effective method. Tents and canvas should be spread out on a pest-free surface and swept on

both sides (no water) paying attention to seams and flaps. Only essential personal gear needed during the washdown should be taken ashore; all personal gear taken ashore is considered

contaminated and will be cleaned and subject to an inspection at a designated location. Individual weapons will be inspected by unit commanders or authorized representatives.

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# APPENDIX A

## TIME-PHASED FORCE AND DEPLOYMENT DATA

This appendix provides a basic understanding of TPFDD, its development and execution, and reports used to support FDP&E. The JOPES database tool, TPFDD, is used to register all strategic sea and air movement requirements to USTRANSCOM for deployments. The unit's S-3 has overall responsibility for TPFDD management and accuracy. However, as logisticians and the unit's subject matter experts for transportation and deployment preparations, embarkation personnel must be familiar with the TPFDD as they will provide UDLs, recommendations, and expertise to support TPFDD development and execution.

### Time-Phased Force and Deployment Data Development and Execution Process

Time-phased force and deployment data development begins with mission analysis and determining force structure to satisfy mission requirements. Time-phased force and deployment data provides the following information:

- In-place forces (units already deployed).
- Forces deployed to support the OPLAN with a priority indicating the phased sequence for their arrival at the POD/destination.
- Routing of forces to be deployed.
- Movement data associated with deploying forces.
- Estimates of nonunit cargo and personnel movements to be conducted concurrently with force deployment.
- Estimated transportation requirements that must be fulfilled by common-user lift resources and requirements that can be fulfilled by assigned or attached transportation assets.

Time-phased force and deployment data development is typically accomplished at the MSC level, generally in the following steps (the

responsible staff section for each step is indicated in parentheses):

*Note: TPFDD planning actions are carried out by the MAGTF planners, MOS 0511 Enlisted MAGTF Planning Specialists, and MOS 0502 [skill designator] MAGTF Plans/Operations Officers (when assigned) in the operations/plans section.*

- Receive and analyze mission. Establish and monitor news group messages in GCCS and activate the operational planning team (operations/plans section).
- Develop CONOPS. Develop preliminary CONOPS, restatement of mission, and hard-copy tasking to execute mission (operations/plans section).
- Determine requirements. Perform initial force and sustainment sizing and conduct transportation capability study. The JTF is activated along with crisis action teams (operations/plans section; the crisis action team normally falls under its cognizance and is augmented by representatives from the other staff sections).
- Phase deployment flow. Provide commander's estimate, issue warning orders, and develop/refine requirements (operations section).
- Source requirements. From ULN blocks assigned by HHQ, develop ULN force structure shell for units needed to satisfy mission requirements in MAGTF/JFRG II (operations/plans section). Source forces by uploading MDSS II UDLs (provided by embarkation section) into the TPFDD ULN structure for deploying units and inputting numbers of personnel planned to deploy for each unit. Forward unsourced requirements to HHQs and distribute deployment orders upon receipt from the issuing authority (operations/plans section).
- Tailor requirements. Refine (embarkation and operations/plans sections) and forward actual

lift requirements based on unit MDSS II UDL data and make phasing adjustments (operations/plans section).

- Verify/certify/validate movement requirements. *Verify* and consolidate requirements (MSC/MEF operations/plans section), *verify* TPFDD level IV information (MSC/MEF embarkation section), *certify* transportation requirements (Marine Corps component command operations/plans and strategic mobility office), and *validate* requirements to USTRANSCOM (combatant commander).
- Allocate passengers and cargo ULNs to air and sealift carriers (USTRANSCOM); assign lift (AMC/Military Sealift Command); publish movement schedules and conduct load planning (MSC logistic and embarkation sections/ Marine Corps component command strategic mobility office).
- Marshal and move to POE. Marshal forces for movement, move to POE, and monitor movement (logistic and embarkation sections).
- Manifest and move to POD. Execute deployment; report departures and arrivals at POE/POD to the MDDOC (logistic and embarkation section) and manifest *actual* passengers and cargo STONs for ULNs in the TPFDD (operations/plans section).
- Receive loads at POD and move to final destination (embarkation and logistic sections).

### Unit Line Number Structuring

A *unit line number* is a seven-character alphanumeric code that describes a unique increment of a unit deployment, i.e., advance party, main body, equipment by sea and air, reception team, or trail party, in a JOPES TPFDD. It is made up of three elements: a force requirement number, a fragmentation code, and an insert code. The ULN is much like a landing serial number for an amphibious operation in that it uniquely identifies a movement requirement. The ULN structure should be provided by the MAGTF planners in

the operations section through the TPFDD LOI. The following are some specifics that will assist in preliminary ULN structuring:

- Consists of personnel, vehicles, equipment, and cargo from the same unit/same UIC.
- “Moves” from the same origin to the same destination by way of the same POE, POD, and intermediate locations.
- Moves during a specific movement window.
- Moves by the same mode and source.

There is *no* standard allocation procedure. Each combatant commander and Service component command, such as MARFORCOM and MARFORPAC, have unique allocation procedures.

### Time-Phased Force and Deployment Data Working Paper Reports and Data Elements

Knowledge of the kinds of data in the TPFDD and how the data can be packaged in “standard” or ad hoc reports is critical to verify and validate a unit’s movement requirements. Three commonly used reports are the summary of forces and deployment data working paper (F11D); the time-phased transportation requirements working paper (F11E-TN and F11E-SQ) and the cargo detail working paper report (F11W).

#### Summary of Forces and Deployment Data Working Paper

The F11D provides a summary of movement requirements, POD, and destination data. The F11D is in aggregated level (*Level I cargo detail*) (less MTONs) to include the total number of passengers and STONs to be moved. The F11D is one of the most common reports. Some of the embarkation-related data fields are duplicated in the F11W and described in the F11W paragraph later in this appendix. The F11D can be customized and sorted to produce an ad hoc report based on user-defined parameters, such as service, mode, and source.

**Unit Name (30 Characters)**

As the force description describes the unit *generally* (e.g., rifle company, infantry battalion), the unit name describes the unit *specifically* (e.g., “A” Co, 1/8). The JOPEs automatically sources the unit name from the UIC file in the Global Status of Resources and Training System (GSORTS). Changes can be made once the JOPEs unit name is imported into the record.

**Unit Identification Code (Six Characters)**

This six-character alphanumeric code uniquely identifies each active, reserve, and National Guard unit of the Armed Forces. There are many sources for finding the UIC, such as G-4 supply officer/maintenance management officer or G-3/G-5 plans/GCCS operator.

**Unit Type Code (Five Characters)**

The unit type code is an alphanumeric code that uniquely identifies each type unit in the Armed Forces. The unit type code is the look-up field within the type unit characteristics file (TUCHA). The TUCHA is a file that gives standard planning data and movement characteristics for personnel, cargo, and accompanying supplies associated with deployable type units of fixed composition. The file contains the weight and volume of selected cargo categories, physical characteristics of the cargo, and the number of personnel requiring nonorganic transportation. The TUCHA is maintained at the Service headquarters (HQMC level). Examples of type units are a rifle company, F/A-18 squadron, or an artillery battery. There are also task-organized detachments listed in the TUCHA, such as MAGTFs or MAGTF detachments. Questions about the TUCHA can be referred to MAGTF planning personnel (MOS 05XX) in the unit’s operations or plans section.

**Parent Indicator Code (One Character)**

The PIC [parent indicator code] is used by MAGTF planners to define the ULN’s parent status.

**Service Code (One Character)**

The SVC [Service code] is “M” if a Marine Corps component command.

**Organization Code (One Character)**

Each organization has its own one-digit code. For example, for I MEF forces (assigned to the combatant commander, US Pacific Command) the providing organization code is “5.”

**Authorized Number of Personnel/Passengers**

The authorized number of personnel/passengers indicates how many passengers are authorized to move and how many are planned to move.

**Total Short Tons/Cubic Feet Bulk or Barrels**

The total number of STONs/cubic feet bulk or barrels provides a rollup of total cargo STONs and bulk stowed items (e.g., grains or liquids) that are packaged in barrels.

**Location Name Port of Debarkation/Destination**

The POD/destination is the geographic point (aerial port or seaport) in the routing scheme where a movement requirement will complete its strategic deployment.

**Earliest Arrival Date**

The earliest arrival date is a day relative to C-day when a unit can be accepted at the POD during a deployment. The latest arrival date defines a delivery window for transportation planning.

**Latest Arrival Date and/or Required Delivery Date**

Latest arrival date and/or RDD are days relative to C-day (see *Dates* paragraph on page A-4) when a unit can arrive at the POD and support the CONOPS or when a unit must arrive at its destination and complete unloading.

**Mode Port of Debarkation/  
Destination and Source Code**

This code indicates the modes and sources of transportation planned to move the unit to the POD and destination. See table A-1 on page A-7.

**Dates**

All dates in the TPFDD and working paper reports are based upon C-day or the notification for deployment day (N-day). C-day is the unnamed day on which deployment for an operation commences or is to commence; it is established by a combatant commander or higher. (C-day is C000; day *after* C-day is C001). N-day is an unnamed day before C-day when a unit is notified for deployment or redeployment. (Day *before* C-day is N001).

**Time-Phased Transportation  
Requirements Working Paper**

The F11E-TN provides a listing showing planned itinerary and summary cargo data of total passengers, STONs, and MTONs (Level II cargo detail) for each unit. The F11E-SQ (Level III detail) provides a complete list showing planned itinerary and summary cargo data indicating an organization's total passengers and square foot stowage requirement. Like the F11D and the F11W, the F11E's output can also be adjusted to create an ad hoc report based on user defined parameters. Level II is rolled up from Levels III and IV.

**Cargo Detail Working Paper Report**

The F11W provides a list of Level IV cargo detail data for each CCC to be moved by a unit. Its Level IV information is combined with the planned transportation routing requirements and geographic codes (GEOCODEs) to provide a complete picture of the cargo, vehicles, and equipment the organization needs to move and how

those items will be transported to the final destination. The F11W's data fields listed in tables A-1 through A-4 (pages A-7 through A-10) identify information required for movement.

**Cargo Category Code**

The CCC is a three-character alphanumeric code that identifies movement characteristics and the type of wheeled/tracked vehicle or cargo item identified as a lift requirement. Cargo category codes have many possible character combinations. Planners must think of how the cargo can be configured and physically transported and what the desired mode of transportation is. Each cargo item can have only one CCC. Planners must choose the one that best describes the unit's movement requirement. For example, a HMMWV can be coded as an R2B, R2C, or R2D; a bulldozer as A1D or A2D; bulk HAZMAT (lithium batteries) as D3A, D3B, D3C, or D3D; and general supplies as J3A, J3B, J3C, or J3D. Tables A-2 (on page A-8), A-3 (on page A-9), and A-4 (on page A-10) provide explanations for each character. The first character of the CCC categorizes the item to be moved.

The second character of the CCC indicates whether cargo unit equipment, accompanying unit supply, and nonunit cargo is transportable by air or prepositioned.

The third character indicates whether a vehicle organic to the unit transports cargo or if cargo can and/or will be containerized.

**Passengers**

Authorized personnel and number of passengers.

**Dimensions**

The length, width, and height in inches.

**Pieces**

Number of pieces—quantity.

**Square Feet**

The total square foot lift requirement for the organization. If length and width are entered, the system will calculate the square feet.

**Short Ton (2,000 pounds)**

The STONs for each item. The system will multiply by number of pieces—quantity (PCS), and display totals on the top line roll-up. Short tons are categorized as either bulk (BULK[ST]), oversized (OVER[ST]), or outsized (OUT[ST]) based upon the CCC.

**Measurement Ton**

If length, width, and height are entered, the system will calculate the MTONs (total cubic feet divided by 40, where 40 cubic feet = 1 MTON). Like STONs, MTONs are categorized as either bulk (BULK[MT]), oversized (OVER[MT]) or outsized (OUT[MT]) based on the CCC.

**Origin**

The beginning point of deployment; the point or station where a movement requirement is located. The JOPES automatically sources the origin GEOCODE of the UIC from GSORTS. Changes may be made after the GSORTS origin GEOCODE is imported into the record. The GEOCODEs can be found from the look-up option for that field in the current unit move AIS. The following are examples of GEOCODEs:

- ETFB—Camp Lejeune, NC.
- ETZB—Marine Corps Base (MCB) Camp Pendleton, CA.
- SBDJ—Norfolk, VA.

**Port of Embarkation**

The geographic point (air or seaport GEOCODE) in the routing scheme where a movement requirement will begin its strategic deployment.

**Intermediate Location**

An intermediate stopping point (GEOCODE) in the deployment routing of a unit that could be used to identify any layover that may be required for a specified time, normally longer than one day. It is often used to unite the personnel and cargo of a split shipment. This point may occur between the origin and POE, the POE and POD, or the POD and destination.

**Port of Debarkation**

The geographic point (port or airfield GEOCODE) in the routing scheme where a movement requirement will complete its strategic deployment.

**Destination**

The terminal GEOCODE in the routing scheme for forces only (sustainment and replacement personnel are routed to a port of support). The destination identifies the station or location in the objective area where the unit will be employed. For some units, the destination may be the same as their POD.

**Mode Code (M) and Source Codes (S)**

One character each (see table A-2 on page A-8).

**Ready-to-Load**

A date relative to C-day when a unit will be ready to move from the origin (mobilization).

**Available-to-Load**

A date relative to C-day that is specified for each unit in a TPFDD and that indicates when that unit will be ready to load at the POE.

**Earliest Arrival Date**

A day relative to C-day that is the earliest date when a unit, a resupply shipment, or replacement personnel can be accepted at the POD.

during a deployment. Used with the latest arrival date, it defines a delivery window for transportation planning.

***Latest Arrival Date***

A day relative to C-day that is the latest date when a unit, a resupply shipment, or replacement personnel can arrive at the POD and support the CONOPS. Used with the earliest arrival date, it defines a delivery window for transportation planning.

***Required Delivery Date***

A date relative to C-day when a unit must arrive at its destination and complete unloading to enable it to support the CONOPS.

***Combatant Commander's Required Date***

The original date specified by the geographic combatant commander for arrival of forces or cargo at the destination. This date is used in the TPFDD to assess the impact of a later arrival.

**Table A-1. Mode and Source Codes.**

<b>CODE</b>	<b>MEANING</b>
AC	Air via supporting commander channel (AMC or Service aircraft)
AD	Air via theater (supported commander) aircraft
AH	Air via organic (unit) aircraft
AK	Air via strategic (AMC, AMC-contract) aircraft
AL	Air via AMC commercial ticket program Air via AMC commercial cargo program
AM	Air via unit (Service)-funded commercial tickets
AN	Air via host nation/allied-provided airlift
AQ	Air via strategic (AMC) aircraft, SOF, SOF Compartmentalized Mission Handling
AS	Air via SAAM
LD	Land via theater (supported commander) trucking
LG	Land via SDDC-arranged trucking or rail (CONUS)
LH	Land via organic (unit) vehicles
LN	Land via host nation/allied-controlled transport
LM	Service-provided, nonorganic land transport
LR	Land via theater (supported commander) rail
PA	Mode and source of transportation are optional, USTRANSCOM will analyze and recommend appropriate mode/source
PC	Mode optional; source is supporting combatant commander (to other than a CONUS SPOE)
PD	Optional via supported commander (to other than a CONUS SPOE)
PG	Mode optional; source is SDDC (CONUS use only)
PN	Host nation
SC	Sea via Navy/Coast Guard ship
SD	Sea via Navy/Coast Guard ship (MPS/APS-3)
SE	Sea via MSC ship or SDDC-contracted liner service
SG	Sea via SDDC-arranged commercial charter
SH	Sea via organic (unit) vessels
SN	Sea via host nation/allied-provided sealift
SP	Sea/canal via barge/ferry
SW	Sea via MSC (AFOE)
XG	No transportation required (origin and POE same, CONUS APOEs/SPOEs; or POD and destination same, CONUS APODs/SPODs)
XX	No transportation required (origin and POE same, not CONUS APOEs/SPOEs; or POD and destination same, not CONUS APODs/SPODs)
Z (blank)	Requirement is in place at final destination
Legend	
AFOE	assault follow-on echelon
APS	Army pre-positioned stocks
SDDC	Surface Deployment and Distribution Command
SOF	special operations forces
USTRANSCOM	United States Transportation Command

**Table A-2. First Character of Cargo Category Code.**

CODE	MEANING
A	All wheeled and tracked vehicles (self-propelled or towed) that are neither security nor hazardous cargo (see codes K and L) and are not suitable for road marching for overland deployment legs.
B	Uncrated NSDA. If self-deployable aircraft will not be deployed under their own power, they must be identified as NSDA and their force movement characteristics reported.
C	Floating craft.
D	Hazardous nonvehicular cargo (see code E).
E	Security nonvehicular cargo or nonvehicular cargo that is both security and hazardous.
F	Cargo requiring refrigeration by mover.
G	Bulk POL, not packaged.
H	Bulk granular cargo; e.g., crushed rock or sand.
J	Other nonvehicular cargo, including packaged POL, crated aircraft, and technical assistance team yellow.
K	Vehicle designated as security cargo or both security cargo and hazardous cargo.
L	Vehicles designated as hazardous cargo, but not security cargo.
M	Ammunition.
N	Nuclear weapons.
P	Chemical munitions.
R	All wheeled and tracked vehicles (self-propelled or towed) that are neither security nor hazardous cargo and are suitable for road march for overland deployment legs and capable of convoy speeds up to 40 mph.
Legend mph      miles per hour NSDA     non-self deployment aircraft	

**Table A-3. Second Character of Cargo Category Code.**

UNIT EQUIPMENT	ACCOMPANIED UNIT SUPPLY	NONUNIT CARGO	MEANING
0	4	A	Nonair-transportable cargo: exceeds any of the dimensions 1,453 in x 216 in or has a height between 114 in and 156 in and is wider than 144 in. All dimensions are expressed in length x width x height. Width and height pertain to aircraft door limitations
1	5	B	Outsized cargo: exceeds 1,090 in x 117 in x 105 in and is qualified by MILSTAMP aircraft air dimension code (too large for C-130)
2	6	C	Oversized cargo: exceeds the usable dimension of a 463L pallet (104 in x 84 in x 96 in) or height as established by the cargo envelope of the particular model of aircraft
3	7	D	Bulk cargo: dimension less than those of oversize cargo
8	9		Organic cargo: non-TCC cargo is prepositioned or will be transported via organic sources and does not require TCC support
Legend in inches MILSTAMP military standard transportation and movement procedures TCC transportation component command			

**Table A-4. Third Character of Cargo Category Code.**

CODE	MEANING
A	Cargo is normally carried on a vehicle that is organic to the unit (not applicable to nonunit cargo).
B	Cargo can be containerized, meets the dimensional criteria for TEU/ISO container (231 in x 92 in x 84 in) and does not exceed a weight of 20 STONs. For vehicles being shipped in 20-foot containers, maximum dimensions are 225 in x 84 in x 82 in. These dimensions allow space for blocking and bracing.
C	Cargo can be containerized, does not meet the dimensional criteria for a 20-foot container but does meet dimensional criteria for a 40-foot container (472.5 in x 92 in x 84 in) and does not exceed a weight of 40 STONs. For vehicles being shipped in 40-foot containers, maximum dimensions are 468 in x 84 in x 86 in. These dimensions allow space for blocking and bracing.
D	Cargo cannot or will not be containerized.
Legend in inches	

# APPENDIX B

## TURNOVER FOLDERS AND DESKTOP PROCEDURES

A turnover folder contains pertinent information about a key billet which, when passed on to any individual newly assigned to the billet, allows the user to assume duties in a minimum amount of time. Recommended content includes (but is not limited to) the following:

- Letter or special order assigning the individual to the billet (if required).
- Organizational chart.
- Billet description.
- Functional areas of responsibility.
- Special duties and tasks.
- A copy of pertinent references.
- POC by command, billet, grade, name, telephone number, and e-mail address. Embarkation representatives will have a POC list of two levels higher and all subordinate units.
- Problem areas sufficiently defined.
- Status of pending projects.
- Required reports and reporting procedures.
- Past inspection results, reports of corrective action taken on inspection discrepancies (if any) and internal inspection procedures.
- Copy of a SAAM request. A sample SAAM and submission requirements will be included.
- Copy of garrison UDL.
- Garrison UDL procedures.
- List of unit and/or section lift requirements and HAZMAT.
- Internal and/or external movement support request procedures to obtain MHE, vehicles, and buses.
- Copies of all outstanding embarkation box construction requests.
- Copy of requesting procedures for 463L pallets and associated equipment.
- Copies of appointment letters for all embarkation billet holders.

Desktop procedures list procedures, references, and other related information on managing the functional areas of a particular billet. These procedures define the routine functioning (who, what, when, where, why, and how) of a billet in writing. This file is an integral part of the turnover folder. Desktop procedures should include, but are not limited to, the following:

- A brief description of the duties and responsibilities of assigned personnel.
- A summary of the daily routine.
- Descriptions or charts that reflect the routine flow of paper or work.
- Work priorities within the section or office.

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# APPENDIX C

## UNIT INSPECTION DOCUMENTATION EXAMPLES

### Example of Embarkation Readiness Inspection Memorandum

#### MEMORANDUM

Date

From: Battalion Embarkation NCO

To: Section Embarkation Representatives

Subj: EMBARKATION READINESS INSPECTION

1. On (date), there will be an embarkation readiness inspection of all subordinate sections in the battalion. All embarkation representatives are required to be present during the inspection of their section.
2. All discrepancies noted will be corrected and reinspection will be conducted on (date to be determined, but not later than thirty days after initial inspection).
3. POC concerning this matter is (Embark NCO) at extension 1234.

(Embark NCO)

## Example of Results of Embarkation Readiness Inspection Memorandum

### MEMORANDUM

Date

From: Battalion Embarkation NCO

To: Battalion Embarkation Officer

Subj: RESULTS OF EMBARKATION READINESS INSPECTION HELD ON (DATE)

1. The following is a list of discrepancies noted:

#### SECTION

#### DISCREPANCIES

S-3

- Insufficient number of six-cube boxes on hand to embark for movement.
- Incorrect weight markings on boxes 0305, 0321, and 0325.

SUPPLY

- Insufficient number of pallets and pallet boards for tents.
- Water cans not properly marked or palletized.

MOTOR TRANSPORT

- Vehicle serial numbers 123456, 654321, and 918273 missing unit designator markings.

2. A reinspection will be held on (date) at the following times:

#### SECTION

#### TIME/DATE

S-3

0800, (Date)

SUPPLY

1000, (Date)

MOTOR TRANSPORT

1300, (Date)

POC is (Embark NCO) at extension 1234.

(Embark NCO)

**Example of Corrective Action Taken Upon Embarkation Readiness Reinspection Memorandum**

**MEMORANDUM**

Date

From: Battalion Embarkation NCO

To: Battalion Embarkation Officer

Subj: CORRECTIVE ACTION TAKEN UPON EMBARKATION READINESS REINSPECTION

Discrepancies noted on (date) during the embarkation readiness reinspection were corrected with the following exception:

- Pallets and banding wire for water cans not on order.

(Embark NCO)

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# APPENDIX D

## SAMPLE MAJOR SUBORDINATE COMMAND COMMANDING GENERAL'S READINESS INSPECTION CHECKLIST

ORGANIZATION/UNIT: \_\_\_\_\_

TYPE OF EVALUATION: \_\_\_\_\_

RATING: \_\_\_\_\_

INSPECTORS: \_\_\_\_\_

	TO Number	Rank/Number Rated	Assigned
0430 Billet Assignments	1234	WO1/1	1
0431 Billet Assignments	1234	SSgt/1	0

TRAINING	YES	NO	N/A
Has the embarkation officer attended the TEO/assistant course?			
Has the embarkation chief attended the TEO and the Intermediate Logistics/Embarkation Course?			
Is the embarkation officer certified in air movement planning?			
Is the embarkation chief/clerk certified in air movement planning?			
Is the embarkation officer/chief/clerk certified and current in HAZMAT certification?			
Is the unit conducting on-the-job-training and sustainment training in accordance with NAVMC 3500.27B?			
Have quotas for formal embarkation training been requested for personnel requiring such training?			
REFERENCE MATERIALS			
Does the embarkation section have access to the following:			
Unit TO			
Unit TE/UER			
DTR 4500.9-R, Parts I through IV			
JP 3-02, <i>Amphibious Operations</i>			
JP 3-02.1, <i>Amphibious Embarkation and Debarkation</i>			
JP 3-17, <i>Air Mobility Operations</i>			
MCWP 3-31.5, <i>Ship-to-Shore Movement</i>			
MCWP 3-31.7, <i>Seabasing</i>			
MCRP 4-11C, <i>Airdrop of Supplies and Equipment: Rigging Operations</i>			
MCWP 5-1, <i>Marine Corps Planning Process</i>			

REFERENCE MATERIALS (Cont'd)	YES	NO	N/A
MCRP 5-12D, <i>Organization of Marine Corps Forces</i>			
MCO P4030.19H, <i>Preparing Hazardous Materials for Military Air Shipments</i>			
MARFORLANTO 4035.2/MARFORPACO 4035.1 <sup>1</sup>			
MCO 3000.18B, <i>Marine Corps Force Deployment Planning and Execution Manual</i>			
Fleet SOP			
Appropriate division/MAW/MLG/MEF headquarters group SOP			
Appropriate MEU SOP			
SLCP as required			
Troop regulations for appropriate ship as required			
Latest versions of MDSS II/LOGAIS software loaded on computers			
<b>ADMINISTRATION</b>			
Does the embarkation officer/assistant maintain an adequate turnover folder and desktop procedures?			
Does the embarkation officer's/assistant's desktop procedures contain, at a minimum, the following:			
A list of pertinent orders and reference material?			
POCs for embarkation (higher and lower echelon)?			
A recall roster of embarkation personnel (higher and lower echelon)?			
A current UDL of the unit's supplies and equipment?			
Results of the last embarkation inspection?			
A current list of supplies required for movement of the unit; e.g., NSN, nomenclature, or cost?			
Special sling requirements to lift the unit's equipment?			
A list of required shoring/dunnage for air/sea movement?			
A list of common hazards possessed by the unit?			
A list of all key personnel within the unit who have received formal school training in such topics as TEO, HAZMAT, aircraft load planning, or CSC?			
A copy of unit box number allocations?			
A copy of established procedures for requesting TOT and TOP?			
A copy of established procedures for obtaining 463L pallets and nets?			
<b>MDSS II</b>			
Has the unit established and published procedures to update the garrison and/or deployment UDLs?			
Does the unit embarkation officer/assistant conduct monthly evaluations/inspections on the maintenance of the garrison UDL?			
Does the UIC field reflect the correct UICs?			
Does the PKG ID field reflect a correct box, pallet, or serial of the item?			
Does the item ID field reflect the correct item ID?			
Are descriptions in the UDL field sufficient for the commander to determine if the contents are required for an operation?			

<b>MDSS II (Cont'd)</b>	<b>YES</b>	<b>NO</b>	<b>N/A</b>
Do the length, width, and height fields reflect the correct dimensional data?			
Does the JCS CCC field reflect the correct code for each item?			
Does the unit's garrison UDL accurately reflect all TE, UER, individual material readiness list, or other special allowance items?			
<b>SUPPLIES</b>			
Is sufficient lashing material available for cargo-carrying vehicles?			
Are there sufficient administrative supplies (e.g., tape, blank forms, and placards) for embarkation?			
Are there sufficient wheel chocks with stringers for use during embarkation operations?			
Has the requirement for dunnage/shoring been identified for air movement of vehicles and equipment?			
Are there sufficient banding tools, clips, and 1 1/4-inch wire to band every container/box listed in the garrison UDL?			
Are there sufficient pallets with pallet boards for unbanded/unitized supplies and equipment listed in the garrison UDL?			
Does the unit have a supply of 463L pallet bags to protect cargo from the weather during an air movement?			
Does the embarkation officer/assistant have an architect scale, calculator, and tape measure?			
<b>PREPARATION</b>			
Are boxes, vehicles, and containers marked in accordance with MARFORLANTO 4035.2/MARFORPACO 4035.1 <sup>1</sup>			
Is there a box number placed on each box/container/pallet board or bundle?			
Are lifting devices installed on all vehicles and equipment?			
Are standard size boxes/containers being used to the maximum extent?			
<b>PRESERVATION, PACKAGING, AND PACKING</b>			
Does the unit have established procedures for requesting embarkation containers/boxes from PP&P?			
Does the unit maintain a PP&P log book?			
Does the unit have procedures to submit HAZMAT to PP&P for packaging and certification for shipment via surface or air?			
<b>EMBARKATION SKILLS AND KNOWLEDGE EVALUATION</b>			
Can the embarkation officer/assistant design and produce an ad hoc report given a specific format and criteria?			
Does the unit have a storage plan for supplies and equipment that may be left behind due to limited lift capability?			
Does the embarkation officer/assistant understand the terms LBE and RBE?			
Can the embarkation officer/assistant demonstrate the procedures and considerations used during embarkation planning?			
Does the embarkation officer/assistant know what special MHE requirements they have?			
Can the embarkation officer/assistant explain a serial assignment table, landing sequence table, and assault table?			
Can the embarkation officer/assistant identify external transportation requirements to move the unit from origin to the POE?			
To what scale are sealift templates made?			
Can the embarkation officer/assistant define an SLCP?			
Can the embarkation officer/assistant describe the LFORM?			

<b>EMBARKATION SKILLS AND KNOWLEDGE EVALUATION (Cont'd)</b>		<b>YES</b>	<b>NO</b>	<b>N/A</b>
Can the embarkation officer/assistant explain the two types of loading for amphibious ships?				
Can the embarkation officer/assistant describe where to find the capability of a specific class of amphibious ship?				
<b>AIS PROFICIENCY</b>		<b>YES</b>	<b>NO</b>	<b>N/A</b>
Can unit embarkation personnel use the MDSS II Deployment Workbench function to source an accurate exercise or deployment UDL from JFRG II?				
Can unit embarkation personnel use the MDSS II Workbench function to assign items scheduled to deploy with allocated air, surface, or overland carriers?				
Can unit embarkation personnel create an MDSS II export for import to ICODES and AALPS?				
Can unit embarkation personnel use ICODES and AALPS to create templated loading plans as directed?				
Can unit embarkation personnel use AIT (LOGMARS, RFID) and MDSS II to enhance UDL management and provide ITV?				
<b>REMARKS/RECOMMENDATIONS</b>				
<sup>1</sup> Marine Corps Forces, Atlantic Order (MARFORLANTO) 4035.2/Marine Corps Forces, Pacific Order (MARFORPACO) 4035.1, <i>Tactical Marking Procedures for Equipment and Embarkation Containers</i>				
<b>Legend</b> ID            identification LBE         left-behind equipment LOGAIS     logistics automated information system LOGMARS   logistics applications of automated marking and reading symbols N/A         not applicable PKG         package RBE         remain behind equipment SSgt        staff sergeant TO          table of organization UER         unit equipment report WO         warrant officer				

# APPENDIX E

## UNIT PERSONNEL AND TONNAGE TABLE LINE NUMBERS

The UP&TT line number helps personnel identify the contents in containers and select the best location to stow them aboard amphibious ships. Embarkation personnel may select line numbers and mark them on the 3-inch diameter stowage designator on embarkation containers.

LINE NUMBER	ITEM
1	Rations
2	Water
3	Personal baggage
4	Organizational cargo (troop stow)
5	Organizational cargo (hold stow)
6	Construction/field fortification (e.g., cement, concertina wire, or sandbags)
7	Nonmilitary support
8	Medical and dental items
9	Personal demand items
10	Bulk fuel (more than 55 gallons)
11	Packaged fuel (55 gallons or less)
12	Chemicals (nonflammable) (e.g., water purification materials, water softening materials, or fire extinguishing materials)
13	Chemicals (flammable) (e.g., MOGAS gas cans, field lanterns, M-2 burners, white gas, or immersion heaters)
14	Compressed gas (e.g., oxygen or acetylene)
15	Other POL (special lubes and greases) (e.g., graphite, gear oil, instrument grease, or wax)
16	Small arms ammunition (.50 caliber or less)
17	High explosives (e.g., artillery ammunition, demolition materials, or hand grenades)
18	Pyrotechnics (e.g., flares, thermites, or blasting caps)
19	Nuclear
20	Missiles
21	Inert (e.g., all training inert devices)
22	Vehicles, equipment, heavy lifts (e.g., items that must require square-foot stowage)
23	Total square feet
24	Aircraft (operational)
25	Number of aircraft
Legend MOGAS motor gasoline	

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# APPENDIX F

## NOTIONAL EMBARKATION SUPPLIES AND EQUIPMENT LIST

The following embarkation supplies and equipment should be available to the unit. As supplies are upgraded and different vendors are contracted to provide items, item NSNs and TAMCNs may change.

DESCRIPTION	NSN	TAMCN
<b>BANDING MATERIAL/TOOLS</b>		
Steel strapping, flat 1 1/4 inch	8135-00-283-0671	K4910
Seal, steel strapping (clip)	5340-00-891-3473	K4905
Sealer, steel strapping, hand (crimper)	5120-00-278-2423	K4806
Cutter	5110-00-223-6281	
Stretcher, steel strapping	3540-00-278-1250	K4948
<b>LUMBER</b>		
1 inch x 12 inches	5510-00-220-6086	
2 inch x 12 inches	5510-00-220-6202	
4 inch x 4 inches	5510-00-220-6226	
Plywood, 1/4 inch	5530-00-128-5419	
Plywood, 1/2 inch	5530-00-618-6958	
Plywood, 5/8 inch	5530-00-618-6959	
Plywood, 3/4 inch	5530-00-618-8073	
<b>PACKAGING MATERIAL</b>		
Adhesive, glue	various	
Bubble wrap	various	
Desiccant	various	
Foam rubber	various	
Paper, volatile corrosion inhibit	8135-00-664-4010	
Styrofoam	various	
Tape, masking	7510-01-242-6476	
Tape, pressure sensitive adhesive (duct)	7510-00-074-5124	K4975/K4980
<b>PAINT MATERIAL</b>		
Brush, paint 1-inch	8020-00-245-4508	
Brush, paint 2-inch	8020-00-245-4509	
Brush, paint 3 1/2-inch	8020-00-597-4777	
Roller kit, paint 7-inch	8020-00-597-4759	
Paint, black, spray	8010-00-582-5382	
Paint, Marine Corps green	8010-00-526-1607	
Paint, olive drab	8010-00-097-7901	
Paint, olive drab, spray	8010-00-141-2951	

DESCRIPTION	NSN	TAMCN
<b>PAINT MATERIAL</b>		
Paint, red, spray	8010-00-721-9743	
Paint, white, spray	8010-00-584-3150	
Paint, yellow, spray	8110-00-141-2950	
<b>463L PALLET SYSTEM MATERIAL</b>		
CGU-1, nylon strap, 5,000-lb capacity (white)	1670-00-978-3851	
CGU-1, nylon strap, 5,000-lb capacity (green)	5340-00-980-9270	
MB-1, tie-down chain, 10,000-lb capacity	1670-00-516-8405	
MB-1, tensioning device, 10,000-lb capacity	1670-00-212-1149	
Cover, plastic, pallet HCU-6/E	3990-00-930-1430	
Coupler, pallet (463L pallet)	1670-01-061-1990CT	
Coupler, pallet (KC-10)	1670-01-320-3637CT	
<b>SCALES</b>		
Scale, beam indicating platform type 300-lb capacity		C6000
Scale, beam indicating platform type 1,000-lb capacity		C6010
Scale, wheel-load, 20,000-lb capacity		C4785
<b>TOOLS</b>		
Hammer, claw	5120-00-892-6263	
Saw, hand, crosscut	5110-00-142-4999	
Stencil, cutting, machine 1/2-inch	7490-00-164-0541	K4918
Stencil, cutting, machine 1-inch	7490-00-164-0537	C6280
Tape, measuring		
<b>MISCELLANEOUS</b>		
Rag, wiping	7920-00-205-1711	K4740
Rope, manila, 3 strands 1/2-inch	4020-00-231-2572	J3210
Stencil set 1/2-inch	7520-00-205-1760	
Stencil set 1-inch	7520-00-298-7043	
Stencil set 2-inch	7520-00-298-7044	
Stencil set 3-inch	7520-00-272-9683	
<b>WATERPROOFING MATERIAL</b>		
Barrier material (200 yards)	8135-00-282-0565	
Barrier material (200 yards)	8135-00-226-3124	
Adhesive, liquid (1 carton)	8040-00-273-8704	
Bag, plastic, 6 mil pallet box (50, 50 cubic feet)	8105-00-191-3701	
Bag, plastic, general purpose (50)	8105-01-174-0945	
Note: Plastic bags may be used in lieu of barrier paper and glue. If plastic bags are used, place one inside the box at all times.		

### Water-Dispersible CARC Touch-Up Kit List

Description	Contents	NSN/Local NSN
WD-CARC Touch-Up Kit - Aerosol	12 bottles (4) Green, (4) Black, (4) Brown	8010-01-546-8093
WD-CARC Touch-Up Kit - Brush	12 bottles (4) Green, (4) Black, (4) Brown	8010-01-546-7590
WD-CARC Touch-Up Kit - Roller	12 bottles (4) Green, (4) Black, (4) Brown	8010-01-546-7597

### 12 Bottles/Case Single Touch-Up Kits

Description	Contents	NSN/Part #
WD-CARC, Green - Aerosol	Color No. 34094	8010-01-546-7712
WD-CARC, Tan - Aerosol	Color No. 33446	8010-01-546-7711
WD-CARC, Black - Aerosol	Color No. 37030	8010-01-546-7713
WD-CARC, Brown - Aerosol	Color No. 30051	8010-01-546-7709
WD-CARC, Green - Brush	Color No. 34094	8010-01-546-7585
WD-CARC, Tan - Brush	Color No. 33446	8010-01-546-7587
WD-CARC, Black - Brush	Color No. 37030	8010-01-546-7588
WD-CARC, Brown - Brush	Color No. 30051	8010-01-546-7589
WD-CARC, Green - Roller	Color No. 34094	8010-01-546-7593
WD-CARC, Tan - Roller	Color No. 33446	8010-01-546-7594
WD-CARC, Black - Roller	Color No. 37030	8010-01-546-7596
WD-CARC, Brown - Roller	Color No. 30051	8010-01-546-7595

### Primer

Description	Contents	NSN/Part #
MIL-P-53022B - Aerosol	12 bottles	8010-01-510-7178
MIL-P-53030 - Aerosol	12 bottles	WF53030
MIL-P-53022B - Brush	12 bottles	MDB0453022
MIL-P-53030 - Brush	12 bottles	MDB0453030
MIL-P-53022B - Roller	12 bottles	MDR0453022
MIL-P-53030 - Roller	12 bottles	MDR0453030
MIL-P-53022B - Vacuum Gun	12 bottles	WF53022VAC
MIL-P-53030 - Vacuum Gun	12 bottles	WF53030VAC
MIL-P-53022B - Quart	1 quart mixed	QT53022
MIL-P-53030 - Quart	1 quart mixed	QT53030

### Vacuum Touch-Up Gun

Description	Contents	Part #
Vacuum gun assembly	Vacuum gun; 10-ft coil hose; regulator; disposable desiccant air dryer	VG01ASSY
Turnkey system	Compressor with a 3-year, no-questions-asked warranty; vacuum gun assembly; wire cleaner tool	TKVG01

### Vacuum Touch-Up Gun Bottle Kits

Description	Contents	Part #
WD-CARC touch-up kit – vacuum gun	12 Bottles (4) Green, (4) Black, (4) Brown	WFCAMOVAC

### 12 Bottles/Case Vacuum Gun Single Touch-Up Kits

Description	Contents	Part #
WD-CARC, Green - vacuum gun	Color No. 34094	WF34094VAC
WD-CARC, Tan - vacuum gun	Color No. 33446	WF33446VAC
WD-CARC, Black - vacuum gun	Color No. 37030	WF37030VAC
WD-CARC, Brown - vacuum gun	Color No. 30051	WF30051VAC

### Quart Kits

Description	Contents	Part #
WD-CARC touch-up kit	1 quart mixed of each (1) Green, (1) Black, (1) Brown	QTCAMO

### Quarts

Description	Contents	Part #
WD-CARC, Green 34094	1 quart mixed	QT34094
WD-CARC, Tan 33446	1 quart mixed	QT33446
WD-CARC, Black 37030	1 quart mixed	QT37030
WD-CARC, Brown 30051	1 quart mixed	QT30051
Note: The WD-CARC touch-up kit, single color kits, and primer kit listed above are available through the normal supply system or directly through the manufacturer.		

The embarkation section should have the following supplies and equipment *prepacked* in an embarkation box or field desk for immediate use at a marshalling/staging area or at an APOE/SPOE. Quantities will vary based on historical usage data.

DESCRIPTION	QUANTITY	REMARKS
Nails		
Rope, 1/2-inch hemp or nylon		
Crimper, 1 1/4-inch		
Crimper, 3/4-inch		
Stretcher, 1 1/4-inch		
Banding cutter		
Banding wire 1 1/4-inch		
Banding wire 3/4-inch		
CGU-1 straps (5,000-lb)		
Pallet bags		
Hammer		
Screwdrivers (assorted)		
Pliers		
Tape measure (50-foot)		
Knife		
Wheel scales		
Staple gun (heavy duty)		
Staples for staple gun		
<b>PERSONAL SAFETY EQUIPMENT</b>		
Safety helmets		
Gloves		
Goggles		
Safety vests		
Insect repellent		
Chem lights		
<b>ADMINISTRATIVE SUPPORT ITEMS</b>		
Baggage tags		
Tape (masking and duct)		
Clip board(s)		
Tablet (yellow/white)		
Paper clips		
Rulers		

DESCRIPTION (Cont'd)	QUANTITY	REMARKS
Scale rulers		
Markers (black, red, green, blue), large		
Marker, waterproof (black)		
Placards (pallet and vehicle)		
Pens/pencils, with sharpener		
Folders		
Envelopes (large and small)		
Staplers, regular with staples		
White-out/correction tape		
Dry markers with eraser and clean fluid		
Post-its (large, medium, and small)		
Highlighters, various colors		
Work lights (gooseneck light)		
Plastic bags (large and small)		
Chalk (white and colored)		
Calculators (with extra batteries)		
Calendar (current year)		
<b>AIS COMPUTERS AND SUPPLIES</b>		
Computer suite with printer		
Ship loading program, with user's manual and ship's disk		
Aircraft loading program		
AIS program and user's manual		
HAZMAT/dangerous cargo program		
Computer paper		
RFID tags		
Dangerous cargo forms, fan fold		
CDs/External data storage device		
Extension cord (heavy duty)		
Surge protectors (bring at least two)		
Mouse pads		
Plotter		
Plotter ink cartridges		
Plotter paper		
Legend CD compact discs		

# APPENDIX G

## OVERLAND TRANSPORTATION EQUIPMENT CAPABILITIES

			WEIGHT CAPACITY			CARGO LOADING AREA				
TAMCN	MODEL	NOMENCLATURE	CROSS COUNTRY (lbs)	HIGHWAY (lbs)	MAXIMUM PAX	LENGTH (in)	WIDTH (in)	HEIGHT (in)	SQFT	CUFT
D0198	MK23/25	7-ton truck, MTRV	14,200	30,000	18	168	88	96	103	582
D1062	MK27/28	7-ton, extended bed	14,200	30,000	20	244	88	68	149	845
D1073	MK29/30	7-ton dump truck	12,200	28,000	N/A	125	82	48	71	285
D0850	M101A2	3/4-ton trlr	1,500	1,500	N/A	76	65	68	35	195
D0860	M105A2	1 1/2-ton trlr	3,000	3,000	N/A	110	74	68	57	321
D0235	M870	40-ton low body trlr	80,000	80,000	N/A	216	96	96	144	1,152
D0876	MK14	Container haul trlr	25,000	45,000	N/A	239	96	96	160	1,275
D0879	MK17	Dropside cargo trlr	20,000	39,000	N/A	192	90	96	120	960
D0881	MK18	Ribbon bridge trlr	25,000	40,000	N/A	238	96	96	159	1,270
D1158	M998	HMMWV cargo variant	2,500	2,500	8	85	75	24	44	488
<b>COMMERCIAL</b>										
PAX		Bus	0	0	45	0	0	0	0	0
<b>VEHICLES/CARGO</b>										
		48-foot flatbed	0	42,000	N/A	576	96	96	384	3,072
		48-foot enclosed	0	42,000	N/A	576	96	96	384	3,072
		Drop deck	100,000		N/A	576	96	96	384	3,072
		Low boy	80,000		N/A	204	96	96	136	
RAILCARS		DODX	300,000		N/A	1068	100		741	
		89-foot flat	100,000		N/A	1068	100		741	
		89-foot flat with side	100,000		N/A	1068	96		712	
		60-foot wooden deck	100,000		N/A	720	96		480	
		Container car	100,000		N/A	970	96		646	
<p>Legend</p> <ul style="list-style-type: none"> <li>cuft      cubic feet</li> <li>DODX    Department of Defense-owned railcar</li> <li>in        inches</li> <li>lbs        pounds</li> <li>MTRV    medium tactical vehicle replacement</li> <li>N/A       not applicable</li> <li>pax       passengers</li> <li>sqft      square feet</li> <li>trlr       trailer</li> </ul>										

For further information regarding overland transportation asset capabilities, refer to TM11240-OD/1A or the DMO.

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# APPENDIX J

## SAMPLE AMPHIBIOUS EMBARKATION PREDEPLOYMENT MILESTONES

EVENT NUMBER	TARGET DATE	MILESTONES
1	Ongoing	MEU establishes early liaison with MSEs prior to operational control date
2	Ongoing	MSEs conduct early liaison with planned attachments and produce UDL
3	E-270	MEU determines assigned shipping from ESG
4	E-270	MEU requests appropriate SLCPs/troop regulations from ESG or other agencies
5	E-270	Unit and TEOs assigned
6	E-240	MEU conducts embark liaison with ships
7	E-230	MEU submits AMC channel request augmentees
8	E-180	MSEs ensure all embarkation personnel are formal-school trained by this date
9	E-180	MEU obtains LFORM data from each assigned ship
10	E-180	MEU hosts logistics conference with MSEs and PHIBRON
11	E-180	MSEs provide complete UDL to MEU
12	E-170	MEU develops landing plan
13	E-160	MEU develops proposed initial assignment to shipping based on MEU commander's guidance, input from S-3, S-4, and MSEs
14	E-160	MEU provides UDL to MEU CLB for procuring Class IX block
15	E-160	MEU determines lift requirements and match against lift available
16	E-150	MEU and MSEs order embarkation boxes as required; MSEs identify embarkation material deficiencies to MEU S-4
17	E-140	ESG sends NSE augmentation message to MEU
18	E-120	MEU and MSEs conduct preload conference with PHIBRON
19	E-60	PHIBRON publishes LCAT
*20	E-50	MEU submits OE&AS to the PHIBRON
*21	E-45	Where required, ships submit pre-embarkation planning report to MEU
*22	E-45	MEU submits staging area request to ESG
*23	E-45	Final decisions on OE&AS are made; TEOs prepare MLPs as required
*24	E-45	MSEs submit transportation, MHE, and convoy requirements to MEU
*25	E-40	Where required, TEOs submit MLPs to MEU
*26	E-30	MEU submits MLPs to ships as necessary
*27	E-30	MEU submits training area request to CG, MCB
*28	E-30	MEU submits consolidated transportation/MHE request to MLG/MDDOC; continues close coordination with MDDOC
*29	E-25	MEU publishes embarkation plan with tabs
30	E-25	MEU conducts embarkation MSEs inspection
*31	E-20	MDDOC publishes movement schedule
*32	E-15	Ships submit MLP response to MEU as required
*33	E-15	PHIBRON submits official BALS to MEU
*34	E-15	MEU/MDDOC hosts final transportation planning conference with MSEs to discuss movement schedule

EVENT NUMBER	TARGET DATE	MILESTONES
*35	E-15	TEOs submit formal load plans to MEU to include final UDL
*36	E-10	PHIBRON hosts BALS conference
*37	E-10	MEU submits formal load
*38	E-5	Advance party/ship's platoon personnel move to ships
*39	E-DAY	Embarkation operations
40	E+1.5	Ships submit EPMR to PHIBRON
41	E+2	COT submits LFORM/aviation ammunition mission load allowance inspection report to PHIBRON
42	E+5	COT prepares shipboard inspection summary for ship's captain's release
* Indicates that this event occurs for any amphibious exercise.		
Legend CLB            combat logistics battalion EPMR        embarked personnel material report MLP            message load plan		

# APPENDIX K

## SAMPLE EMBARKATION PLAN

---

### CLASSIFICATION

Copy no. \_\_\_ of \_\_\_ copies  
CTF \_\_\_ / \_\_\_ MEF(Fwd)  
PLACE OF ISSUE  
Date-time group  
Message reference number

### TAB B to APPENDIX 14 to ANNEX C OF OPERATION ORDER

(Number) (U)

### EMBARKATION PLAN

#### (U) REFERENCES:

- (a) (U) CTF \_\_\_ / \_\_\_ MEF Operation Order 1-99, UE 1-96
- (b) (U) PID 123\_, JOPES Deployment Database
- (c) (U) DTR 4500.9-R, Parts I through Part IV
- (d) (U) JP 3-02.1
- (e) (U) MCO 3000.18B, *Marine Corps Force Deployment Planning and Execution Manual*
- (f) (U) International Air Transport Association Dangerous Goods Regulations

TIME ZONE: Romeo

#### 1. (U) Organization for Embarkation

a. (U) General. II MEF(Fwd) deploys via amphibious ships, AMC-provided airlift, and transoceanic flight (self-deployable aircraft) to execute mission(s) detailed in reference (a) and redeploys to home stations/bases.

##### (1) (U) II MEF(Fwd) Deployment Organization

II MEF(Fwd)  
2d Marine Division (Fwd)  
2d MAW (Fwd)  
2d MLG (Fwd)

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(2) (U) Advance Party. The advance party is limited to the liaison personnel required to coordinate initial support for II MEF forces at the designated advanced staging bases or ISBs. The advance party element detailed in reference (b) will deploy to the designated advanced base or ISB via commercial airlift.

(3) (U) Main Body. The main body of II MEF(Fwd) will deploy as indicated in reference (b) from MCAS Cherry Point, MCAS Beaufort, and the State Port at Morehead City. Mode of transportation will be flight ferry, AMC airlift, and amphibious shipping.

(4) (U) Redeployment. Redeployment of II MEF(Fwd) forces will be accomplished using the same modes of transportation as used for the deployment. However, a rear party will be assigned to close out any advanced base/ISB concerns. The rear party will redeploy to home station/base via commercial airline service.

b. (U) Assignment to Shipping. Tab A to this operation order provides the assignment to shipping. There has been no allocation of Military Sealift Command-coordinated sealift for II MEF(Fwd). Accordingly, all mission-essential personnel, supplies, and equipment must be airlifted to the ISB or loaded aboard amphibious sealift. Shortfalls in air or sealift are reflected in reference (b).

2. (U) Material to be Embarked

a. (U) Organic Equipment. Allocation of AMC airlift and amphibious sealift is constrained so the following measures will be taken to ensure maximum use of assigned air and sealift.

(1) (U) Mobile Loading. All embarked vehicles/equipment will be mobile loaded to the maximum extent possible. Care must be taken to ensure mobile-loaded vehicles can fit into the designated vehicle stowage areas.

(2) (U) Containerization. Minimum bulk cargo space will be available to embarking units so all units will use PALCONs and QUADCONs and mobile load them to the maximum extent possible. In some cases, these items will be exposed to the weather, because they will be loaded on boat decks or helicopter landing spots.

(3) (U) Vehicle Configuration. Wherever possible, all equipment dimensions will be reduced (length, width, or height) to permit maximum use of available square-foot stowage aboard shipping. However, the reduction in dimensions must not adversely impact that item's combat capability.

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- (4) (U) Preloading of Landing Craft. All LCUs and LCACs will be preloaded with landing force equipment. Vehicles and equipment must be combat loaded (less weapons and ammunition), as there will be minimum capability to shift loads once embarked.
- (5) (U) 463L Pallets. Intertheater airlift is limited, so only items essential to the combat operations of II MEF will be deployed via intertheater airlift. All 463L pallets will conform to the guidelines established in reference (c).
- b. (U) Types and Amounts of Supplies
- (1) (U) Individual Combat Equipment. All II MEF forces will embark with their individual combat equipment stored in designated berthing spaces or mobile loaded in or on unit vehicles/equipment.
- (2) (U) Individual Weapons. Individual weapons will be secured in rifle racks or in the designated armory spaces. All K-bars and bayonets will be stored in designated armory spaces.
- (3) (U) All crew-served and vehicle-mounted weapons will be stowed in the designated armory spaces.
- (4) (U) Units embarking aboard amphibious sealift will not issue MREs to personnel prior to boarding ships. Required MREs will be issued prior to debarkation.
- (5) (U) Units embarking aboard intertheater airlift will issue three MREs per person prior to arriving at the designated APOE. Meals will not be served onboard intertheater airlift.
- c. (U) Preparation
- (1) (U) Sealift. Unit commanders and detachment officers in charge will ensure that all supplies and equipment are properly prepared for sealift per references major subordinate elements' (MSEs') standing operating procedures (SOPs); and the following:
- (a) (U) All materials and equipment will be packaged to prevent physical damage, corrosion, deterioration, and water damage.
- (b) (U) All supplies and equipment will be marked per reference (d) and this plan.
- (c) (U) All embarkation boxes will be mobile loaded to the maximum extent possible to maximize use of landing force spaces.

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- (d) (U) All embarkation boxes not mobile loaded will be palletized to the maximum extent possible using 1 1/4-inch banding to secure boxes to the pallets. One-half inch banding may be used to secure individual embarkation boxes and PALCONs.
- (e) (U) Waterproofing of vehicles and equipment will be in accordance with technical manuals. Minimal fixed port facilities are available for offload, so offload of all cargo and personnel via landing craft across the beach should be planned.
- (f) (U) All vehicles embarked aboard amphibious shipping will have cargo compartment bows down and stowed. Canvas will be secured with mobile loaded cargo using 1/2-inch rope lashed in a zigzag fashion. Tarps and canvases should not be placed over cargo as LCUs and LCACs as they will be used for ship-to-shore movement.
- (g) (U) Vehicles and equipment to be loaded will be staged with not more than 3/4 tank of fuel.
- (h) (U) All vehicles equipped to carry external fuel cans will carry full 5-gallon expeditionary cans. The following precautions will be taken when embarking vehicles with external fuel cans:
- 1 (U) Auxiliary fuel cans must comply with MCO P4030.19, *Preparing Hazardous Materials for Military Air Shipments*.
  - 2 (U) Inspect all fuel cans after filling to ensure that seals do not leak.
  - 3 (U) Apply wire seals to fuel can caps to aid in detecting loosened caps or tampering.
  - 4 (U) Motor gasoline will not be embarked without prior coordination with this command element and approval of the ship to be embarked.
- (i) (U) Drivers and assistant drivers will be designated by unit commanders and OICs for movement of vehicles and equipment from marshalling areas to the designated SPOE staging areas. Timeline for movement from marshalling area to SPOE staging areas will be issued by separate correspondence.
- (j) (U) Hazardous cargo to be embarked aboard amphibious shipping will be identified to this command element via teleconference message in the II MEF(Fwd) teleconference in the GCCS. All hazardous cargo will be segregated and labeled per Code of Federal Regulations, Title 49, *Transportation*, and stowed separate from vehicles/equipment; e.g., gas cylinders, lithium batteries, corrosives, oxidizers, or poisons. Oxygen and

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acetylene bottles on maintenance vehicles/equipment will be removed and properly packaged. A separate staging area will be available at the SPOE for hazardous cargo. Personnel delivering hazardous cargo to the port must first report to the II MEF(Fwd) SLE to ensure that it is properly packaged and staged. Unit commanders and detachment OICs will ensure that hazardous cargo is not stored in vehicles, vans, QUADCONs, PALCONs, or ISO containers during loading at unit areas.

(k) (U) Placards will be placed on all vehicles, equipment, vans, and containers (QUADCON and ISO). Placards will reflect information as in figure K-1:

UNIT LINE NUMBER: _____
SHIP: _____
VEH/CONT TYPE: _____
HOLD/LEVEL: _____
LANDING SERIAL: _____
DRIVER: _____
WEIGHT: _____

**Figure K-1. Placard Information for Items to be Sealifted.**

(l) (U) Placards will be placed as follows:

- 1 (U) Vehicles (inside windshield on passenger's side and on the driver's door).
- 2 (U) Trailers (driver's side and rear).
- 3 (U) ISO, QUADCON, and vans (one end and one side).
- 4 (U) Placards will be marked using a permanent pen or marker and protected from the elements by either a clear plastic bag or document protector.

(m) (U) It is imperative that total weights on placards are accurate, especially for ISOs, QUADCONs, and vans, as these items will be picked up using forklifts or cranes.

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(2) (U) Airlift. Unit commanders and detachment OICs will ensure that all supplies and equipment are prepared for intertheater airlift per references (c), (e), (f), MSEs SOP, and as follows:

(a) (U) All materials and equipment will be packaged to afford maximum protection against physical and material handling damage, corrosion, deterioration, and water damage.

(b) (U) All supplies and equipment will be marked per references (c) and (f).

(c) (U) All embarkation boxes will be secured to warehouse pallets to the maximum extent possible using 1 1/4-inch banding. One-half inch banding may be used to secure individual embarkation boxes and PALCONs.

(d) (U) Cargo mobile loaded in vehicles will be loaded no higher than the metal side of the cargo compartment of the vehicle. All vehicles will have cargo compartment bows down and stowed. Canvas will be secured with mobile loaded cargo using 1/2-inch rope lashed in a zigzag fashion. Mobile loaded cargo cannot exceed the cross country-weight rating of the vehicle.

(e) (U) Vehicles and equipment will be staged with not more than 3/4 tank of fuel for vehicles to be loaded on the aircraft cargo floor or 1/2 tank for ramp-loaded vehicles.

(f) (U) All vehicles equipped to carry external fuel cans will carry full 5-gallon expeditionary cans. The following precautions will be taken when embarking vehicles with external fuel cans:

1 (U) Expeditionary fuel cans must comply with Military Specification MIL-C-1283E, *Auxiliary Fuel Cans*.

2 (U) Inspect all fuel cans after filling to ensure that seals do not leak.

3 (U) External fuel cans attached to vehicles will be filled to the top seal and wired shut. Vehicles may only carry the number of fuel cans that equals one full fuel tank.

(g) (U) Drivers and assistant drivers will be designated by unit commanders and OICs for movement of vehicles and equipment from marshalling areas to the designated APOE staging areas. Timeline for movement from marshalling area to APOE staging areas will be issued by separate correspondence.

(h) (U) All vehicles and equipment will arrive at the designated APOE not later than 24 hours prior to the scheduled departure of the assigned mission.

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- (i) (U) All vehicles will be weighed and marked with the front axle, rear axle(s), combined weight, and center of balance at unit marshalling areas (prior to departing for the APOE). Unit commanders and detachment OICs will ensure no additional cargo is placed on or in vehicles once weighing is completed.
- (j) (U) 463L cargo pallets will arrive at the designated APOE weighed, marked, and netted 24 hours prior to the scheduled departure of the assigned mission. This includes classified cargo. Departing units will coordinate security requirements with the II MEF ALE.
- (k) (U) Baggage pallets, if required, will be built at the APOE by the embarking unit under ALE supervision. All baggage must arrive at the APOE with personnel three hours prior to scheduled departure.
- (l) (U) Hazardous cargo to be deployed aboard AMC airlift will be identified to this command element via teleconference message in the II MEF(Fwd) teleconference available in GCCS. All hazardous cargo will be segregated, packaged, certified, and labeled per DTR 4500.9-R, Part II, and MCO P4030.19. A separate staging area will be available at the APOE for hazardous cargo. Personnel delivering hazardous cargo to the APOE must first report to the II MEF(Fwd) ALE to ensure that it is properly packaged and staged. Unit commanders and detachment OICs will ensure that hazardous cargo stored in vehicles, vans, QUADCONs, PALCONs, or ISO containers is properly identified prior to departing origin.
- (m) (U) Unit commanders and detachment OICs will ensure that vehicles, containers, vans, and locked shelters are accompanied by a unit representative with a set of keys for inspection by the DACG and II MEF(Fwd) ALE. If keys are not available at the time of joint inspection, the locks will be cut.
- (n) (U) Placards will be placed on all vehicles, equipment, vans, 463L pallets, and containers (QUADCON and ISO) and will contain information as in figure K-2 on page K-8.

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UNIT LINE NUMBER:	_____
MISSION NR:	_____
VEH/CONT TYPE:	_____
LOAD SEQ NR:	_____
WEIGHT:	_____
L x W x H (inches):	_____

**Figure K-2. Placard Information for Items to be Airlifted.**

(o) (U) Placards will be placed as follows:

- 1 (U) Vehicles: Inside windshield on passenger's side and on the driver's door.
- 2 (U) Trailers: Driver's side and rear.
- 3 (U) 463L pallets, ISO, QUADCON, and vans: one end and one side.
- 4 (U) Placards will be marked with a permanent pen/marker and protected from the elements by using a clear plastic bag or a document protector.

(p) (U) It is imperative that total weights on placards are accurate. Weights must include all mobile loaded cargo.

d. (U) Marshalling, Movement, and Staging. Marshalling and movement are the responsibility of unit commanders and detachment OICs. All movement from origin to the SPOE/APOE will be accomplished in strict compliance with reference (e). The II MEF(Fwd) movement schedule will be the single document used to phase all personnel, supplies, and equipment from origin to the POE.

(1) (U) Sealift. Specific information for marshalling and staging in support of deployment by amphibious shipping includes the following:

(a) (U) MSEs are responsible for all aspects of unit preparation and marshalling at the origin, to include ensuring that vehicles and equipment are properly prepared for embarkation.

(b) (U) MSEs will review all movement schedules to ensure preparation and marshalling are completed prior to movement to the staging areas. Any delays or problems beyond the unit's ability to correct will be reported to the parent UMCC in an expeditious manner for resolution.

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- (c) (U) TEOs and unit representatives will monitor the arrival and staging of unit supplies and equipment at the SPOE to ensure they are staged in the proper areas and are accounted for. Any vehicles or equipment not arriving at the SPOE in a timely manner will be reported promptly to the II MEF SLE. The SLE will contact the MMCC for coordination with route patrol to attempt to locate the missing vehicles/equipment.
- (d) (U) MSEs will provide drivers/working parties (under the direction of a SNCO or officer with a working knowledge of how to prepare cargo/vehicles properly for sealift movement) at the SPOE to assist the SLE in loading and/or in correcting discrepancies.
- (2) (U) Airlift. Specific information for the marshalling and staging in support of deployment by AMC or commercial airlift:
- (a) (U) MSEs will ensure close supervision of all aspects of unit preparation and marshalling at the origin and that all preparations conform to standards already addressed.
- (b) (U) MSEs will review all movement schedules to ensure completion of preparation and marshalling prior to movement to the staging areas. Any delays or problems beyond the unit's ability to correct will be reported to the parent UMCC in an expeditious manner for resolution.
- (c) (U) MSEs will ensure that all vehicles and 463L cargo pallets arrive at the APOE not later than 24 hours prior to scheduled departure of the assigned mission.
- (d) (U) MSEs will ensure personnel arrive with their baggage at the designated APOE not later than three hours prior to scheduled departure of the assigned mission. The assigned PTC will ensure all personnel assigned to their mission are manifested and in the designated holding area not later than two hours prior to scheduled departure time.
- (e) (U) Deploying units will provide initial aircraft load plans to the II MEF(Fwd) ALE prior to staging. Upon completion of staging and joint inspection, the unit will update the initial aircraft load plan and provide the II MEF(Fwd) ALE with a completed copy of the load plan.
- (f) (U) MSEs will provide working parties (under the direction of a SNCO or officer with a working knowledge of how to prepare cargo/vehicles properly for air movement) at the APOE to correct any discrepancies that arise after staging has been completed and throughout the joint inspection process.

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(g) (U) MSEs that have a classified cargo requirement or are embarking with security ammunition will notify the II MEF(Fwd) ALE at least 24 hours prior to arrival at the APOE to ensure an appropriate cargo storage area is available.

(h) (U) Passenger manifesting will take place at Building 4210, MCAS Cherry Point. II MEF(Fwd) G-1, augmented by each MSE, will coordinate flight manifests for each mission. Each MSC is responsible for providing detailed personnel listing and databases to II MEF(Fwd).

e. (U) Movement. Movement of II MEF(Fwd) forces will be accomplished in strict compliance with reference (e).

(1) (U) II MEF(Fwd) will utilize the MDDOC to support all movement coordination and execution. On order, elements of II MEF(Fwd) will activate a UMCC and provide the location, telephone number and, if available, fax number to the MDDOC. The MDDOC is located in Wing 1B (North), Building H-1. MDDOC contact information is as follows:

Telephone Numbers:	Primary:	DSN 484-8492
	Secondary:	DSN 484-8497
	Commercial:	(910) 451-XXXX
	Fax:	DSN 484-8397

(2) (U) The MDDOC will consolidate all II MEF(Fwd) transportation requirements and resolve any conflicts by prioritizing them prior to providing them to the MMCC. All changes to movement requirements will be forwarded to the MDDOC.

(3) (U) II MEF(Fwd) will provide a consolidated movement schedule detailing the movement of all organic assets to the APOE/SPOE based on the arrival schedule of strategic transportation. Adjustments to this schedule should be anticipated due to shifting supported commanders' requirements.

(4) (U) Commencing 96 hours prior to movement to the APOE/SPOE, the MDDOC will conduct an initial movement coordination meeting with all deploying element representatives. A daily coordination meeting with all element representatives follows to review the next 24 to 72 hours of movement.

(5) (U) MSEs are authorized direct liaison with the MMCC to expedite the development of movement plans; however, all movement plans will be coordinated through the MDDOC.

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3. (U) Personnel

a. (U) Uniform, Equipment, and Baggage. The uniform for deployment of all II MEF (Fwd) forces is combat utilities for personnel deploying aboard amphibious shipping or AMC/commercial aircraft. Personnel deploying in helicopters or fixed-wing aircraft will deploy in appropriate flight gear. A detailed uniform and equipment list has been provided by II MEF(Fwd) G-1 in separate correspondence. Each passenger deploys with his/her individual weapon and is limited to one sea bag or val-pack/suitcase, one field pack or equivalent, and one hand-carry bag. Total weight allocation for baggage and combat equipment is 120 pounds (175 for aircrew). This weight restriction is critical for passengers deploying via AMC or commercial airlift.

b. (U) Advance Parties and Ship's Platoons

(1) (U) Advance Parties. There will be limited advance parties authorized for the deployment of II MEF(Fwd) forces. All advance party requirements will be coordinated via II MEF(Fwd) G-3 and G-1.

(2) (U) Ship's Platoons. Each ship's platoon to be embarked aboard amphibious ships is typically required to arrive at their designated ship no earlier than 48 and no later than 24 hours prior to sailing. The ship's platoon will deploy with all personal and military equipment. Ship's platoons will depart from origin via commercial contracted bus. The ship's platoon OIC will report to the CCO or first lieutenant. The COT or the designated representative and the billeting officer for the embarking force will also deploy with the ship's platoon. The COT will make the required advance liaison with the ship's executive officer while the billeting officer initiates joint inventory of landing force spaces. The ship's platoon will include the following personnel:

(3) (U) Cooks and Mess Persons. The number per ship will be coordinated by the COT per the SLCP.

(4) (U) Laundry Detail. Number is per SLCP.

(5) (U) Ships Store. Number is per SLCP.

(6) (U) Guides. Number of guides per ship will vary. Details will be coordinated by the COT with the CCO or ship's first lieutenant.

(7) (U) Combat Cargo Personnel. These personnel will work directly for the ship's CCO or the CCA. These personnel will be split between the flight and well deck for operations. The number of personnel will vary per ship. The designated COT for each ship will coordinate with the CCO/CCA for the number of personnel required.

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(8) (U) Guard Force. Total guard force will be coordinated by the COT with the CCO or ship's first lieutenant. This force consists of, at a minimum, the following:

- (a) (U) One guard officer.
- (b) (U) Two sergeants of the guard.
- (c) (U) Two corporals of the guard.
- (d) (U) Sentries (four per post). Posts are designated in each ship's SLCP.

c. (U) Movement of Main Bodies

(1) (U) Movement of the II MEF(Fwd) main body by sealift is detailed in reference (b). All movement of personnel will be closely monitored by the MDDOC, MMCC, and the SLE to ensure no bottlenecks occur to affect the onload of personnel at the SPOE. The main body will be embarking at various points. Each unit will be designated a specific location for embarkation based on the II MEF(Fwd) movement plan. Locations include, but are not limited to, the following:

- (a) (U) State port at Morehead City.
- (b) (U) Radio Island (adjacent to the state port facility).
- (c) (U) Onslow Beach (vicinity of Risley Pier).
- (d) (U) MCAS New River (helicopter squadron fly-on).

(2) (U) Movement of the II MEF(Fwd) main body by airlift is detailed in reference (b). All movement of personnel will be closely monitored by the MDDOC, MMCC, and the ALE to ensure no bottleneck occurs that may affect the throughput of personnel at the APOE. The main body will be embarking at various points. Each unit will be designated a specific location for embarkation based on the II MEF(Fwd) movement plan. II MEF(Fwd) main body personnel deploying via airlift will deploy from the following locations:

- (a) (U) MCAS Cherry Point.
- (b) (U) MCAS Beaufort.

d. (U) Embarkation Rosters and Passenger Manifests. All rosters for embarking II MEF(Fwd) forces will be developed and issued using the current logistic and administrative AIS. The II MEF(Fwd) G-1 has issued specific guidance regarding the format and required data. Five copies of each ship's embark roster will be provided to the designated COT. One of these copies will be provided to the CCO or ship's first

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lieutenant. For airlift, ten copies of the passenger manifests will be provided to the designated PTC. One additional copy will be provided to the DACG OIC and one copy to the ALE OIC. Eight copies will be provided to the aircrew and the other two copies will be retained by the PTC for the APOD presentation.

4. (U) Embarkation Areas

a. (U) Assignment of Areas and Embarkation Points. II MEF(Fwd) forces will deploy from various locations in and around the MCB Camp Lejeune, MCAS Beaufort, and MCAS Cherry Point area. Specific embarkation areas and points are provided in Tab C of this plan.

b. (U) Preparation. The MMCC is responsible for ensuring the proper preparation of the designated embarkation areas and points detailed in Tab C.

c. (U) Materials Handling Equipment. The MHE at all embarkation areas is under the direct control of the terminal operations organizations (POG, BOG, DACG). Any augmentation requirements will be identified by the MMCC and coordinated by the MDDOC. Crane support at the state port will be identified to MDDOC for further identification to the MMCC.

d. (U) Security and Counterintelligence. The security of all Marine Corps property is the responsibility of all personnel. The following are specific security arrangements for the II MEF (Fwd) deployment:

(1) (U) March Routes. Civilian authorities, in coordination with the military police of MCB Camp Lejeune and MCAS Cherry Point, will patrol the primary march route to the designated APOE and SPOE. The MMCC will establish checkpoints at the critical chokepoints en route to the APOE and SPOE. The checkpoints and military police will use the same radio frequency. Coordination with civilian authorities will be via commercial telephones.

(2) (U) Marshalling Areas. The MSEs are responsible for establishing and maintaining the security of their designated marshalling areas. The MMCC will coordinate with the military police at MCB Camp Lejeune, MCAS New River, MCAS Cherry Point, and MCAS Beaufort for a roving patrol to be established to cover the designated unit marshalling areas.

(3) (U) Staging Areas and Embarkation Points

(a) (U) MCAS Cherry Point. The MCAS Cherry Point military police will establish a checkpoint at the vehicle entrance to the APOE. No privately owned vehicles will be permitted within the confines of the APOE. The DACG will establish a badge and escort system for vehicle control. All personnel

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assigned to the DACG, ALE, or contingency response element are required to wear a security badge at all times. All other personnel must be escorted when outside of Building 4209 (DACG headquarters). The II MEF(Fwd) will establish a roving guard that consists of nondeploying personnel within the confines of the APOE. This guard force will report to the II MEF(Fwd) ALE OIC. The MSEs will not provide an independent guard force for their equipment.

(b) (U) MCAS Beaufort. The MCAS Beaufort military police will establish checkpoints at the designated staging areas for the MAG-31 and Marine Wing Support Squadron-273. All personnel entering these areas must be on an access roster or possess a security badge issued by the military police. The MAG-31 has been directed to provide a roving patrol to continuously monitor the staging area.

(c) (U) State Port at Morehead City. The port has civilian guards at the gates leading into the port facility that will be augmented by military police. All personnel entering the port facility who are not part of a military convoy must be identified on an access roster. Access rosters will be coordinated by the MDDOC. The II MEF(Fwd) will establish an internal guard force to patrol the designated staging areas. This guard force will be under the control of the SLE and consist of nondeploying personnel.

(d) (U) Embarkation Points at Onslow Beach. Units designated to embark personnel and equipment via LCAC and LCU from Onslow Beach will provide security for those items from the time they are staged for loading until they have departed the beach for the ship. These guards will be in radio communication with the parent command at all times.

(4) (U) Counterintelligence. All unauthorized entries will be reported immediately to the MDDOC. All questions from civilians or newspaper/media personnel will be forwarded to the II MEF public affairs office representative. All personnel apprehended in security areas will be detained for interview by civilian and military police.

5. (U) Embarkation Schedules

a. (U) Limiting Dates

(1) (U) Marshalling. Marshalling of II MEF(Fwd) supplies and equipment will commence upon receipt of the warning order. Movement from marshalling areas is not authorized unless directed by II MEF(Fwd) MMCC.

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- (2) (U) Movement to APOE/SPOE. Movement from the marshalling areas to the designated APOE/SPOE will commence when directed by the CG II MEF(Fwd). The movement will be in strict compliance with the MAGTF movement schedule. All movement will be controlled and coordinated via the MMCC.
- (3) (U) Movement from APOE/SPOE. The strategic leg of the deployment will be per the schedules contained in the JOPES. The JOPES database contains the key dates for availability of forces at the designated APOE/SPOE.
- b. (U) Loading Schedules
- (1) (U) Amphibious Shipping. Tab D contains the detailed berthing and loading schedules for II MEF(Fwd) amphibious shipping.
- (2) (U) Airlift Schedules. Airlift schedules are contained in reference (b). These schedules are distributed to all MSEs at the daily coordination meeting. The MAGTF movement schedule for airlifted forces will be adjusted as required to conform with airflow.
6. (U) Control
- a. (U) Traffic Circulation and Control
- (1) (U) March Routes. The primary and secondary march routes to the APOE and SPOE will be designated by the II MEF(Fwd) motor transport officer in conjunction with the MMCC. Strip maps of the routes with checkpoints will be issued to all convoy commanders by the II MEF(Fwd) MMCC.
- (2) (U) All convoys will obey the traffic regulations posted on march routes. Convoy speeds will not exceed 45 miles per hour or the posted limits (whichever is less).
- (3) (U) Only the II MEF(Fwd) MMCC is authorized to release tactical vehicle convoys from their marshalling areas. The MMCC will report the release of each convoy to the MDDOC. The II MEF(Fwd) SLE/ALE located at the designated SPOE and APOE will report the arrival of each convoy to the MMCC.
- (4) (U) Vehicle movement within the SPOE and APOE will be strictly controlled since these areas will be extremely congested. Specific traffic patterns will be established and enforced in the vicinity of and within the APOE and SPOE. These traffic patterns will be fully briefed by the MMCC to each MSE moving equipment through these POEs.
- (5) (U) Movement of Personnel. Excluding drivers and assistant drivers, the majority of personnel deploying via intertheater airlift and amphibious shipping

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will travel to the POE via commercial contracted buses. All buses will be coordinated by the MMCC based on the MAGTF movement schedule. All requested changes to the movement schedule will be coordinated through the MDDOC.

b. (U) Embarkation Liaison Elements. II MEF(Fwd) will establish embarkation liaison elements at the designated APOEs and SPOEs.

(1) (U) Sealift. A SLE will be established at the state port of Morehead City. The SLE will be collocated with the POG and activated 24 hours prior to the movement of any supplies or equipment to the port.

(2) (U) Airlift. An ALE will be established at MCAS Cherry Point APOE facility. The ALE will be collocated with the DACG. The ALE will be activated and in place not later than 48 hours prior to the scheduled arrival of the first aircraft.

(3) (U) Movement Control

(a) (U) MAGTF. The MDDOC is the single coordination point for all movements. The MDDOC is located in Building H-1, Wing 1B (North), MCB Camp Lejeune.

(b) (U) II MEF. CG, II MEF will direct the activation of deployment support organizations to assist in the deployment efforts of the MAGTF. The MDDOC will orchestrate all activities necessary to support the marshalling, movement, staging, and loading of II MEF(Fwd) forces. Detailed information on the activities and responsibilities can be found in reference (e).

(c) (U) Communications. Primary means of communications between embarkation control offices will be via telephone. Communications in the marshalling and staging areas will be via hand-held radios. The MDDOC, ALE, SLE, DACG, POG, BOG, and MMCC will be linked together via local/wide area network. All route checkpoints will be linked to the MMCC using tactical radio frequencies established by the MDDOC and II MEF. Additional hand-held frequencies or tactical radio frequencies will be added as required to control and coordinate movement.

7. (U) Miscellaneous

a. (U) Loading Plans

(1) (U) Amphibious Shipping. Team embarkation officers will prepare combat load plans for their designated ship using ICODES. The TEOs will provide the II MEF (Fwd) SLE with a UDL file used to develop the ICODES load

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plans prior to sailing from the SPOE. Completed load plans will include all standard documentation required by joint, multi-Service, and Marine Corps doctrinal guidance.

(a) (U) Once reviewed and signed by the CO of the ship, the TEO will ensure the ship is loaded per the approved load plan. The CCO or ship's first lieutenant must coordinate any proposed deviations from the approved load plan.

(b) (U) Upon completion of loading, the TEO will ensure any approved changes to the load plan are made in ICODES and a corrected copy is provided to the ship and two copies are provided to the II MEF(Fwd) SLE.

(2) (U) AMC Airlift. All C-130, C-17, C-5B, and KC-10 load plans will be developed in AALPS. All units deploying via AMC airlift will provide the ALE with a copy of the load planning data file and one copy of the load plan at the time of staging. Databases/load plans will be adjusted to reflect the actual item dimensions and weights validated during the joint inspection.

b. (U) Loading Reports. Loading and actual departure reports for surface and airlift movement are forwarded to the MDDOC via the ALE and SLE. The ALE and SLE will provide detailed information on the amount of tonnage and numbers of passengers departing on each ship and aircraft. Specific reporting criteria is contained within reference (e) and reporting formats for the ALE and SLE are contained in appendix 4 of reference (a).

c. (U) Database Reconciliation. The deployment database (JOPES) must be updated by II MEF as the units depart. Such updates provide visibility of closure of deploying forces and accurately reflect the number of personnel and amount of supplies and equipment deployed. The MDDOC includes personnel to track and update the progress of the deployment. II MEF elements must thoroughly and continuously review their deployment data to ensure it reflects the actual requirements of the unit. The deployment database will be used by the MDDOC to continue to allocate lift assets to obtain force closure.

### Legend for Appendix K

AALPS	automated air load planning system	MAW	Marine aircraft wing
AIS	automated information system	MCAS	Marine Corps air station
ALE	airlift liaison element	MCB	Marine Corps base
AMC	Air Mobility Command	MCO	Marine Corps order
APOD	aerial port of debarkation	MDDOC	Marine air-ground task force (MAGTF) deployment and distribution operations center
APOE	aerial port of embarkation	MEF	Marine expeditionary force
BOG	beach operations group	MHE	materials handling equipment
CCA	combat cargo assistant	MLG	Marine logistics group
CCO	combat cargo officer	MMCC	Marine air-ground task force movement control center
CG	commanding general	MRE	meal, ready to eat
CO	commanding officer	MSE	major subordinate element
COT	commanding officer of troops	OIC	officer in charge
CTF	combined task force	PALCON	palletized container
DACG	departure airfield control group	PID	plan identification number
DSN	defense switched network	POE	port of embarkation
DTR	Defense Transportation Regulation	POG	port operations group
Fwd	forward	PTC	plane team commander
G-1	assistant chief of staff, personnel	QUADCON	quadruple container
G-3	assistant chief of staff, operations	SLCP	ship's loading characteristics pamphlet
GCCS	Global Command and Control System	SLE	sealift liaison element
ICODES	integrated computerized deployment system	SNCO	staff noncommissioned officer
ISB	intermediate staging base	SOP	standing operating procedure
ISO	International Organization for Standardization	SPOE	seaport of embarkation
JOPES	Joint Operation Planning and Execution System	TEO	team embarkation officer
JP	joint publication	U	unclassified
LCAC	landing craft, air cushion	UDL	unit deployment list
LCU	landing craft, utility	UMCC	unit movement control center
MAG	Marine aircraft group		
MAGTF	Marine air-ground task force		

# **APPENDIX L**

## **AMPHIBIOUS SHIPS AND LANDING CRAFT**

The information contained in this appendix is for use in planning where generalized capabilities and measurements are required. The data is based on class averages.

*Note: In planning for operations that require exact capabilities and figures, the individual SLCP must be consulted.*

### Amphibious Command Ship—LCC-19 Class

The assigned mission of the amphibious command ship LCC-19 class (also known as the Blue Ridge class) is to function as the command ship for a JTF as the command, control, communications, computers and intelligence platform, or for a naval component commander; numbered fleet commander; CATF; MEF; or commander, joint task force. This class is designed primarily to fulfill command and control requirements for surface, subsurface, and air units engaged in amphibious assaults. The ships in the LCC class are the LCC-19 (*USS Blue Ridge*) and the LCC-20 (*USS Mount Whitney*) (see fig. L-1).

This class is distinctive in appearance. It is built on the hull type of the *USS Iwo Jima* (amphibious assault ship [helicopter] [LPH]-2) class amphibious assault ship. The ship provides

communications capabilities in frequency ranges from high frequency to super high frequency, including two satellite systems for high-speed/high-volume communication links. The various internal command areas are highly automated to monitor and process information regarding the progress of an amphibious operation. This is the only class of ship designed from the hull up to support the command and control needs of the CATF, CLF, and tactical air command center (Marine TACC) and/or tactical air control center (Navy TACC).

The Blue Ridge class LCC is not capable of storing/transporting LFORM. Tables L-1, L-2, and L-3 provide specific information about this class of ships.



Figure L-1. *USS Mount Whitney* (LCC-20).

**Table L-1. General Information.**

Length (overall)	620 feet
Beam	180 feet
Displacement (light load)	16,100 tons
Displacement (full load)	18,646 tons
Draft (full load)	29 feet
Main engine (geared turbine)	1
Boilers	2
Shaft	1
Shaft horsepower	22,000
Speed	23 knots
Range at 16 knots	13,000 nmi
Staff accommodations	217
Crew accommodations	774
Ship's chaplain	Yes

**Table L-2. Landing Force Lift General Information.**

Officer accommodations	56
Enlisted accommodations (E-7)	42
Enlisted accommodations (E-6 and below)	111
Vehicle square	3,015 square feet
Cargo cube	2,175 cubic feet
Helicopter landing spots	1
JP-5 jet fuel	123,510 gallons

**Table L-3. Command and Control Systems.**

Combat information center	Yes
Integrated tactical amphibious warfare system	No
Ship's signals exploitation space	Yes
Flag plot	Yes
Joint intelligence center	Yes
Helicopter logistic support group	Yes
Marine TACC/Navy TACC	Yes
Helicopter direction center	Yes
Helicopter coordination section	Yes
Joint operations center	Yes
Landing force operations center	Yes

## Amphibious Assault Ship (General Purpose)—LHA-1 Class

The assigned mission of the LHA-1 (also known as the Tarawa class) is to embark, deploy, and land elements of a landing force in an amphibious assault by helicopters, landing craft, amphibious vehicles, or by combinations of these methods. The *USS Peleliu* (see fig. L-2) is the last of the original LHA (*USS Tarawa*) class ships. Tables L-4, L-5, L-6, L-7, and L-8 and L-9 (on page L-6) provide more information on this ship class.

The LHA-1 class combines the major characteristics of the several current and former classes of amphibious ships. This class incorporates some features of the current LPD and some of the features of the former amphibious cargo ship (LKA) and the LPH into a single hull. These features include a full-length flight deck, a landing craft

docking well (well deck), large storage areas for vehicles and cargo, and troop berthing for a reinforced battalion.

The flag spaces are designed to support the staff of the embarked Navy organization (e.g., PHIBRON, expeditionary strike group [ESG]) and the landing force staff (i.e., MEU or MEB). The design of the class provides an optimum operational environment for ship's company, embarked staffs, troops, and support personnel prior to, during, and after an amphibious operation.

The landing craft numbers listed in table L-8 are the maximum number of each type of craft that can be stowed in the well deck exclusive of any other craft. Combinations of these craft may be stowed in the well deck if necessary.



Figure L-2. *USS Peleliu* (LHA-5).

**Table L-4. General Information.**

Length (overall)	820 feet
Beam (with elevator extended)	134 feet
Beam (without elevator extended)	106 feet
Displacement (light load)	37,560 tons
Displacement (full load)	44,800 tons
Draft (full load)	26 feet
Main engines (geared turbine)	2
Boilers	2
Shafts	2
Shaft horsepower	70,000
Speed	24 knots
Range at 20 knots	10,000 nmi
Bow thruster	Yes
Staff accommodations	81
Crew accommodations	996
Ship's chaplain	Yes

**Table L-5. Landing Force Lift General Information.**

Officer accommodations	172
Enlisted accommodations (E-7)	53 male/6 female
Enlisted accommodations (E-6 and below)	1,576 male/96 female
Surge accommodations	No
Vehicle square	28,700 square feet
Cargo cube	156,000 cubic feet
Helicopter landing spots	9
Operational CH-46 equivalents	43
JP-5 jet fuel	415,940 gallons
MOGAS (embarked bladders)	500 gallons
LFORM capable	Yes
Legend MOGAS	motor gasoline

**Table L-6. Command and Control Systems.**

Combat information center	Yes
Integrated tactical amphibious warfare data system	Yes
Ship's signals exploitation space	Yes
Flag plot	Yes
Landing force operations center	Yes
Joint intelligence operations center	Yes
Supporting arms coordination center	Yes
TACLOG group	Yes
Helicopter logistics support group	Yes
Navy TACC	Yes
Helicopter direction center	Yes
Helicopter coordination section	Yes

**Table L-7. Medical Capabilities.**

Medical operating rooms (main/emergency)	2/2
Post-operative recovery/intensive care	17 beds
Isolation ward	4 beds
Primary care ward	48 beds
Dental operating rooms	3
Ship's doctor	Yes
Ship's dentist	Yes

**Table L-8. Craft Stowage in Well Deck.**

Length (to island)	107 feet, 7 inches
Length (overall)	249 feet, 8 inches
Width	76 feet
Height	26 feet, 8 inches
LCAC	1 <sup>1</sup>
LCU	4 <sup>2</sup>
AAV	39
<sup>1</sup> Aft portion of the well only.	
<sup>2</sup> 2 LCUs forward in the well slots and 2 aft or with an LCAC embarked, 2 LCUs forward and 1 LCAC aft.	

**Table L-9. Cargo Handling Equipment.**

Forklift (electric/4,000 lb)	10
Forklifts (diesel/rough terrain/4,000 lb)	6
Forklifts (diesel/6,000 lb)	3 <sup>1</sup>
Forklifts (rough terrain/10,000 lb)	2
Forklift (diesel/20,000 lb) crash and salvage use	1
Crash crane (70,000 lb) "Tilly" crash and salvage use	1
Aircraft tow tractors (85,000 lb)	6
Aircraft spotting dollies (50,000 lb)	2
Aircraft elevators (40-ton aft/20-ton portside)	2
Longitudinal pallet conveyor (upper vehicle stowage)	1
Monorail system (5 cars with 2 hooks each)	3
Legend lb pound	
<sup>1</sup> One of the 6,000 lb forklifts is for crash and salvage use only	

## Amphibious Assault Ship (Multipurpose)—LHD-1 Class

The assigned mission of the LHD-1 (also known as the Wasp class) is to embark, deploy, and land elements of a landing force in an amphibious assault by helicopters, landing craft, amphibious vehicles, or by combinations of these methods. This class is assigned a secondary mission of sea control and power projection in which additional fixed-wing vertical and/or short takeoff and landing aircraft and helicopters are deployed.

The class incorporates the original design features of the LHA and can embark a large segment of a MEU with its equipment and supplies. The flag spaces are designed to support the staff of the embarked Navy organization (PHIBRON or an ESG staff and the landing force staff [MEU or MEB]).

The aviation facilities are capable of supporting a composite helicopter squadron, an AV-8B vertical and/or short takeoff and landing aircraft squadron, or a combination of the two. The flight

deck can accommodate twenty AV-8Bs and four to six SH-60Bs (LAMPS [Light Airborne Multipurpose System (helicopter)] MK III), enabling the commander to control the sea while projecting power. An expanded and combined flag data display uses the latest in technology to enhance the commander's ability to control air, land, and sea assets.

There are eight ships in the class: *USS Wasp* (LHD-1) (see fig. L-3), *USS Essex* (LHD-2), *USS Kearsarge* (LHD-3), *USS Boxer* (LHD-4), *USS Bataan* (LHD-5), *USS Bon Homme Richard* (LHD-6), *USS Iwo Jima* (LHD-7), and *USS Makin Island* (LHD-8). Tables L-10 through L-15, on page L-8, provide information on this ship class.

The landing craft numbers listed in table L-14 are the maximum number of each type of craft that can be stowed in the well deck exclusive of any other craft. Combinations of these craft may be stowed in the well deck if necessary.



Figure L-3. *USS Wasp* (LHD-1).

**Table L-10. General Ship Information.**

Length overall	844 feet
Beam	107 feet
Displacement light	28,940 tons
Displacement full	45,398 tons
Draft (full load)	26 feet, 6 inches
Main engines	2
Boilers	2
Shafts	2
Shaft horsepower	70,000
Speed	22 knots
Range at 20 knots	Classified
Bow thruster	No
Staff accommodations (without ESG)	35
Staff accommodations (with ESG)	91
Crew accommodations	1,232
Ship's chaplain	Yes

**Table L-11. Landing Force Lift General Information.**

Officer accommodations	174
Enlisted accommodations (E-7)	58/6
Enlisted accommodations (E-6 and below)	1,392/57
Surge accommodations (officer)	19
Surge accommodations (E-7)	6
Surge accommodations (E-6 and below)	157/2
Vehicle square	24,012 square feet
Cargo cube	145,000 cubic feet
Helicopter landing spots	9
Operational CH-46 equivalents	42
JP-5 jet fuel	484,000 gallons
MOGAS (embarked bladders)	500 gallons
LFORM capable	Yes

**Table L-12. Command and Control Systems.**

Combat information center	Yes
Integrated tactical amphibious warfare data system	Yes
Ship's signals exploitation space	Yes
Flag plot	Yes
Landing force operations center	Yes
Joint intelligence operations center	Yes
Supporting arms coordination center	Yes
TACLOG group	Yes
Helicopter logistics support group	Yes
Navy TACC	Yes
Helicopter direction center	Yes
Helicopter coordination section	Yes

**Table L-13. Medical Capabilities.**

Operating rooms	6
Post-operative recovery/Intensive care	18 beds
Isolation ward	6 beds
Primary care ward	36 beds
Ship's doctor	Yes
Ship's dentist	Yes

**Table L-14. Well Deck Characteristics.**

Length (overall)	322 feet
Width	50 feet
Height	28 feet
LCAC	3
LCU	2

**Table L-15. Cargo Handling Equipment.**

Forklifts (rough terrain/10,000 pounds)	2
Aircraft tow tractors	5
Spotting dollies	4
Aircraft elevators (port/starboard 37 1/2-ton)	2
Aircraft crash crane (35-ton maximum capacity)	1
Monorail (1 1/2-ton)	5
Cargo elevators (6-ton)	6
Pallet conveyors (1/2-ton/300 pallets per hour)	2

## Amphibious Transport Dock—LPD-4 Class

The assigned mission of the LPD-4 class (also known as the Austin class) is to transport and land troops and their essential equipment and supplies by means of embarked landing craft or amphibious vehicles augmented by helicopter lift in an amphibious assault.

The class is a general purpose amphibious ship with substantial lift capacities for troops, vehicles, landing craft, cargo, and bulk fuel. It combines features of many current and decommissioned classes of amphibious ships. Features from decommissioned ship classes include the LKA, the LPH, and the LST [tank landing ship]. Current LPD-4 ship class features include capabilities from the LSD. The class is capable of ballasting to permit loading and launching of landing craft and assault amphibious vehicles. Vehicles can move about the various decks by a series of power-operated ramps. The well deck can accommodate all types of landing

craft currently in the amphibious force inventory. A limited number of helicopters may be transported on the flight deck, as the class serves as a helicopter platform for landing embarked troops and their supplies. It also serves as a refueling station for helicopters of the landing force. Troops, vehicles, and equipment can be loaded/offloaded by helicopter and landing craft simultaneously. Several of the ships in this class are flag configured for MEU- and PHIBRON-sized staffs. On page L-10, tables L-16 through L-21 provide information on this class of ship, the *USS Denver* (LPD-9) (see fig. L-4) being flag configured and the last in service LPD-4 class ship in the US Navy.

The landing craft numbers listed in table L-20 are the maximum number of each type of craft that can be stowed in the well deck exclusive of any other craft.



Figure L-4. *USS Denver* (LPD-9).

**Table L-16. General Information.**

Length (overall)	570 feet
Beam	84 feet
Displacement (light load)	9,128 tons
Displacement (full load)	16,905 tons
Draft (full load)	23 feet
Main engines	2
Boilers	2
Shafts	2
Shaft horsepower	24,000
Speed	21 knots
Range at 20 knots	7,700 nmi
Bow thruster	No
Staff accommodations (flag configured only)	60
Crew accommodations	492
Ship's chaplain	Yes

**Table L-17. Landing Force Lift General Information.**

Officer accommodations	68
Enlisted accommodations (E-7)	21
Enlisted accommodations (E-6 and below)	620
Surge accommodations (E-6 and below)	176
Vehicle square	14,000 square feet
Cargo cube	51,000 cubic feet
Helicopter landing spots	2
Operational CH-46 equivalents	4
JP-5 jet fuel	288,700 gallons
MOGAS	21,900 gallons
LFORM capable	Yes

**Table L-18. Command and Control Systems.**

Combat information center	Yes
Integrated tactical amphibious warfare data system	No
Ship's signals exploitation space (flag configured only)	Yes
Flag plot (flag configured only)	Yes
Troop operations and logistics center	Yes
Joint intelligence operations center	No
Supporting arms coordination center (flag configured only)	Yes
TACLOG group	No
Helicopter logistics support group	No
Navy TACC	No
Helicopter direction center	No
Helicopter coordination section	Yes

**Table L-19. Medical Capabilities.**

Operating room	1
Post-operative recovery/Intensive care	No
Isolation ward	4 beds
Primary care ward	8 beds
Casualty overflow	No
Ship's doctor	Yes
Ship's dentist	Yes

**Table L-20. Well Deck Characteristics.**

Length (overall)	168 feet
Width	50 feet
Height	20 feet
LCAC	1
LCU	1

**Table L-21. Cargo Handling Equipment.**

Forklifts (electric/2-ton)	10
Forklifts (rough terrain/6,000 pounds)	2
Cargo and weapons elevator (8-ton)	1
Pallet conveyors (1½-ton)	3
Monorails (2 hooks, each with 2-ton capacity)	2
Boat and aircraft crane (30-ton)	1

## Amphibious Transport Dock—LPD-17 Class

The assigned mission of the LPD-17 class (also known as the San Antonio class) is to embark, transport, and land elements of the landing force in an assault by helicopters, landing craft, AAVs, and by a combination of these methods. Information about this class of ship is provided in tables L-22 through L-27 on pages L-12 and L-13.

This class will provide greatly improved war-fighting capabilities (including an advanced command and control suite), greatly increased lift capacity (including substantial increases in vehicle and cargo carrying capability), and advanced ship survivability features. These ships support LCAC, AAVs, and MV-22 (Osprey tiltrotor aircraft) operations—making this class a key element of the ARGs. It is also certified for the AV-8B aircraft. It combines features of several current and former amphibious ship classes. These include the LHD; LPD-4 (*USS Denver* last to be decommissioned) and LSD-41/49 class for current ship classes; and the LSD-36 class, LKA-113 class, LPH, and the LST-1179 class for former ship classes.

The LPD-17 class ships (see fig. L-5) are scheduled to replace the older LPD-4 (Austin) class. The San Antonio class design integrates the latest

in command, control, communications, computers, intelligence, surveillance, and reconnaissance capabilities. These capabilities are further enhanced by additional dedicated intelligence, mission planning, and command and control spaces. The shipboard wide area network developed for LPD-17 is a fiber optic shipwide large area computer network.

This class is capable of ballasting to permit loading and launching of LCUs, LCACs, and AAVs. Vehicles can move about the various decks by a series of powered ramps. A limited number of helicopters and V-22 Osprey may be transported on and operated from the flight deck, as this class serves as a helicopter platform for landing embarked troops and their supplies. It also serves as a refueling station for helicopters of the landing force. Troops, vehicles, and equipment can be loaded or offloaded by helicopter and landing craft simultaneously.

The ships in this class are not flag configured and are listed in table L-28 on page L-13.

The landing craft numbers listed below are the maximum number of each type of craft that can be stowed in the well deck exclusive of any other craft.



Figure L-5. *USS San Antonio* (LPD-17).

**Table L-22. General Information.**

Length (overall)	684 feet
Beam	105 feet
Displacement (full load)	26,045 tons
Draft (full load)	23 feet
Main engines	4
Boilers	2
Shafts	2
Speed	22+ knots
Bow thruster	No
Staff accommodations	No
Crew accommodations	402
Ship's chaplain	Yes

**Table L-23. Landing Force Lift General Information.**

Officer accommodations	66
Enlisted accommodations (SNCO)	42
Enlisted accommodations (E-5 and below)	591
Surge accommodations (officer)	11
Surge accommodations (SNCO)	6
Surge accommodations (E-5 and below)	84
Vehicle square	23,150 square feet
Cargo cube	38,000 cubic feet
Helicopter landing spots	2 with 4 expanded
Operational CH-46 equivalents	4
JP-5 jet fuel	315,000 gallons
MOGAS (500-gallon bladders)	3,000 gallons
LFORM capable	Yes

**Table L-24. Command and Control Systems.**

Combat information center	Yes
Integrated tactical amphibious warfare data system	No
Ship's signals exploitation space	Yes
Troop operations and logistics center	Yes
Joint intelligence operations center	Yes
Supporting arms coordination center	Yes
TACLOG group	Yes
Helicopter logistics support group	No
Navy TACC	No
Helicopter direction center	No
Helicopter coordination section	Yes

**Table L-25. Medical Capabilities.**

Operating rooms	2
Post-operative recovery/intensive care	6 beds <sup>1</sup>
Isolation ward	2 beds
Primary care ward	24 beds <sup>1</sup>
Ship's doctor	Yes
Ship's dentist	Yes
<sup>1</sup> Primary care ward includes 18 inpatient and 6 intensive care beds.	

**Table L-26. Ship's Cargo Handling Equipment.**

Forklifts (electric/4,500 pounds)	3
Forklifts (electric/4,000 pounds)	4
Forklifts (rough terrain/10,000 pounds)	2
Forklifts (rough terrain/4,000 pounds)	4
Pallet jack electric (6,000 pounds)	2
Man lift	1
Cargo and weapons elevator (6-ton and 8-ton)	2
Pallet conveyors (1½-ton)	2
Bridge crane (well/hanger 12,000 pounds)	2
Boat and aircraft crane (30-ton)	1
Lift platform	1

**Table L-27. Well Deck Characteristics.**

Length (overall)	188 feet
Width	50 feet
Height	31 feet
LCAC	2
LCU	1
LCM-8	4
AAV	15
MK-8 SEAL delivery vehicle	4

**Table L-28. Ships in Class.**

Hull Number	Ship's Name	Status
LPD-17	<i>USS San Antonio</i>	
LPD-18	<i>USS New Orleans</i>	
LPD-19	<i>USS Mesa Verde</i>	
LPD-20	<i>USS Green Bay</i>	
LPD-21	<i>USS New York</i>	
LPD-22	San Diego	Under construction
LPD-23	Anchorage	Under construction
LPD-24	Arlington	Under construction
LPD-25	Somerset	Under construction
LPD-26	Murtha	Under construction
LPD-27	unnamed	Under construction

## Dock Landing Ship—LSD-41 Class

The assigned mission of the LSD-41 class (also known as the Whidbey Island class [see fig. L-6]) is to transport and launch loaded landing craft and AAVs with their crews and embarked personnel in support of amphibious operations. They can render limited docking repair service to small ships and craft. Information about this class of ship is provided in tables L-29 through L-34.

This class replaced the LSD-28 ships. The list of ships in this class is provided in table L-35. These

ships provide greater storage space for weapons and equipment, improved facilities for embarked troops, greater range of operations, and the capability to embark either conventional landing craft or LCACs. The ships incorporate MHE, including elevators, package/roller conveyors and forklifts, pallet transporters, and a turntable. The turntable is located between the well deck and the helicopter deck to assist in the rapid turnaround of vehicles and equipment during loading/offloading operations.



Figure L-6. *USS Whidbey Island (LSD-41)*.

Table L-29. General Information.

Length (overall)	609 feet
Beam	84 feet
Displacement (light load)	10,560 tons
Displacement (full load)	15,165 tons
Draft (full load)	20 feet
Main engines (geared diesel)	4
Boiler	No
Shafts	2
Shaft horsepower	34,000
Speed	20+ knots
Bow thruster	No
Staff accommodations	No
Crew accommodations	413
Ship's chaplain	No

Table L-30. Landing Force Lift General Information.

Officer accommodations	27
Enlisted accommodations (E-7)	13
Enlisted accommodations (E-6 and below)	362
Surge accommodations (officer)	7
Surge accommodations (E-7)	7
Surge accommodations (E-6 and below)	88
Vehicle square	11,831 square feet
Cargo cube	8,970 cubic feet
Helicopter landing spots	2
Operational CH-46 equivalent	No
JP-5 jet fuel	53,000 gallons
MOGAS	766 gallons
LFORM capable	No

Command and control systems on this class are designed to support the command, control, communications, and intelligence requirements for own-ship independent operations and in conjunction with an ATF.

**Table L-31. Command and Control Systems.**

Combat information center	Yes
Integrated tactical amphibious warfare data system	No
Ship's signals exploitation space	No
Flag plot	No
Landing force operations center	No
Joint intelligence operations center	No
Supporting arms coordination center	No
TACLOG group	Yes
Helicopter logistics support group	No
Navy TACC	No
Helicopter direction center	No
Helicopter coordination section	Yes

**Table L-32. Medical Capabilities.**

Operating rooms	1
Post-operative recovery/intensive care	1 bed
Isolation ward	2 beds
Primary care ward	5 beds
Casualty overflow	No
Ship's doctor	Yes
Ship's dentist	Yes

The landing craft numbers listed in table L-33 are the maximum number of each type of craft that can be stowed in the well deck exclusive of any other craft.

**Table L-33. Well Deck.**

Length (overall)	440 feet
Width	50 feet
Height	27 feet
LCAC <sup>1</sup> (operational/surge)	4/5
LCU <sup>1</sup> (operational/surge)	2/3
<sup>1</sup> A fifth LCAC or third LCU can be accommodated for surge with the portable vehicle ramp removed and stowed.	

**Table L-34. Cargo Handling Equipment.**

Reaching and tiering forklifts (electric/2-ton)	2
Pallet jacks (electric/3-ton)	2
Forklifts (rough terrain/6,000 pounds)	2
Cargo elevator (4-ton)	1
Bridge crane (15-ton [two 7½-ton hoists])	1
Boat and aircraft crane (60-ton)	2
Boat and aircraft crane (20-ton)	1
Turntable	1

**Table L-35. Ships in Class.**

Hull Number	Ship's Name
LSD-41	<i>USS Whidbey Island</i>
LSD-42	<i>USS Germantown</i>
LSD-43	<i>USS Fort McHenry</i>
LSD-44	<i>USS Gunston Hall</i>
LSD-45	<i>USS Comstock</i>
LSD-46	<i>USS Tortuga</i>
LSD-47	<i>USS Rushmore</i>
LSD-48	<i>USS Ashland</i>

### Dock Landing Ship (Cargo Variant)—LSD-49 Class

The assigned mission of the LSD-49 (also known as the Harpers Ferry class) is to transport and launch loaded amphibious craft and vehicles with their crews and embarked personnel in amphibious assaults by landing craft and amphibious vehicles. They can render limited docking repair service to small ships and craft. Additional characteristics of LSDs are provided in tables L-36 through L-41 on pages L-17 and L-18.

This class (see fig. L-7) is the cargo variant of the LSD-41 class ship. The ships in this class are listed in table L-42 on page L-18. Its well deck is shortened to half the length of the LSD-41 well deck to provide space for additional munitions and

vehicle stowage. The LSD-49 class has stowage space for 18 percent more vehicles and seven times more stowage space for cargo as the LSD-41. Its single 30-ton crane can offload only to the starboard side.

Command and control systems on the LSD-49 are designed to support the command, control, communications, and intelligence requirements for own-ship independent operations and in conjunction with an ATF.

The landing craft numbers listed below are the maximum number of each type of craft that can be stowed in the well deck exclusive of any other craft.



**Figure L-7. USS Harpers Ferry (LSD-49).**

**Table L-36. General Information.**

Length (overall)	609 feet
Beam	84 feet
Displacement (light load)	11,328 tons
Displacement (full load)	16,740 tons
Draft (full load)	20 feet
Main engines (geared diesel)	4
Boiler	No
Shafts	2
Shaft horsepower	34,000
Speed	Classified
Bow thruster	No
Staff accommodations	No
Crew accommodations	413
Ship's chaplain	No

**Table L-38. Command and Control Systems.**

Combat information center	Yes
Integrated tactical amphibious warfare data system	No
Ship's signals exploitation space	No
Flag plot	No
Landing force operations center	No
Joint intelligence operations center	No
Supporting arms coordination center	No
TACLOG group	Yes
Helicopter logistics support group	No
Navy TACC	No
Helicopter direction center	No
Helicopter coordination section	Yes

**Table L-37. Landing Force Lift General Information.**

Officer accommodations	25
Enlisted accommodations (E-7)	18
Enlisted accommodations (E-6 and below)	362
Surge accommodations (officer)	7
Surge accommodations (E-7)	6
Surge accommodations E-6 and below)	88
Vehicle square	20,200 square feet
Cargo cube	67,600 cubic feet
Helicopter landing spots	2
Operational CH-46 equivalent	No
JP-5 jet fuel	50,600 gallons
MOGAS	No
LFORM capable	Yes

**Table L-39. Medical Capabilities.**

Operating rooms	1
Post-operative recovery/intensive care	1 bed
Isolation ward	2 beds
Primary care ward	5 beds
Casualty overflow	No
Ship's doctor	Yes
Ship's dentist	Yes

**Table L-40. Well Deck.**

Length (overall)	180 feet
Width	50 feet
Height	30 feet
LCAC	2
LCU	1

**Table L-41. Ship's Cargo Handling Equipment.**

Forklifts (electric/2-ton)	7
Forklifts (rough terrain/4,000 pound capacity)	3
Forklifts (rough terrain/6,000 pound capacity)	2
Cargo lift platforms	3
Cargo elevator (4-ton)	2
Boat and aircraft crane (30-ton)	1
Cargo and weapons elevator (12,000 pound capacity)	1

**Table L-42. Ships in Class.**

Hull Number	Ship's Name
LSD-49	<i>USS Harpers Ferry</i>
LSD-50	<i>USS Carter Hall</i>
LSD-51	<i>USS Oak Hill</i>
LSD-52	<i>USS Pearl Harbor</i>

## Landing Craft, Air Cushion

The mission of the LCAC (see fig. L-8) is to land heavy vehicles, equipment, personnel, and cargo in amphibious assaults. The LCAC combines the heavy-lift capacity of the surface assault with the high speed of the helicopter-borne assault. Capable of traveling over land and water, the LCAC complements the heavy-lift, independent transit capability needed for US amphibious forces. At over-the-horizon distances of 12 to 100 nm, the LCAC offers the military planner another method for attaining surprise when conducting amphibious operations.

Air cushion technology adds high speed and long range to surface-borne amphibious operations.

Additional flexibility is provided by the LCAC's ability to operate independent of tides and hydrographic constraints. In some cases, the LCAC will have a significant ability to influence operations beyond the high-water mark. Weather can affect LCAC operations, but it is less of a factor than for other ship-to-shore delivery means.

The LCAC service life extension program provides an additional ten years of amphibious combat vehicle capability with enhanced engines, a new communications suite, buoyancy box refurbishment, and a deep skirt that reduces drag and increases performance. Characteristics of the LCAC are provided in table L-43 on page L-20.



**Figure L-8. Landing Craft, Air Cushion.**

**Table L-43. Characteristics.**

Length overall (off cushion)	81 feet
Length overall (on cushion)	87 feet, 11 inches
Width overall (off cushion)	43 feet, 8 inches
Width overall (on cushion)	47 feet
Height (on cushion)	23 feet, 8 inches
Cargo deck length	67 feet
Cargo deck width (maximum)	27 feet
Cargo deck	1,809 square feet
Troop capacity	24
Bow ramp width	28 feet, 4 inches
Bow ramp angle	14 degrees
Stern ramp width	14 feet, 10 inches
Stern ramp angle	14 degrees
Cargo capacity (design)	60 tons
Cargo capacity (overload)	75 tons
Displacement (full load)	166.6 tons
Displacement (capacity load)	181.6 tons
Speed	40+ knots
Range	200 nmi
Propulsion (turbo fan 40B gas turbines)	4
Crew	5

## Landing Craft, Utility

The mission of the LCU (see fig. L-9) is to land heavy vehicles, equipment, personnel, and cargo in an amphibious assault. The LCU is an enlarged version of the versatile World War II LCT [landing craft, tank]. This highly adaptable displacement craft complements the over-the-beach capability of the LCAC and can serve many other purposes, such as salvage operations, ferry boats for vehicles and passengers, and underwater test platforms. It is a self-sustaining craft with the typical habitability features found aboard ships. Its welded steel hull provides high durability with deck loads of 800 pounds per square foot. Arrangement of machinery and equipment has taken into account built-in redundancy in the event of battle damage. The craft features two engine rooms separated by a watertight bulkhead to permit limited operation in the event that one engine room is disabled. An anchor system is installed on the starboard side aft to assist in retracting from the beach. Characteristics of the LCU are provided in table L-44.

**Table L-44. Characteristics.**

Length (overall)	135 feet
Width (overall)	29 feet, 6 inches
Height (mast folded)	17 feet, 9 inches
Cargo deck length	121 feet
Cargo deck width (maximum)	25 feet
Cargo deck	1,850 square feet
Displacement (loaded)	437 tons
Troop capacity (on deck)	400
Bow ramp width	14 feet, 3 inches
Stern ramp width	18 feet
Cargo capacity	180 tons
Speed	12 knots
Range	1,200 nmi
Propulsion (diesel)	2
Draft fore	3 feet, 6 inches
Draft aft	6 feet, 10 inches
Crew	11



**Figure L-9. Landing Craft, Utility.**

## Landing Craft, Mechanized

The mission of the LCM [landing craft, mechanized] (see fig. L-10) is to land personnel, supplies, and equipment in an amphibious assault or in direct

support of MPF operations (see table L-45). With the fielding of the MPF utility boat, one LCM will be retained on each MEU/Alt-MEU MPS.



**Figure L-10. Landing Craft, Mechanized.**

**Table L-45. Landing Craft, Mechanized Characteristics.**

Length (overall)	73 feet, 7 inches
Width (overall)	21 feet, 1 inch
Cargo deck length	42 feet
Cargo deck width (maximum)	14 feet
Cargo deck square	588 square feet
Displacement (loaded)	105 tons
Troop capacity	100 with packs
Bow ramp width	14 feet, 9 inches
Cargo capacity	60 tons
Speed	12 knots
Propulsion (diesel)	2
Draft fore	4 feet, 5 inches
Draft aft	4 feet, 10 inches
Crew (wartime)	5
Crew (peacetime)	4

# GLOSSARY

## SECTION I. ACRONYMS AND ABBREVIATIONS

AACG . . . . .	arrival airfield control group	CONOPS . . . . .	concept of operations
AALPS . . . . .	automated air load planning system	CONUS . . . . .	continental United States
AAV . . . . .	amphibious assault vehicle	COT . . . . .	commanding officer of troops
AIS . . . . .	automated information system	CRG . . . . .	contingency response group
AIT . . . . .	automated identification technology	CSC . . . . .	International Convention for Safe Containers
ALE . . . . .	airlift liaison element	CTF . . . . .	combined task force
AMC . . . . .	Air Mobility Command	CTUS . . . . .	customs territory of the United States
AMovP . . . . .	allied movement publication		
APOD . . . . .	aerial port of debarkation	DACG . . . . .	departure airfield control group
APOE . . . . .	aerial port of embarkation	DD . . . . .	Department of Defense (form)
ARG . . . . .	amphibious ready group	DHS . . . . .	Department of Homeland Security
ATF . . . . .	amphibious task force	DOD . . . . .	Department of Defense
		DR . . . . .	dual role
BALS . . . . .	berthing and loading schedule	DMO . . . . .	distribution management office
BOG . . . . .	beach operations group	DTR . . . . .	Defense Transportation Regulation
		DTS . . . . .	Defense Transportation System
CARC . . . . .	chemical agent resistant coating	E-day . . . . .	embarkation day
CATF . . . . .	commander, amphibious task force	e-mail . . . . .	electronic mail
CBP . . . . .	United States Customs and Border Protection	ESG . . . . .	expeditionary strike group
CCA . . . . .	combat cargo assistant	FDP&E . . . . .	force deployment planning and execution
CCC . . . . .	cargo category code	Fwd . . . . .	forward
CCO . . . . .	combat cargo officer		
C-day . . . . .	(unnamed) commencement day	G-1 . . . . .	assistant chief of staff, personnel
CG . . . . .	commanding general	G-3 . . . . .	assistant chief of staff, operations
CGRI . . . . .	commanding general's readiness inspection	G-4 . . . . .	assistant chief of staff, logistics
CJCSM . . . . .	Chairman of the Joint Chiefs of Staff manual	G-5 . . . . .	assistant chief of staff, plans
CLF . . . . .	commander, landing force	GBL . . . . .	government bill of lading
CO . . . . .	commanding officer	GCCS . . . . .	Global Command and Control System
COMMARFORCOMO . . . . .	Commander, United States Marine Corps Forces Command Order	GEOCODE . . . . .	geographic code
COMMARFORPACO . . . . .	Commander, United States Marine Corps Forces, Pacific Order	GSORTS . . . . .	Global Status of Resources and Training System
COMNAVSURFLANT . . . . .	Commander, Naval Surface Force, Atlantic	HAZMAT . . . . .	hazardous materials
COMNAVSURFORINST . . . . .	Commander, Naval Surface Forces instruction	HHQ . . . . .	higher headquarters
COMNAVSURFPAC . . . . .	Commander, Naval Surface Force, Pacific	HMMWV . . . . .	high mobility multipurpose wheeled vehicle
		HQMC . . . . .	Headquarters, Marine Corps

ICODES . . . . .	integrated computerized deployment system	MDDOC . . . . .	Marine air-ground task force (MAGTF) deployment and distribution operations center
ISB . . . . .	intermediate staging base	MDSS II . . . . .	Marine air-ground task force Deployment Support System II
ISO . . . . .	International Organization for Standardization	MEB . . . . .	Marine expeditionary brigade
ITV . . . . .	in-transit visibility	MEF . . . . .	Marine expeditionary force
J-4 . . . . .	logistics directorate of a joint staff	MEF(Fwd) . . . . .	Marine expeditionary force (Forward)
JA/ATT . . . . .	joint airborne and air transportability training	MEU . . . . .	Marine expeditionary unit
JCS . . . . .	Joint Chiefs of Staff	MHE . . . . .	materials handling equipment
JFRG II . . . . .	joint forces requirement generator II	MLG . . . . .	Marine logistics group
JOPES . . . . .	Joint Operation Planning and Execution System	MMCC . . . . .	Marine air-ground task force movement control center
JP . . . . .	joint publication	MOS . . . . .	military occupational specialty
JTF . . . . .	joint task force	MPF . . . . .	maritime prepositioning force
LCAC . . . . .	landing craft, air cushion	MPS . . . . .	maritime prepositioning ship
LCC . . . . .	amphibious command ship	MPSRON . . . . .	maritime prepositioning ships squadron
LCM . . . . .	landing craft, mechanized	MRE . . . . .	meal, ready to eat
LCU . . . . .	landing craft, utility	MSC . . . . .	major subordinate command
LDO . . . . .	limited duty officer	MSE . . . . .	major subordinate element
LF . . . . .	landing force	MSL . . . . .	military shipping label
LFORM . . . . .	landing force operational reserve material	MTON . . . . .	measurement ton
LHA . . . . .	amphibious assault ship (general purpose)	MTT . . . . .	mobile training team
LHD . . . . .	amphibious assault ship (multipurpose)	NATO . . . . .	North Atlantic Treaty Organization
LKA . . . . .	amphibious cargo ship	NAVMC . . . . .	Navy/Marine Corps departmental publication
LOI . . . . .	letter of instruction	NCO . . . . .	noncommissioned officer
LPD . . . . .	amphibious transport dock	N-day . . . . .	notification for deployment day
LPH . . . . .	amphibious assault ship (helicopter)	nmi . . . . .	nautical mile (naval)
LSD . . . . .	dock landing ship	NSN . . . . .	national stock number
MAGTF . . . . .	Marine air-ground task force	NSE . . . . .	Navy support element
MARFORCOM . . . . .	United States Marine Corps Forces Command	OE&AS . . . . .	organization for embarkation and assignment to shipping
MARFORPAC . . . . .	United States Marine Corps Forces, Pacific	OIC . . . . .	officer in charge
MAW . . . . .	Marine aircraft wing	OPLAN . . . . .	operation plan
MCAS . . . . .	Marine Corps air station	OSA . . . . .	operational support airlift
MCB . . . . .	Marine Corps base	PALCON . . . . .	palletized container
MCI . . . . .	Marine Corps Institute	PHIBRON . . . . .	amphibious squadron
MCO . . . . .	Marine Corps order	PMT . . . . .	preventive medicine technician
MCRP . . . . .	Marine Corps reference publication	POC . . . . .	point of contact
MCWP . . . . .	Marine Corps warfighting publication	POD . . . . .	port of debarkation
		POE . . . . .	port of embarkation
		POG . . . . .	port operations group
		POL . . . . .	petroleum, oils, and lubricants
		PP&P . . . . .	packing, packaging, and preservation

psi . . . . .	pounds per square inch	TACC (Marine). . . . .	tactical air command center
PTC . . . . .	plane team commander	TACC (Navy) . . . . .	tactical air control center
QUADCON . . . . .	quadruple container	TACLOG . . . . .	tactical-logistical
RDD . . . . .	required delivery date	TAMCN . . . . .	table of authorized materiel control number
RFID . . . . .	radio frequency identification	TCN . . . . .	transportation control number
S-1 . . . . .	personnel officer	TE . . . . .	table of equipment
S-3 . . . . .	operations officer	TEO . . . . .	team embarkation officer
S-4 . . . . .	logistics officer	TEU . . . . .	twenty-foot equivalent unit
S-6 . . . . .	communications system officer	TM . . . . .	technical manual
SAAM . . . . .	special assignment airlift mission	TOO . . . . .	terminal operations organization
SAV . . . . .	staff assistance visit	TOP . . . . .	transportation of people
SDDC . . . . .	Surface Deployment and Distribution Command	TOT . . . . .	transportation of things
SLCP . . . . .	ship's loading characteristics pamphlet	TPFDD . . . . .	time-phased force and deployment data
SLE . . . . .	sealift liaison element	TUCHA . . . . .	type unit characteristics file
SMO . . . . .	strategic mobility officer	UDL . . . . .	unit deployment list
SNCO . . . . .	staff noncommissioned officer	UIC . . . . .	unit identification code
SOP . . . . .	standing operating procedure	ULN . . . . .	unit line number
SPOD . . . . .	seaport of debarkation	UMCC . . . . .	unit movement control center
SPOE . . . . .	seaport of embarkation	UP&TT . . . . .	unit personnel and tonnage table
STANAG . . . . .	standardization agreement (NATO)	US . . . . .	United States
STON . . . . .	short ton	USMC . . . . .	United States Marine Corps
		USS . . . . .	United States ship
		USTRANSCOM . . . . .	United States Transportation Command

## SECTION II. TERMS

**aerial port**—An airfield that has been designated for the sustained air movement of personnel and materiel as well as an authorized port for entrance into or departure from the country where located. Also called **APORT**. (JP 1-02)

**aerial port of debarkation**—A station that serves as an authorized port to process and clear aircraft and other traffic for entrance to the country where located. Also called **APOD**. (NTRP 1-02)

**aerial port of embarkation**—A station that serves as an authorized port to process and clear aircraft and other traffic for departure from the country where located. Also called **APOE**. (NTRP 1-02)

**airhead**—**1.** A designated area in a hostile or potentially hostile operational area that, when seized and held, ensures the continuous air landing of troops and materiel and provides the maneuver space necessary for projected operations. Normally it is the area seized in the assault phase of an airborne operation. **2.** A designated location in an operational area used as a base for supply and evacuation by air. (JP 1-02)

**Air Mobility Command**—The Air Force component command of the US Transportation Command. Also called **AMC**. (JP 1-02)

**automated air load planning system**—An automated system to select, sequence, and prioritize aircraft load plans. Also called **AALPS**.

**available-to-load date**—A date specified for each unit in a time-phased force and deployment data indicating when that unit will be ready to load at the point of embarkation. Also called **ALD**. (JP 1-02)

**broken stowage**—The space lost in the holds of a vessel because of the contour of the ship and the shape of the cargo. Dunnage, ladders, and stanchions are included in broken stowage. (JP 1-02)

**broken stowage factor**—A factor applied to the available space for embarkation due to the loss between boxes, between vehicles, around stanchions, and over cargo. The factor will vary, depending on the type and size of vehicles, type and size of general cargo, training and experience of loading personnel, type of loading, method of stowage, and configuration of compartments. (JP 1-02)

**bulk**—Cargo with dimensions less than oversized cargo and cargo that fits on a 463L (84 x 104 inches) aircraft pallet.

**bulk cargo**—That which is generally shipped in volume where the transportation conveyance is the only external container; such as liquids, ore, or grain. (JP 1-02)

**C-day**—The unnamed day on which a deployment operation commences or is to commence. (JP 1-02)

**cargo**—Supplies, materials, stores, baggage, or equipment transported by land, water, or air that is divided into six categories. **a. bulk. dry or liquid cargo** (oil, coal, grain, ore, sulfur, or fertilizer)—Cargo that is shipped unpackaged in large quantities or air cargo that fits within the dimensions of a 463L pallet and the design height of 96 ft. **b. containerizeable cargo**—Items that can be stowed or stuffed into a closed military container moved via ocean (SEAVAN) or military vans (MILVANs) (containers) (i.e., overdimensional or overweight cargo). **c. noncontainerizeable cargo**—Items which cannot be stowed or stuffed into SEAVANs or MILVANs (i.e., overdimensional or overweight cargo). **d. oversize**—Air cargo that exceeds the dimensions of bulk cargo but is equal to or less than 1,090 ft in length, 117 ft in width, and 105 ft in height. **e. outside**—Air cargo that exceeds the dimensions of oversize cargo and requires the use of a C-5 or C-17 aircraft. **f. source**

**stuffed cargo**—Cargo that economically fills a container from a single point of origin. (Modification proposed for inclusion in the next edition of MCRP 5-12C.)

**carrier**—Any individual, company, or corporation commercially engaged in transporting cargo, passengers, or household goods.

**channel airlift**—Provides regularly scheduled airlift for movement of sustainment cargo, depending upon volume of workload, between designated aerial ports of embarkation and seaports of debarkation over validated contingency or distributed channel routes. (JP 1-02)

**closure**—In transportation, the process of a unit arriving at a specified location. (JP 1-02)

**common-user lift**—US Transportation Command-controlled lift. The pool of strategic transportation assets either government-owned or chartered that are under the operational control of Air Mobility Command, Military Sealift Command, or Surface Deployment and Distribution Command for the purpose of providing common-user transportation to the Department of Defense across the range of military operations. These assets range from common-user assets available day-to-day to a larger pool of common-user asset phased in from other sources.

**common-user transportation**—Transportation and transportation services provided on a common basis for two or more Department of Defense agencies and, as authorized, non-Department of Defense agencies. Common-user assets are under the combatant command (command authority) of Commander, United States Transportation Command, excluding Service-organic or theater-assigned transportation assets. (JP 1-02)

**container**—An article of transport equipment that meets American National Standards Institute/International Organization for Standardization standards that is designed to be transported by various modes of transportation. These containers

are also designed to facilitate and optimize the carriage of goods by one or more modes of transportation without intermediate handling of the contents and equipped with features permitting ready handling and transfer from one mode to another. Containers may be fully enclosed with one or more doors, open top, refrigerated, tank, open rack, gondola, flatrack, and other designs. (JP 1-02)

**containerization**—The use of containers to unitize cargo for transportation, supply, and storage. Containerization incorporates supply, transportation, packaging, storage, and security together with visibility of container and its contents into a distribution system from source to user. (JP 1-02)

**Defense Transportation System**—That portion of the Nation's transportation infrastructure that supports Department of Defense common-user transportation needs across the range of military operations. It consists of those common-user military and commercial assets, services, and systems organic to, contracted for, or controlled by the Department of Defense. Also called **DTS**. (JP 1-02)

**depositioning**—A mission to return the aircraft from bases at which missions have terminated.

**dual role**—Any mission where both air refueling and airlift are provided to the user.

**E-day**—The day landing force personnel, supplies, and equipment begin to be embarked aboard amphibious or commercial ships.

**earliest arrival date**—A day, relative to C-day, that is specified as the earliest date when a unit, a resupply shipment, or replacement personnel can be accepted at a port of debarkation during a deployment. Also called **EAD**. (JP 1-02)

**flag spaces**—Billeting and office spaces aboard the amphibious assault ship (general purpose), amphibious assault ship (multipurpose), and

command configured amphibious transport dock 4 Class amphibious shipping allocated to the commander, amphibious task force staff.

**463L system**—Aircraft pallets, nets, tie down, and coupling devices, facilities, handling equipment, procedures, and other components designed to interface with military and civilian aircraft cargo restraint systems. Though designed for airlift, system components may have to move intermodally via surface to support geographic combatant commander objectives. (JP 1-02)

**frustrated cargo**—Any shipment of supplies and/or equipment which, while en route to destination, is stopped prior to receipt and for which further disposition instructions must be obtained. (JP 1-02)

**government bill of lading**—A government document used to procure transportation and related services from commercial carriers. Also called **GBL**.

**helicopter platform**—A term used for amphibious shipping with the capability to support the landing of helicopters for the purpose of embarking or debarking troops and cargo and for refueling aircraft. (MCRP 3-31B)

**intertheater airlift**—The common-user airlift linking theaters to the continental United States and to other theaters as well as the airlift within the continental United States. The majority of these air mobility assets is assigned to the Commander, United States Transportation Command. Because of the intertheater ranges usually involved, intertheater airlift is normally conducted by the heavy, longer range, intercontinental airlift assets but may be augmented with shorter range aircraft when required. Formerly referred to as “strategic airlift.” (JP 1-02)

**in-transit visibility**—The ability to track the identity, status, and location of Department of Defense units, and non-unit cargo (excluding bulk petroleum, oil, and lubricants) and passengers;

patients; and personal property from origin to consignee or destination across the range of military operations. Also called **ITV**. (JP 1-02)

**joint**—Connotes activities, operations, organizations, etc., in which elements of two or more Military Departments participate. (JP 1-02)

**joint airborne/air transportability training**—A Chairman of the Joint Chiefs of Staff-directed, Air Mobility Command-managed program to provide basic airborne and proficiency/continuation training for airdrop, assault airland, and aircraft static loading conducted in a joint environment. Also called **JA/ATT**.

**Joint Operation Planning and Execution System**—An Adaptive Planning and Execution system technology. Also called **JOPES**. (JP 1-02)

**joint task force**—A joint force that is constituted and so designated by the Secretary of Defense, a combatant commander, a subunified commander, or an existing joint task force commander. Also called **JTF**. (JP 1-02)

**landing force operational reserve material**—Package of contingency supplies pre-positioned and maintained onboard selected amphibious ships to enhance reaction time and provide support for embarked landing force in contingencies. Also called **LFORM** (JP 1-02). A package of contingency supplies pre-positioned on amphibious warfare ships consisting of Supply Classes I (rations), III (bulk and packaged ground petroleum, oils, and lubricants), IV (field fortification material), and V (munitions) that is maintained aboard select amphibious ships to enhance reaction time and provide support for embarked troops in contingencies.

**level of detail**—Within the current joint planning and execution system, movement characteristics for both personnel and cargo are described at six distinct levels of detail. Levels I, V, and VI describe personnel and Levels I through IV and VI for cargo. Levels I through IV are coded and

visible in the Joint Operation Planning and Execution System automated data processing. Levels V and VI are used by Joint Operation Planning and Execution System automated data processing feeder systems. **a. Level I** - personnel: expressed as total number of passengers by unit line number. Cargo: expressed in total short tons, total measurement tons, total square feet, and total thousands of barrels by unit line number. Petroleum, oils, and lubricants is expressed by thousands of barrels by unit line number. **b. Level II** - cargo: expressed by short tons and measurement tons of bulk, oversize, outsize, and non-air transportable cargo by unit line number. Also square feet for vehicles and non self-deployable aircraft and boats by unit line number. **c. Level III** - cargo: detail by cargo category code expressed as short tons and measurement tons as well as square feet associated to that cargo category code for an individual unit line number. **d. Level IV** - cargo: detail for individual dimensional data expressed in length, width, and height in number of inches, and weight/volume in short tons/measurement tons, along with a cargo description. Each cargo item is associated with a cargo category code and a unit line number. **e. Level V** - personnel: any general summarization/aggregation of level VI detail in distribution and deployment. **f. Level VI** - personnel: detail expressed by name, Service, military occupational specialty, and unique identification number. Cargo: detail expressed by association to a transportation control number or single tracking number or item of equipment to include federal stock number/national stock number and/or requisition number. Nested cargo, cargo that is contained within another equipment item, may similarly be identified. Also called **JOPES level of detail**. (JP 1-02)

**measurement ton**—The unit of volumetric measurement of equipment associated with surface-delivered cargo. Measurement tons equal total cubic feet divided by 40 (1 MTON = 40 cubic feet). Also called **MTON**. (JP 1-02)

**mission load allowance**—List of ordnance required to be carried in support of the ship's mission, excluding the ship's own armament. Mission load allowance is generally applicable to aircraft carriers, maritime pre-positioning ships, amphibious warfare ships, destroyers, and submarine tenders. (NTRP 1-02) Supply Class V (A) aviation ammunition pre-positioned on select amphibious warfare ships to support the aviation combat element of the embarked Marine air-ground task force.

**mobility**—A quality or capability of military forces which permits them to move from place to place while retaining the ability to fulfill their primary mission. (JP 1-02)

**mobilization**—**1.** The act of assembling and organizing national resources to support national objectives in time of war or other emergencies. **2.** The process by which the Armed Forces or part of them are brought to a state of readiness for war or other national emergency. This includes activating all or part of the Reserve Component as well as assembling and organizing personnel, supplies, and materiel. Mobilization of the Armed Forces includes but is not limited to the following categories. **a. selective mobilization**—Expansion of the active Armed Forces resulting from action by Congress and/or the President to mobilize Reserve Component units, Individual Ready Reservists, and the resources needed for their support to meet the requirements of a domestic emergency that is not the result of an enemy attack. **b. partial mobilization**—Expansion of the active Armed Forces resulting from action by Congress (up to full mobilization) or by the President (not more than 1,000,000 for not more than 24 consecutive months) to mobilize Ready Reserve Component units, individual reservists, and the resources needed for their support to meet the requirements of a war or other national emergency involving an external threat to the national security. **c. full mobilization**—Expansion of the active Armed Forces

resulting from action by Congress and the President to mobilize all Reserve Component units and individuals in the existing approved force structure, as well as all retired military personnel, and the resources needed for their support to meet the requirements of a war or other national emergency involving an external threat to the national security. Reserve personnel can be placed on active duty for the duration of the emergency plus six months. **d. total mobilization**—Expansion of the active Armed Forces resulting from action by Congress and the President to organize and/or generate additional units or personnel beyond the existing force structure, and the resources needed for their support, to meet the total requirements of a war or other national emergency involving an external threat to the national security. Also called **MOB**. (JP 1-02)

**non-unit cargo**—All equipment and supplies requiring transportation to an operational area, other than those identified as the equipment or accompanying supplies of a specific unit. (JP 1-02)

**operational control**—Command authority that may be exercised by commanders at any echelon at or below the level of combatant command. Operational control is inherent in combatant command (command authority) and may be delegated within the command. Operational control is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission. Operational control includes authoritative direction over all aspects of military operations and joint training necessary to accomplish missions assigned to the command. Operational control should be exercised through the commanders of subordinate organizations. Normally this authority is exercised through subordinate joint force commanders and Service and/or functional component commanders. Operational control normally provides full authority to

organize commands and forces and to employ those forces as the commander in operational control considers necessary to accomplish assigned missions; it does not, in and of itself, include authoritative direction for logistics or matters of administration, discipline, internal organization, or unit training. Also called **OPCON**. (JP 1-02)

**operation plan**—**1.** Any plan for the conduct of military operations prepared in response to actual and potential contingencies. **2.** A complete and detailed joint plan containing a full description of the concept of operations, all annexes applicable to the plan, and a time-phased force and deployment data. Also called **OPLAN**. (JP 1-02)

**outsized cargo**—Cargo that exceeds the dimensions of oversized cargo and requires the use of a C-5 or C-17 aircraft or surface transportation. A single item that exceeds 1,000 inches long by 117 inches wide by 105 inches high in any one dimension. (JP 1-02)

**oversized cargo**—**1.** Large items of specific equipment such as a barge, side loadable warping tug, causeway section, powered, or causeway section, nonpowered. Requires transport by sea. **2.** Air cargo exceeding the usable dimension of a 463L pallet loaded to the design height of 96 inches, but equal to or less than 1,000 inches in length, 117 inches in width, and 105 inches in height. This cargo is air transportable on the C-5, C-17, C-130, KC-10 and most civilian contract cargo carriers. (JP 1-02)

**port of debarkation**—The geographic point at which cargo or personnel are discharged. This may be a seaport or aerial port of debarkation; for unit requirements; it may or may not coincide with the destination. Also called **POD**. (JP 1-02)

**port of embarkation**—The geographic point in a routing scheme from which cargo or personnel depart. This may be a seaport or aerial port from which personnel and equipment flow to a port of

debarkation; for unit and non-unit requirements, it may or may not coincide with the origin. Also called **POE**. (JP 1-02)

**positioning**—Mission performed to relocate aircraft for the purpose of conducting a mission.

**six containers together**—A module unit that consists of five water or fuel tank modules and one pump module. The six containers together modules attach to form a 20-foot equivalent unit (International Organization for Standardization container). The modules form a liquid distribution source that can be transported as a unit or quickly taken apart for rapid deployment or relocation. Also called **SIXCON**. (MCRP 5-12C)

**strategic lift**—Air, land, and sea transport assets designated for deploying forces and cargo between theaters of operations or between the continental United States and theaters of operations.

**strategic mobility**—The capability to deploy and sustain military forces worldwide in support of national strategy. (DTR 4500.9-R)

**strategic sealift**—The afloat pre-positioning and ocean movement of military materiel in support of US and multinational forces. (JP 1-02)

**supported commander**—**1.** The commander having primary responsibility for all aspects of a task assigned by the Joint Strategic Capabilities Plan or other joint operation planning authority. **2.** In the context of joint operation planning, the commander who prepares operation plans or operation orders in response to requirements of the Chairman of the Joint Chiefs of Staff. **3.** In the context of a support command relationship, the commander who receives assistance from another commander's force or capabilities, and who is responsible for ensuring that the supporting commander understands the assistance required. (JP 1-02)

**supporting commander**—**1.** A commander who provides augmentation forces or other support to a supported commander or who develops a supporting plan. **2.** In the context of a support command relationship, the commander who aids, protects, complements, or sustains another commander's force, and who is responsible for providing the assistance required by the supported commander. (JP 1-02)

**sustainment**—The provision of logistics and personnel services required to maintain and prolong operations until successful mission accomplishment. (JP 1-02)

**theater**—The geographical area for which a commander of a geographic combatant command has been assigned responsibility. (JP 1-02)

**time-phased force and deployment data**—The time-phased force data, non-unit cargo and personnel data, and movement data for the operation plan or operation order or ongoing rotation of forces. Also called **TPFDD**. (JP 1-02)

**ton**—A measurement of weight: long ton equals 2,240 pounds, measurement ton equals 40 cubic feet, metric ton equals 2,204.6 pounds, and short ton equals 2,000 pounds.

**unified command**—A command with a broad and continuing mission under a single commander and composed of significant assigned components of two or more Military Departments that is established and so designated by the President, through the Secretary of Defense with the advice and assistance of the Chairman of the Joint Chiefs of Staff. Also called **unified combatant command**. (JP 1-02)

**validate**—Execution procedure used by combatant command components, supporting combatant commanders, and providing organizations to confirm to the supported commander and US Transportation Command that all the information records in a time-phased force and deployment

data not only are error-free for automation purposes, but also accurately reflect the current status, attributes, and availability of units and requirements. (JP 1-02)

**war reserve materiel**—That portion of materiel, above and beyond peacetime operating stocks,

required to support the increase activity of forces during wartime. War reserve materiel is necessary to assure the timely response and sustainability of weapon systems to support forces, activities and mission objectives for wartime scenarios. Also called **WRM**.

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