

**INCH-POUND**

**MIL-STD-3028**  
**6 July 2009**

**DEPARTMENT OF DEFENSE**  
**INTERFACE STANDARD**

**JOINT MODULAR**  
**INTERMODAL CONTAINER**



**AMSC N/A**

**AREA PACK**

## MIL-STD-3028

### FOREWORD

1. This standard is approved for use by all Departments and Agencies of the Department of Defense.
2. This standard covers the minimum requirements for the Joint Modular Intermodal Container (JMIC) and establishes general design, interface requirements, and associated tests for specialized shipping configurations used by the DoD. These requirements are necessary to permit the interface of the JMIC with other JMICs and transport platforms used within the Joint Modular Intermodal Distribution System. Definitive requirements for the JMIC will be defined by the individual specification, acquisition, or task order. This standard is intended to be used as the basic reference document in all specifications and standards prescribing performance requirements to be applied to a shipping container, configuration, or platform. Compliance with this intent is expected through normal application of the specification or standard preparation and revision processes.
3. Comments, suggestions, or questions on this document should be addressed to Chief, Logistics Support Activity, Packaging, Storage, and Containerization Center, ATTN: AMXLS-AT-P, 11 Hap Arnold Boulevard, Tobyhanna, PA 18466-5097 or e-mailed to [toby.pt@us.army.mil](mailto:toby.pt@us.army.mil). Since contact information can change, you may want to verify the currency of this address information using the ASSIST Online database at <http://assist.daps.dla.mil>.

## MIL-STD-3028

## CONTENTS

<u>Paragraph</u>		<u>Page</u>
	<u>FOREWORD</u>	ii
1.	<u>SCOPE</u>	1
1.1	Scope	1
2.	<u>APPLICABLE DOCUMENTS</u>	1
2.1	General	1
2.2	Government documents	1
2.2.1	Specifications and standards	1
2.3	Non-Government publications	2
2.4	Order of precedence	2
3.	<u>DEFINITIONS</u>	2
3.1	General	2
3.2	463L System	2
3.3	Automatic Identification Technology (AIT)	3
3.4	Interface standard	3
3.5	Intermodal	3
3.6	ISO containers	3
3.7	Joint Modular Intermodal Container (JMIC)	3
3.8	Joint Modular Intermodal Distribution System (JMIDS)	3
3.9	Tare Weight	3
4.	<u>GENERAL REQUIREMENTS</u>	4
4.1	General	4
4.2	Physical characteristics	4
4.2.1	Design configuration	4
4.2.1.1	Outside dimensions	4
4.2.1.2	Minimum internal dimensions	5
4.2.1.3	Other design configuration characteristics	5
4.2.1.4	Multiples of base footprint	5
4.2.2	Gross weight capacity	5
4.2.3	Static stacking capacity	5
4.2.4	Environmental requirements	5
4.2.5	AIT compatible	5
4.2.6	Material handling	6
4.2.6.1	Forklift pockets	6

## MIL-STD-3028

## CONTENTS

<u>Paragraph</u>		<u>Page</u>
4.2.6.2	Lifting, tiedown, and stacking provisions	6
4.2.7	Aircraft roller compatibility	6
4.2.8	Transportability	6
5.	<u>DETAILED REQUIREMENTS</u>	6
5.1	Fixed requirements	6
5.1.1	Protecting and marking the container	6
5.1.1.1	Painting requirements	6
5.1.1.2	Markings	7
5.1.1.2.1	Shipping and storage marking	7
5.1.1.2.2	Identification marking	7
5.1.1.2.3	Basic instructional markings	7
5.1.1.3	Design nameplate	7
5.2	Validation requirements	7
5.2.1	General	7
5.2.2	Rejection criteria	7
5.2.2.1	Repetitive shock (superimposed load)	8
5.2.2.2	Transportation shock	8
5.2.2.3	Mechanical handling	8
5.2.2.4	Stacking strength	8
5.2.2.5	Lifting strength (lifting provisions)	8
5.3	Validation tests	8
5.3.1	Repetitive shock test (superimposed load)	8
5.3.2	Transportation handling shock test	9
5.3.2.1	Cornerwise drop test	9
5.3.2.2	Edgewise drop test	9
5.3.2.3	Flat drop test	9
5.3.2.4	Impact test	9
5.3.2.4.1	Alternative impact test	9
5.3.3	Mechanical handling test	10
5.3.3.1	Forklift handling and transportability	10
5.3.3.2	Pushing test	10
5.3.3.3	Towing test	10
5.3.4	Stacking strength test	10
5.3.5	Lifting strength test	10

## MIL-STD-3028

## CONTENTS

<u>Paragraph</u>		<u>Page</u>
6.	<u>NOTES</u>	11
6.1	Intended use	11
6.2	Forklift pocket dimensions	11
6.3	Runner	11
6.4	ISO container	11
6.5	Subject term (key word) listing	11

## APPENDIXES

APPENDIX A. JOINT MODULAR INTERMODAL CONTAINER (JMIC)  
DIMENSIONS AND RATINGS

A.1	<u>SCOPE</u>	12
A.1.1	Scope	12

Table

A-I	JMIC external dimensions, permissible tolerances, and ratings	13
A-II	JMIC minimum internal dimensions and door opening dimensions	13

Figures

A-1	Top isometric view	14
A-2	Bottom isometric view	14
A-3	JMIC spacing diagram	15
A-4	Detail A. Interface fitting. Detail B. Interface receiver (sectioned along feature centerline)	16

## APPENDIX B. JMIC STANDARD MARKING

B.1	<u>SCOPE</u>	17
B.1.1	Scope	17

MIL-STD-3028

CONTENTS

APPENDIXES

<u>Paragraph</u>	<u>Page</u>
B.2 <u>APPLICABLE DOCUMENTS</u>	17
B.2.1 General	17
B.2.2 Government documents	17
B.2.2.1 Specifications and standards	17
<u>Figures</u>	
B-1 JMIC standard marking	18
CONCLUDING MATERIAL	21

## MIL-STD-3028

## 1. SCOPE

1.1 Scope. This standard establishes general design guidelines and associated tests for the Joint Modular Intermodal Container (JMIC), a shipping configuration used by the DoD. For the remainder of this document, JMIC refers to any container, configuration, or platform meeting the requirements of this standard. Definitive requirements for specific JMICs will be defined by the individual performance specification, acquisition or task order. This standard is intended to be used as the basic reference document in all specifications and standards prescribing interface and testing requirements to be applied to a JMIC. Compliance with this intent is expected through normal application of the specification or standard preparation and revision processes.

## 2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in sections 3, 4, or 5 of this standard. This section does not include documents cited in other sections of this standard or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in sections 3, 4, or 5 of this standard, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications and standards. The following specifications and standards form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

## DEPARTMENT OF DEFENSE SPECIFICATIONS

MIL-DTL-15024 - Plates, Tags, and Bands for Identification of Equipment, General Specification for

## DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-129 - Standard Practice for Military Marking for Shipment and Storage  
 MIL-STD-130 - Standard Practice for Identification Marking of U.S. Military Property  
 MIL-STD-648 - Design Criteria Standard for Specialized Shipping Containers  
 MIL-STD-810 - Test Method Standard for Environmental Engineering Considerations and Laboratory Tests

## MIL-STD-3028

MIL-STD-913	-	Design Criteria Standard for Requirements for the Certification of Sling Loaded Military Equipment for External Transportation by Department of Defense Helicopters
MIL-STD-1366	-	Interface Standard for Transportability Criteria
MIL-STD-1660	-	Design Criteria Standard for Ammunition Unit Loads
MIL-STD-2073-1	-	Standard Practice for Military Packaging

(Copies of these documents are available online at <http://assist.daps.dla.mil/quicksearch/> or <http://assist.daps.dla.mil> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

2.3 Non-Government publications. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

## ASTM INTERNATIONAL

ASTM D 996	-	Standard Terminology of Packaging and Distribution Environments
------------	---	---

(Copies of ASTM International standards are available online at [www.astm.org](http://www.astm.org) or from ASTM International, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

2.4 Order of precedence. Unless otherwise noted herein or in the contract, in the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

## 3. DEFINITIONS

3.1 General. The terms used throughout this standard, and their interpretation, will be in accordance with the following definitions. Packaging terms are in accordance with MIL-STD-2073-1 and ASTM D 996.

3.2 463L System. Aircraft pallets, nets, tiedown and coupling devices, facilities, handling equipment, procedures, and other components designed to interface with military and civilian aircraft roller and cargo restraint systems. Though designed for airlift, system components may have to move intermodally via surface to support geographic Combatant Commander objectives.



## MIL-STD-3028

3.3 Automatic Identification Technology (AIT). Known commercially as Automatic Identification Data Capture (AIDC), AIT is a suite of technologies enabling the automatic capture of data, thereby enhancing the ability to identify, track, document, and control assets, for example, material, deploying and redeploying forces, equipment, personnel, and sustainment cargo. AIT encompasses a variety of data storage and/or carrier technologies, such as bar codes, magnetic strips, integrated circuit cards, optical laser discs (optical memory cards and/or compact discs), satellite tracking, and radio frequency identification tags used for marking or “tagging” individual items, equipment, air pallets, or containers. AIT integration with logistic information systems is a key enabler in the Department of Defense’s Asset Visibility efforts. Further information is available online at <http://www.eis.army.mil/AIT/>.

3.4 Interface standard. A standard that specifies the physical, functional, or military operational environment interface characteristics of systems, subsystems, equipment assemblies, components, items, or parts to permit interchangeability, interconnection, interoperability, compatibility, or communications.

3.5 Intermodal. Type of international freight system that permits transshipping among sea, highway, rail, and air modes of transportation through use of ANSI/ISO containers, line-haul assets, and handling equipment.

3.6 ISO containers. Equipment that meets ANSI/ISO standards and is designed to enable and optimize the carriage of goods by one or more modes of transportation without intermediate handling of the contents and equipped with provisions permitting ready handling and transfer from one mode to another. Containers may be fully enclosed with one or more doors, end or side opening, open top, refrigerated, tank, open rack, gondola, flatrack, or other designs.

3.7 Joint Modular Intermodal Container (JMIC). A standardized intermodal shipping configuration used by the DoD. JMIC refers to any container, configuration, or platform meeting the requirements of this standard and is compatible with common transportation platforms. JMICs are used to effectively build and break down loads within 20-foot equivalent unit (TEU) containers or other commonly used platforms. JMICs can be transported as single units or as multiple units on platforms that can be rapidly transitioned between modes.

3.8 Joint Modular Intermodal Distribution System (JMIDS). Joint multi-modal/service cargo containers and platforms with integrated asset tracking that permit the efficient and seamless movement of supplies through the distribution system to include retrograde operations.

3.9 Tare weight. The weight of a container deducted from gross weight to obtain net weight or the weight of an empty container.

## MIL-STD-3028

## 4. GENERAL REQUIREMENTS

4.1 General. JMICs to be developed within the design parameters established by this standard will vary depending upon mission requirements and contents. JMICs provide protection during handling, shipping, and storage of munitions and other supplies. Handling modes include truck, rail, air, ship, underway replenishment, material handling operations, tactical wheeled and tracked conveyances.

4.2 Physical characteristics.

4.2.1 Design configuration. All JMICs shall meet the following physical design requirements.

4.2.1.1 Outside dimensions. The outside envelope dimensions shall conform to the following:

Length	51.75 inches +/- .09 inch
Width	43.75 inches +/- .09 inch

NOTE: Length and width shall not deviate from those specified above unless they are in multiples as noted in paragraph 4.2.1.4.

Height (including interface fitting, figure A-4 of Appendix A)	43.00 inches + .09/- .14 inch
--	-------------------------------

NOTE: The 43-inch height allows for loading of double-stacked JMICs in a standard eight foot high TEU. When the height in the procurement specification must deviate from 43 inches, actual height shall be included within the nomenclature of that JMIC (for example, a JMIC which is 54.6 inches high would include "JMIC 55" within its nomenclature – always rounding up to the next integer). Maximum height for any single JMIC shall not exceed 83.88 inches.

## MIL-STD-3028

4.2.1.2 Minimum internal dimensions.

Length	48.75 inches
Width	40.75 inches
Height	33.18 inches

NOTE: For JMIC with other than a 43.00 inch height, the internal height shall be not more than 11 inches less than the overall height. For example, a JMIC 55 must have an internal height of at least 44 inches.

4.2.1.3 Other design configuration characteristics. Other dimensional characteristics shall be in accordance with Appendix A.

4.2.1.4 Multiples of base footprint. When larger loads must be accommodated, a JMIC's footprint dimensions may be increased up to two times in width and up to four times in length, as shown in figure A-3 of Appendix A.

4.2.2 Gross weight capacity.

Standard duty JMIC capacity – 3000 lb

Heavy duty JMIC capacity – 4500 lb

Light duty JMIC capacity – 1500 lb

4.2.3 Static stacking capacity. The JMIC structure shall allow static stacking of three like gross weight capacity JMICs, each loaded to gross weight, on top of a base JMIC without special restraining equipment.

4.2.4 Environmental requirements. Specific environmental requirements shall be defined in the respective procurement specification.

4.2.5 AIT compatible. An externally accessible protected area, which does not protrude beyond the JMIC envelope, on the identification plate side of each JMIC (see figure B-1 of Appendix B) shall accommodate an AIT device and provide functionality in accordance with specified latest applicable DoD guidance. Specific AIT requirements shall be defined in respective procurement specification.

## MIL-STD-3028

4.2.6 Material handling. Each JMIC shall incorporate the following handling provisions.

4.2.6.1 Forklift pockets. Forklift pockets for single JMICs shall allow four way entry in accordance with Appendix A, figures A-1 and A-2. For multiple sized JMICs, forklift pocket criteria shall be detailed in the respective procurement specification.

4.2.6.2 Lifting, tiedown, and stacking provisions. Each JMIC shall be capable of stacking and vertically locking together (when specified in procurement specifications) with other JMICs one upon the other. The design shall ensure that there is no interference with forklift pocket entry. Both pallet base and top shall have JMIC interfaces compatible with figure A-4 of Appendix A. Locking devices, whether manual or automatic, shall be compatible with figure A-4 of Appendix A.

4.2.7 Aircraft roller compatibility. The bottom of the JMIC shall comply with table A-I and figure A-2 of Appendix A.

4.2.8 Transportability. Each JMIC shall be capable of all modes of transport in accordance with MIL-STD-1366, paragraph 5.1 through 5.9 with the exception of 5.5 (Air Delivery by Low Velocity Airdrop). JMIC shall also be suitable for crane lift with a four leg sling and suitable for helicopter sling lift in accordance with MIL-STD-913 with the exception that lifting provisions shall be in accordance with figure A-4 of Appendix A. These lifting provisions are also suitable for tiedown for the restraint of either a single or stacked pair of JMICs.

## 5. DETAILED REQUIREMENTS

5.1 Fixed requirements. The following requirements shall be incorporated into the JMIC.

### 5.1.1 Protecting and marking the container.

5.1.1.1 Painting requirements. Painting, when required, will be as specified in the procurement specification, and will meet Occupational Safety and Health Administration (OSHA) and Environmental Protection Agency (EPA) guidelines. Painting will be primarily required for Nuclear, Biological, and Chemical (NBC) survivability, corrosion prevention, or to provide camouflage. The specific color and paint grade, required for exterior top coats, will be as indicated in the individual procurement specification. Chemical Agent Resistant Coating (CARC) requirements will be defined by the using agency in the procurement specifications.

## MIL-STD-3028

5.1.1.2 Markings.

5.1.1.2.1 Shipping and storage marking. The JMIC shall be stenciled and marked in accordance with figure B-1 of Appendix B, which is in accordance with MIL-STD-129. The JMIC height shall be marked on each JMIC as described in the second Note in paragraph 4.2.1.1.

5.1.1.2.2 Identification marking. JMIC containers shall be identified in accordance with MIL-STD-130 and in accordance with figure B-1 of Appendix B.

5.1.1.2.3 Basic instructional markings. Markings on shipping containers shall be permanent and legible for the life of the container in the defined logistics environments and will include all basic instructional and operating caution markings required for safe, expeditious handling, and use of the container. See Notes in Appendix B.

5.1.1.3 Design nameplate. Each JMIC shall have a permanently installed nameplate in accordance with MIL-DTL-15024 affixed to a visible, non-removable area as provided in Appendix B.

5.2 Validation requirements.

5.2.1 General. The design evaluation shall consist of formal tests and inspection to verify that the item and selected components conform to the requirements of this document. Unless otherwise specified each test shall be conducted at ambient temperature. The test load composition shall be determined by the test facility. The internal test load shall not support any load placed on top of the JMIC. Dunnage may be used to distribute the load within the JMIC. The JMIC shall be subject to the following engineering tests and evaluated based on the performance, function and criteria listed. Procurement specifications may include test series or requirements in addition to those specified in paragraphs 5.2.2.1 through 5.2.2.5 based on the design and features of the particular JMIC. (For example, JMICs for ammunition and hazardous materials may include additional requirements in their respective procurement specification.)

5.2.2 Rejection criteria. Unless otherwise stated, the rejection criteria for all tests are as stated below. Evidence of one or more of the following will be cause for rejection:

- a. Failure of the JMIC to retain its contents.
- b. Damage to the JMIC which would preclude removal of the contents by the intended means.

## MIL-STD-3028

- c. Permanent deformation of any portion of the JMIC that affects its functional performance throughout the intended operational parameters defined in the procurement specification.

5.2.2.1 Repetitive shock (superimposed load). Each JMIC shall withstand repetitive shock when subjected to the tests in paragraph 5.3.1. The function of the JMIC shall not be impaired when subjected to the tests in paragraph 5.3.1. Testing shall be performed in accordance with MIL-STD-1660.

5.2.2.2 Transportation shock. Each JMIC shall withstand transportation shock when subjected to the tests in paragraph 5.3.2. The function of the JMIC shall not be impaired when subjected to the tests in paragraph 5.3.2. Testing shall be performed in accordance with MIL-STD-648.

5.2.2.3 Mechanical handling. Each JMIC shall withstand handling by forklift truck. The design structure shall survive the mechanical handling tests in paragraph 5.3.3. The JMIC must remain on the forks throughout the tests in paragraph 5.3.3.1.

5.2.2.4 Stacking strength. Each JMIC shall support loads in a warehouse stacking environment, that is, three same rated capacity JMICs each loaded to its maximum capacity gross weight stacked on top of one JMIC. Adequate stacking strength shall be verified by the load test in paragraph 5.3.4.

5.2.2.5 Lifting strength (lifting provisions). The JMIC lifting provisions shall be capable of supporting 3.5 times the total gross weight of the JMIC. The lifting provisions or supporting structures shall not exhibit any permanent deformation when subjected to the lifting test of paragraph 5.3.5.

### 5.3 Validation tests.

5.3.1 Repetitive shock test (superimposed load). The JMIC, loaded to the maximum gross weight, with an identically loaded JMIC placed on top, fully assembled, and in its normal shipping condition, shall be placed on but not fastened to the test platform. Restraining devices shall be attached to the platform to prevent the JMIC from moving off the platform and, if necessary, to prevent excessive rocking of the JMIC. The restraining devices should be adjusted to permit unrestrained movement of the JMIC from its centered position about 1/2-inch in any horizontal direction. With the JMIC in one position, vibrate the platform at 1/2-inch amplitude starting at the frequency of 3 cycles per second. Steadily increase the frequency until the base of the top JMIC leaves the top of the bottom JMIC (for example, a 1/16-inch thick feeler gauge

## MIL-STD-3028

may be momentarily slid freely between every point on the top load and the bottom JMIC at some instant during each cycle). If circular input motion is used, table frequency shall be adjusted to ensure that one edge of the JMIC leaves the table not less than 3/16-inch on each cycle. This test shall be conducted for a period of two hours.

5.3.2 Transportation handling shock test. The loaded JMIC shall be subjected to the following shock tests. Instrumentation is not required. Prior to each test, the test load shall be inspected to ensure the load is properly configured.

5.3.2.1 Cornerwise drop test. The JMIC, loaded to its maximum gross weight and secured as it would be for shipping, shall be moved to a flat test area with an unyielding surface. One corner of the JMIC shall be placed on a 6-inch high wood block and a 12-inch high block shall support the adjacent corner. The corner, diagonally opposite the 12-inch block shall be elevated to a height of 15-inches and then allowed to fall freely onto the unyielding surface. This test shall be conducted on all four corners. Testing shall be in accordance with MIL-STD-648.

5.3.2.2 Edgewise drop test. The JMIC, loaded to its maximum gross weight and secured as it would be for shipping, shall be moved to a flat test area with an unyielding surface. One edge of the JMIC shall be placed on a 6-inch high wood block. The edge opposite the 6-inch block shall be elevated to a height of 15-inches and then allowed to fall freely onto the unyielding surface. This test shall be conducted on all four edges. Testing shall be in accordance with MIL-STD-648.

5.3.2.3 Flat drop test. The JMIC, loaded to its maximum gross weight and secured as it would be for shipping, shall be elevated 18-inches and allowed to fall freely onto an unyielding surface. Testing shall be in accordance with MIL-STD-648.

5.3.2.4 Impact test. The JMIC, loaded to its maximum gross weight and secured as it would be for shipping, shall be placed on an inclined-impact test machine. The carriage shall be raised to a predetermined point on a track, calibrated to a velocity of 7 feet/second upon impact with an unyielding abutment. The optional timber, used for concentrating the impact shall not be used. Impacts shall be done on all four sides of the JMIC in accordance with MIL-STD-1660.

5.3.2.4.1 Alternative impact test. The JMIC may be subjected to the rail impact test in accordance with MIL-STD-810, Method 516.5, Procedure VII. The impact test configuration is with stacked JMICs at maximum gross weight restrained to the bed of a standard military cargo vehicle using the four tiedown provisions with one restraint device attached to each provision and a cargo tiedown provision in the bed of the transporter. Impacts shall be done with the JMIC in each of the two possible dimensional orientations.

## MIL-STD-3028

5.3.3 Mechanical handling test. The JMIC, loaded to its maximum gross weight and secured as it would be for shipping, shall be subjected to the following mechanical handling tests. No instrumentation is required. Unless otherwise specified, any appropriately-sized forklift may be used for testing. Testing shall be in accordance with MIL-STD-648.

5.3.3.1 Forklift handling and transportability. The JMIC shall be lifted with a standard forklift and driven over a 100 feet long course in about 23 seconds. Three parallel pairs of 1-inch by 4-inch (nominal) boards (2-inch by 4-inch (nominal) boards if the forklift pockets are non-captive) shall be placed flat across the path of the truck. Each pair shall be spaced 54 inches apart. The first pair shall be placed at a 90 degree angle across the truck's path and centered 30 feet from the starting point. The second pair shall be 60 feet from the starting point at a 60 degree angle to the truck's path, allowing the left wheel to strike first. The third pair shall be placed 90 feet from the starting point at a 75 degree angle to the truck's path, allowing the right wheel to strike first. This test shall be performed with the forks engaged in the bottom side and end pockets of the JMIC and conducted with the fork tines in the level and full back tilt position.

5.3.3.2 Pushing test. The forklift truck shall be placed at the side of the JMIC. The forks shall be placed into the side fork pockets but should not support the JMIC. The JMIC shall be pushed 35 feet along a dry, hard pavement in about 85 seconds, at a uniform speed. This test shall be repeated with the forks in the forklift pockets at the end of the JMIC.

5.3.3.3 Towing test. A sling shall be attached from the forklift truck through the fork pockets. The JMIC shall be towed 100 feet along a hard, dry pavement in about 23 seconds, at a uniform speed. This test shall be repeated at the other side of the JMIC attached to fork pockets.

5.3.4 Stacking strength test. The JMIC, loaded to its maximum gross weight and secured as it would be for shipping, shall be placed on its bottom on a flat, level, rigid surface. A load shall be applied to the top of the JMIC in a manner simulating the effect of similar JMICs being stacked on top to replicate a situation of three fully loaded JMICs of the same rated capacity on top of the base JMIC (four high). The bearing surface of the top superimposed load shall be on the same load-bearing areas that the base areas would make on the JMIC top. If the material is susceptible to performance degradation due to environmental conditions, the load shall remain in place for a period of one hundred sixty eight (168) hours under the climatic conditions defined in the specification. If the material is not susceptible to degradation due to environmental conditions the load shall remain in place for one hour at ambient temperature.

5.3.5 Lifting strength test. The JMIC shall be uniformly loaded to 3.5 times the gross weight and lifted or strapped down to the deck and pulled upward with a load equivalent to 3.5 times the gross weight. The load shall be maintained for a period of five minutes by means of a four-legged sling attached to the JMIC lifting provisions to provide a 30 degree angle of the sling legs with the horizontal.



## MIL-STD-3028

## 6. NOTES

(This section contains information of a general explanatory nature that may be helpful, but is not mandatory.)

6.1 Intended use. This standard covers the required dimensional attributes and handling interfaces for the JMIC system.

6.2 Forklift pocket dimensions. Forklift pocket dimensions of Appendix A, figure A-1 comply with the forklift truck compatibility requirements of ANSI MH1, Pallets, Slip Sheets, and Other Bases for Unit Loads, and STANAG 2828, Military Pallets, Packages and Containers, with the exception that the outside to outside forklift pocket dimension (table A-I) was expanded in order to ensure compatibility with USMC TRAM (Tractor, rubber tired, articulated steering Multipurpose 644E (TRAM) is a fully hydraulic, rough terrain forklift/loader used primarily in the Marine Corps).

6.3 Runner. The width of the runner on the bottom of the JMIC, shown in figure A-2 of Appendix A, is designed to ensure compatibility with internal roller systems of tactical military vertical lift aircraft such as CH-47; H-60; CH-46; MV-22; and CH-53.

6.4 ISO container. The 20-foot ISO container is the DoD standard for ammunition and unit equipment and the 20-/40-foot container is the DoD standard for sustainment, the size of container depending on the receiving unit's ability to handle 40-foot containers.

6.5 Subject term (key word) listing.

- Cargo
- Configuration
- Marking
- Material handling
- Platform
- Shipping
- Transportation

## MIL-STD-3028

### APPENDIX A

#### JOINT MODULAR INTERMODAL CONTAINER (JMIC) DIMENSIONS AND RATINGS

##### A.1 SCOPE

A.1.1 Scope. This Appendix provides the dimensions and ratings for the JMIC. This Appendix is a mandatory part of the standard. The information contained herein is intended for compliance.

## MIL-STD-3028

## APPENDIX A

TABLE A-I. JMIC external dimensions, permissible tolerances, and ratings.

JMIC TYPE	EXTERNAL DIMENSIONS WITH TOLERANCES (INCHES) REFER TO FIGURE A-1			RATING
	LENGTH (L)	WIDTH (W)	HEIGHT (H)	MAX. GROSS WEIGHT
STANDARD DUTY	51.75 ±.09	43.75 ±.09	(40.75) <sup>+.04</sup> <sub>-.09</sub>	3,000 LB
LIGHT DUTY				1,500 LB
HEAVY DUTY				4,500 LB

JMIC TYPE	EXTERNAL DIMENSIONS WITH TOLERANCES (INCHES) REFER TO FIGURES A-1 AND A-2								
	C1±.015	C2±.015	D1, D2 ±.06	D3, D4 ±.06	D5, D6 ±.06	E1	E2	F1 MIN	F2 MAX
STANDARD DUTY	50.250	40.500	D1=D2	D3=D4	D5=D6	(9.13)	(5.13)	33.50	6.00
LIGHT DUTY									
HEAVY DUTY									

JMIC TYPE	EXTERNAL DIMENSIONS WITH TOLERANCES (INCHES) REFER TO FIGURES A-1 AND A-2									
	F3 MIN	F4 MAX	F5 MIN	J±.06	K±.09	M±.09	N MIN	N MAX	P MAX	R±.13
STANDARD DUTY	33.50	6.00	3.88	.50	3.25	3.25	5.25	5.50	6.00	8.88
LIGHT DUTY										
HEAVY DUTY										

TABLE A-II. JMIC minimum internal dimensions and door opening dimensions.

JMIC TYPE	MINIMUM INTERNAL DIMENSIONS (INCHES) (FULL UNOBSTRUCTED)			MINIMUM DOOR OPENING DIMENSIONS (INCHES)	
	LENGTH	WIDTH	HEIGHT	LENGTH	HEIGHT
STANDARD DUTY	48.75	40.75	(33.18)	48.75	(33.18)
LIGHT DUTY					
HEAVY DUTY					

\*For multiple size JMICs, for example, double-long, refer to figure A-3 spacing diagram. Multiple sizes in either length or width, or any combination thereof is to meet the applicable center – center dimension. This will incorporate the .25-inch space(s) as required, for example, a double-long JMIC will incorporate one .25-inch space resulting in a length of 103.75 inches (51.75 X 2 + .25).

MIL-STD-3028

APPENDIX A

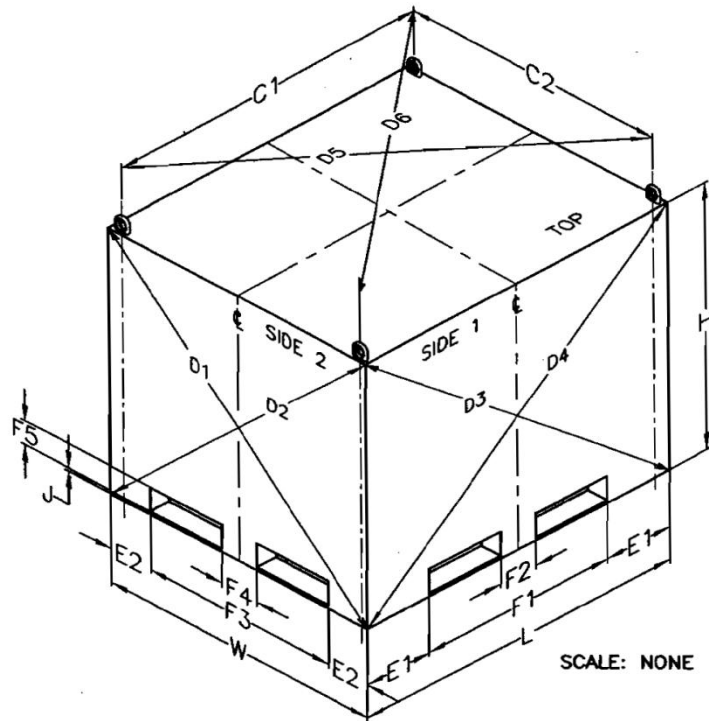


FIGURE A-1. Top isometric view.

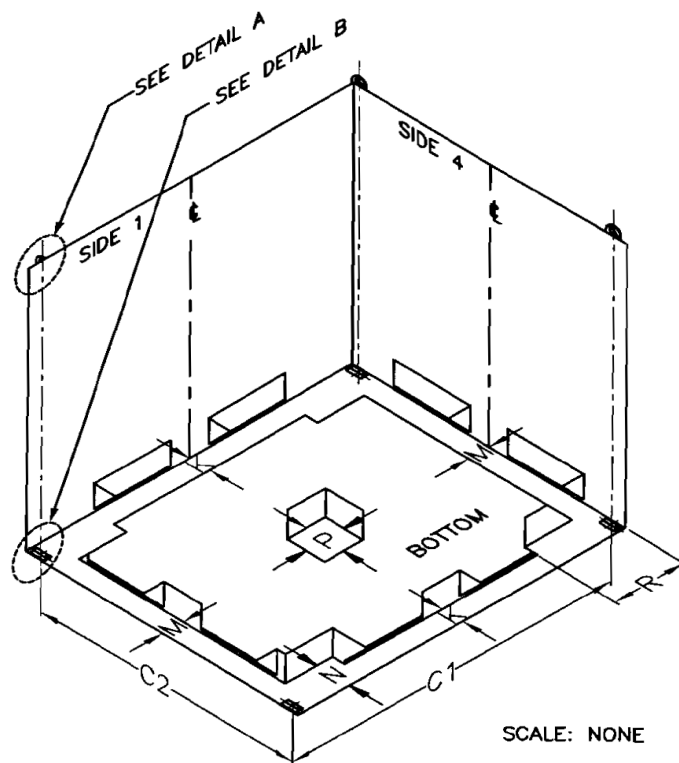
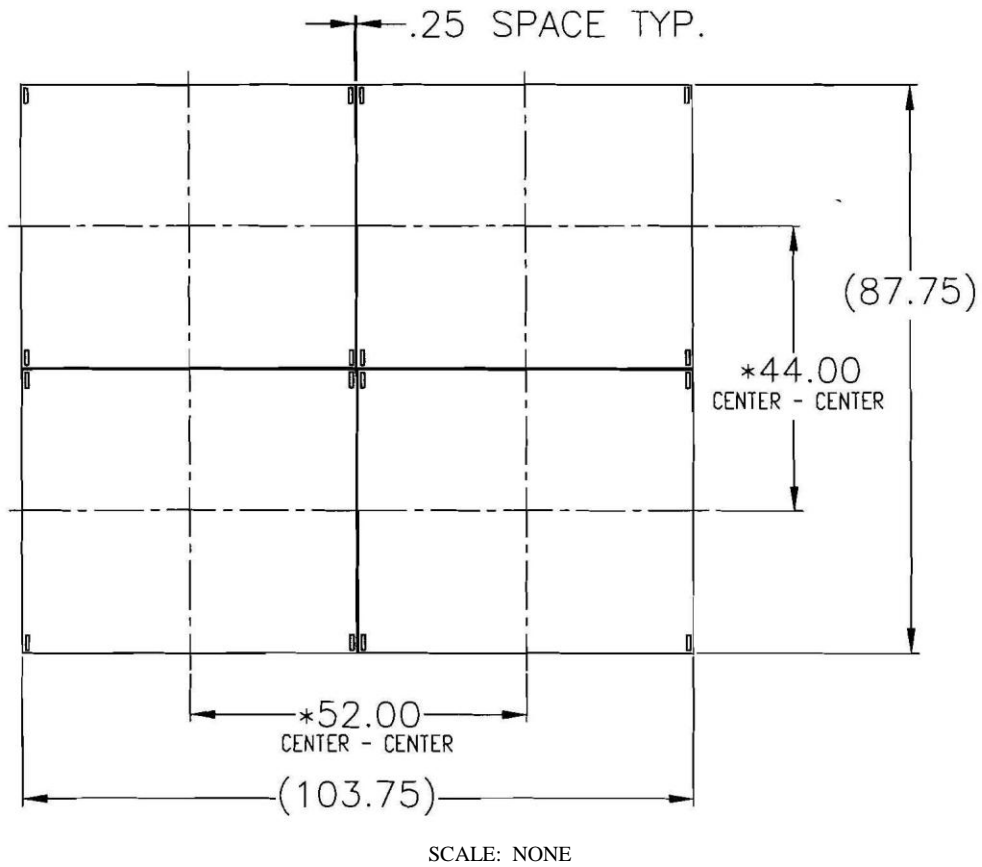


FIGURE A-2. Bottom isometric view.

MIL-STD-3028

APPENDIX A



Four JMICs are shown. Dimensions are in inches.

\*Multiple-sized JMICs are to meet center – center spacing (incorporating .25 space area).

FIGURE A-3. JMIC spacing diagram.

MIL-STD-3028

APPENDIX A

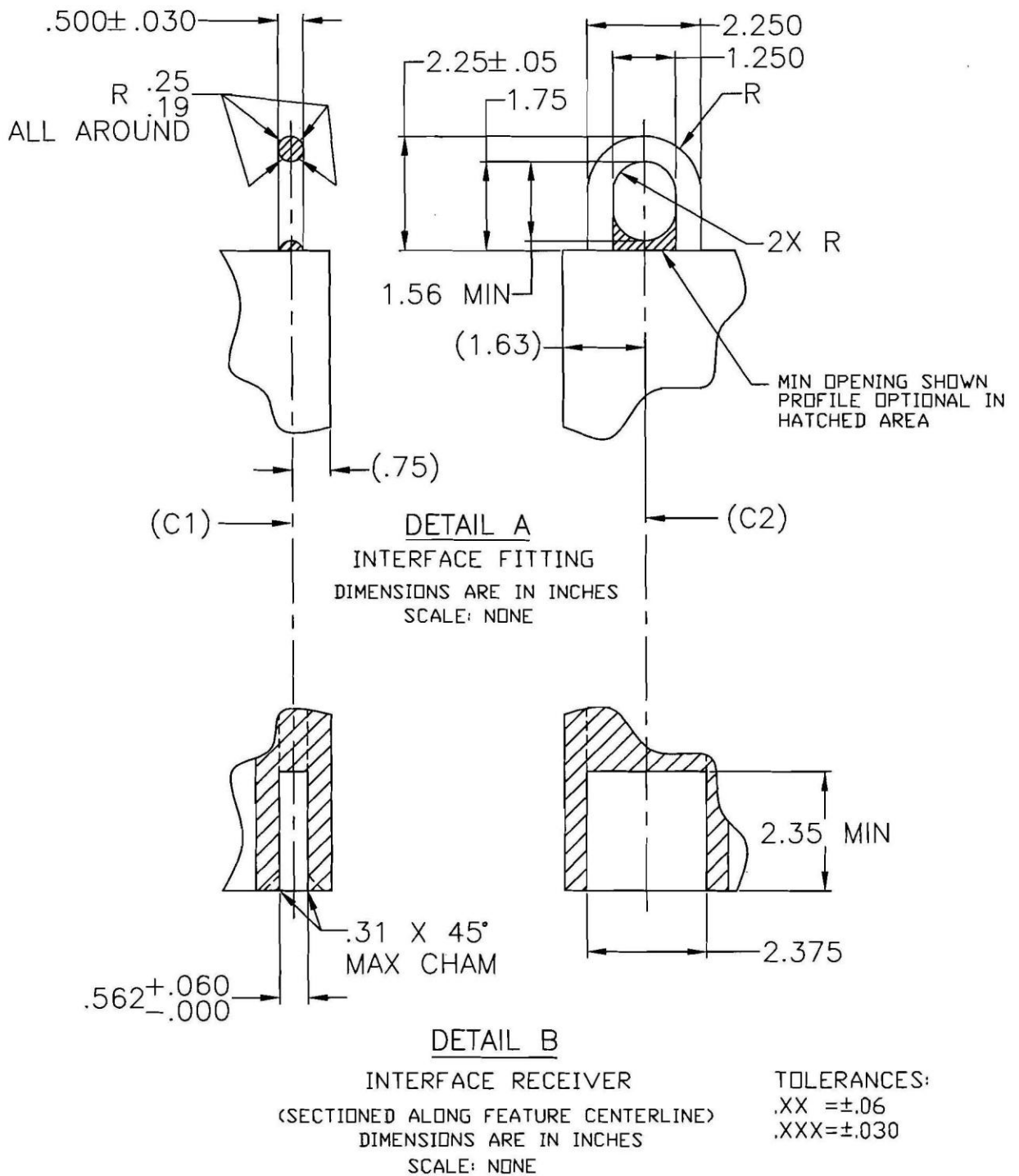


FIGURE A-4. Detail A. Interface fitting.  
Detail B. Interface receiver (sectioned along feature centerline).

## MIL-STD-3028

### APPENDIX B

#### JMIC STANDARD MARKING

##### B.1 SCOPE.

B.1.1 Scope. This Appendix provides the standard marking for the JMIC. This Appendix is a mandatory part of the standard. The information contained herein is intended for compliance.

##### B.2 APPLICABLE DOCUMENTS

B.2.1 General. The documents listed in this section are specified in the NOTES of this Appendix. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements of documents cited in the NOTES of this Appendix, whether or not they are listed.

##### B.2.2 Government documents.

B.2.2.1 Specifications and standards. The following specifications and standards form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those cited in the solicitation or contract.

##### DEPARTMENT OF DEFENSE SPECIFICATIONS

MIL-DTL-15024 - Plates, Tags, and Bands for Identification of Equipment, General Specification for

##### DEPARTMENT OF DEFENSE STANDARDS

MIL-STD-129 - Standard Practice for Military Marking for Shipment and Storage  
MIL-STD-130 - Standard Practice for Identification Marking of U.S. Military Property  
MIL-STD-1472 - Design Criteria Standard for Human Engineering

(Copies of these documents are available online at <http://assist.daps.dla.mil/quicksearch/> or <http://assist.daps.dla.mil> or from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094.)

MIL-STD-3028

APPENDIX B

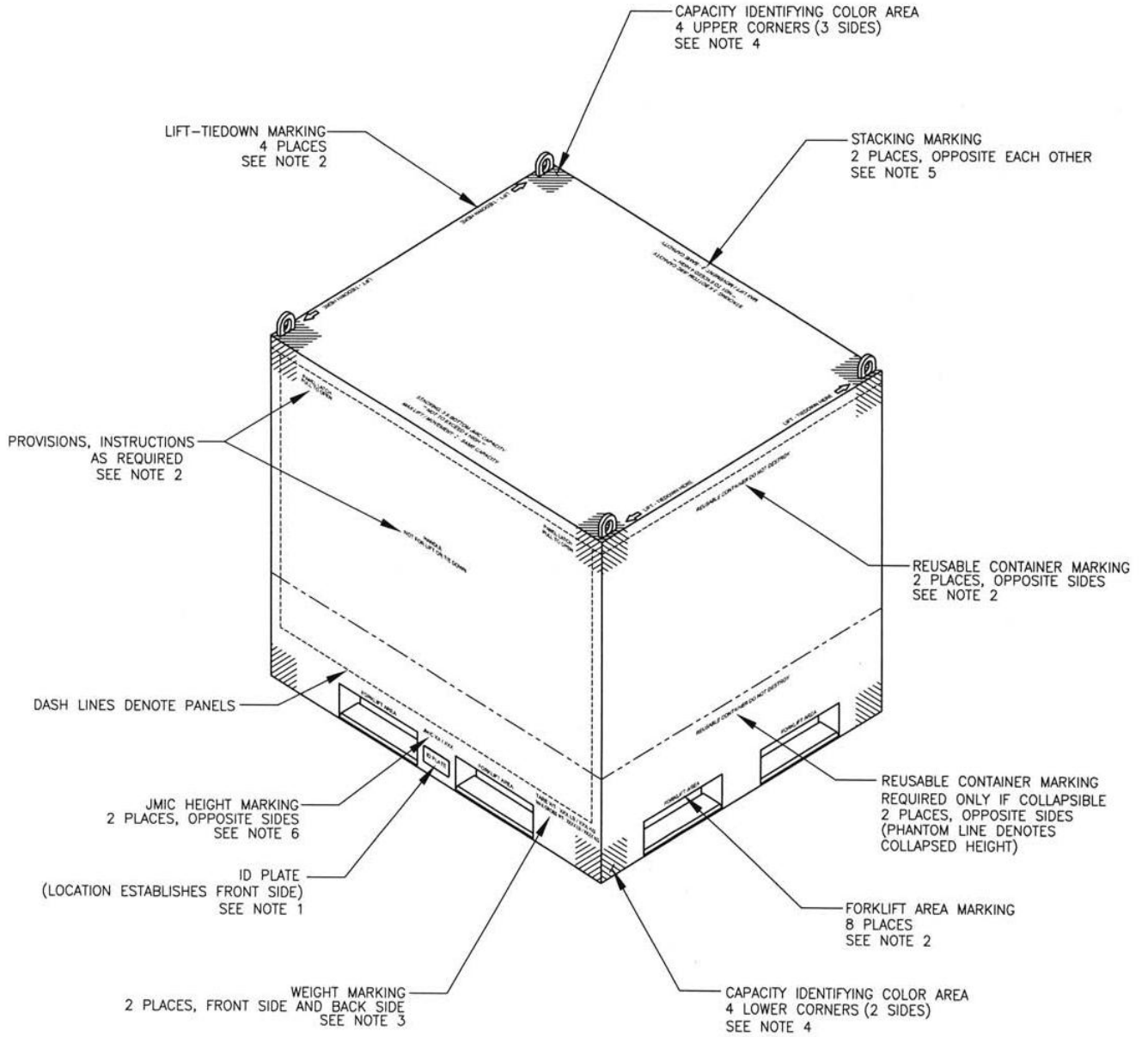


FIGURE B-1. JMIC standard marking.



## MIL-STD-3028

## APPENDIX B

## NOTES:

1. MIL-STD-130 identification marking must last the life of the container. A MIL-DTL-15024, 2-inch by 4-inch identification (ID) plate shall include the following: proper item nomenclature in .12-inch minimum height characters; enterprise identifier (CAGE code), part or identifying number, manufacturer (if different from enterprise identifier), contract number and "US" in .09-inch minimum height characters; and the ID plate must have as a minimum, a 2D Unique Identification (UID) barcode marking containing the enterprise identifier, part or identifying number in a 22 x 22 or larger data matrix with .04-inch cell size.
2. Marking shall be permanent in accordance with MIL-STD-129. Markings on the container shall include mark lifting provisions with "LIFT – TIEDOWN HERE" with arrows pointing to the lifting – tiedown provision. If space permits, mark "FORKLIFT AREA" over forklift pockets. Mark "REUSABLE CONTAINER DO NOT DESTROY" centered on upper sections of side panels. Operating provisions that are integrated into the container (for example, handles, latches, locking capabilities, etc.) shall be marked near the provision with sufficient markings to provide instructions for the operation of the provision. Provisions that may be mistaken and used for lifting, securing, or tiedown shall be identified and marked accordingly with "NOT FOR LIFT OR TIEDOWN" near the provision. Containers that are collapsible shall have additional "REUSABLE CONTAINER DO NOT DESTROY" marking that shall be visible when container is in collapsed condition.
3. Container weights shall be clearly marked (inch-pound and metric) on the base section, two places, front side (ID plate side), and backside with the following: "TARE WT: XXX LB / XXX KG, MAX GROSS WT: XXXX LB / XXXX KG" with applicable weights entered in place of "XXX" and "XXXX". Refer to JMIC type capacity chart for applicable gross weights. Characters shall be .50-inch minimum height or maximum permitted due to available space limitations.

## JMIC capacities:

(Standard duty JMIC):

GROSS WT 3000 LB / 1361 KG TARE WT XXX LB / XXX KG

(Light duty JMIC):

GROSS WT 1500 LB / 681 KG TARE WT XXX LB / XXX KG

(Heavy duty JMIC):

GROSS WT 4500 LB / 2042 KG TARE WT XXX LB / XXX KG

NOTE: Tare weight for all variants shall be determined at time of manufacture.

## MIL-STD-3028

### APPENDIX B

4. Container capacities shall be further denoted with a unique identifying color. The colors will be as follows in accordance with MIL-STD-1472:

Standard duty JMIC (3000 lb / 1361 kg gross) shall be white.

Light duty JMIC (1500 lb / 681 kg gross) shall be yellow.

Heavy duty JMIC (4500 lb / 2042 kg gross) shall be red.

Colors will be permanently marked at all (8) corners of the container with a minimum 4-inch square area. The color areas are to connect on all visible, adjacent sides of corner. If color area does not sufficiently identify an individual panel component, then the color area shall be increased as required to identify the panel. The intent is to avoid mixing panels of different rated capacities.

5. Stacking limits shall be clearly marked on cover, two locations as indicated. Marking shall be .50-inch minimum height characters with the following:

“STACKING: 3 X BOTTOM JMIC CAPACITY

\*\* NOT TO EXCEED 4 HIGH \*\*

MAX LIFT / MOVEMENT: 2 – SAME CAPACITY”

6. JMIC height will be clearly marked (inch-pound and metric) in area immediately above the ID plate, on both front and rear side, with “JMIC XX / XXX”. The “XX / XXX” will be replaced with the identifying height, always rounded up to the nearest inch/cm. This referenced height includes the stacking provision (interface fitting). An example of standard height JMIC marking is “JMIC 43 / 110”. This marking shall be in .50-inch minimum height characters.
7. All marking shall be permanent, color black, unless otherwise noted, or if the black is not sufficiently visible, then a contrasting color is to be used (for example, white or yellow on a dark background).

MIL-STD-3028

CONCLUDING MATERIAL

Custodians:

Army – SM  
Navy - OS  
Air Force - 69

Preparing Activity:

Army - SM  
(Project PACK-2007-011)

Review Activities:

Army – AM, AR, AT, CR, EA, GL, MT, PT, TM  
Navy – AS, CG, MC, NP, SA  
Air Force - 11

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <http://assist.daps.dla.mil>.