NOTICE OF CHANGE

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MIL-STD-2073-1D
NOTICE 1
10 May 2002

DEPARTMENT OF DEFENSE

STANDARD PRACTICE
FOR MILITARY PACKAGING

TO ALL HOLDERS OF MIL-STD-2073-1D:

1. THE FOLLOWING PAGES OF MIL-STD-2073-1D HAVE BEEN REVISED AND SUPERSEDE THE PAGES LISTED:

NEW PAGE	DATE	SUPERSEDED PAGE	DATE
iii	6 May 2002	iii	15 December 1999
iv	6 May 2002	iv	15 December 1999
vii	6 May 2002	vii	15 December 1999
viii	6 May 2002	viii	Reprinted without change
1	6 May 2002	1	15 December 1999
2	6 May 2002	2	15 December 1999
9	6 May 2002	9	Reprinted without change
10	6 May 2002	10	15 December 1999
27	6 May 2002	27	15 December 1999
28	6 May 2002	28	Reprinted without change

2. RETAIN THIS NOTICE AND INSERT BEFORE TABLE OF CONTENTS.

3. Holders of MIL-STD-2073-1D will verify that page changes and additions indicated above have been entered. This notice page will be retained as a check sheet. This issuance, together with appended pages, is a separate publication. Each notice is to be retained by stocking points until the standard is completely revised or canceled.

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FOREWORD

1. It is the policy of the Department of Defense (DOD) to use commercial packaging practices for all items unless it is shown that commercial packaging practices cannot provide adequate protection and preservation. MIL-STD-2073-1 is to be required only when commercial packaging cannot meet known distribution and environmental requirements. Details and decision logic for the use of this standard are described in 1.1, 1.2, figure 1, and 6.10.

2. This military standard is approved for use by all Departments and Agencies of the Department of Defense.

3. Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: Commander, Naval Air Warfare Center Aircraft Division, Highway 547, Code 4.3.5E, Building 562-3, Lakehurst, New Jersey 08733-5049, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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APPENDIX A
DEVELOPMENT OF MILITARY PACKAGING REQUIREMENTS

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1. SCOPE

1.1 Purpose. This document outlines standard processes for the development and documentation of military packaging, as distinct from commercial packaging. This standard covers methods of preservation to protect materiel against environmentally induced corrosion and deterioration, physical and mechanical damage, and other forms of degradation during storage, multiple handling, and shipment of materiel in situations when commercial packaging cannot meet known distribution and environmental requirements. A decision chart is included for determining the applicability of commercial or military packaging practices (see figure 1). If military packaging is applicable, figure 1 will further aid in the development of detailed packaging requirements.

1.2 Application.

1.2.1 Applicability. The requirements of this standard apply to items for which commercial packaging will not meet operational demands. These may include but not be limited to:

a. Items that cannot be protected and preserved in a cost-effective manner using commercial packaging

b. Items delivered during wartime for deployment with or sustainment to operational units

c. Items requiring reusable containers

d. Items intended for delivery-at-sea

1.2.2 Non-applicability. Items not requiring further transport or extended storage to meet future demand and inherently commercial items are to be packaged in accordance with commercial practice. This includes, but is not limited to, the following:

a. Items intended for immediate use

b. Items for not-mission-capable supply

c. Items intended for depot operational consumption

d. Small parcel shipments (CONUS), not-for-stock

e. Direct vendor deliveries (CONUS)

1.2.3 Applicability determination. Further guidance on the criteria for determining applicability of this standard is depicted in figure 1 and discussed in 6.10.

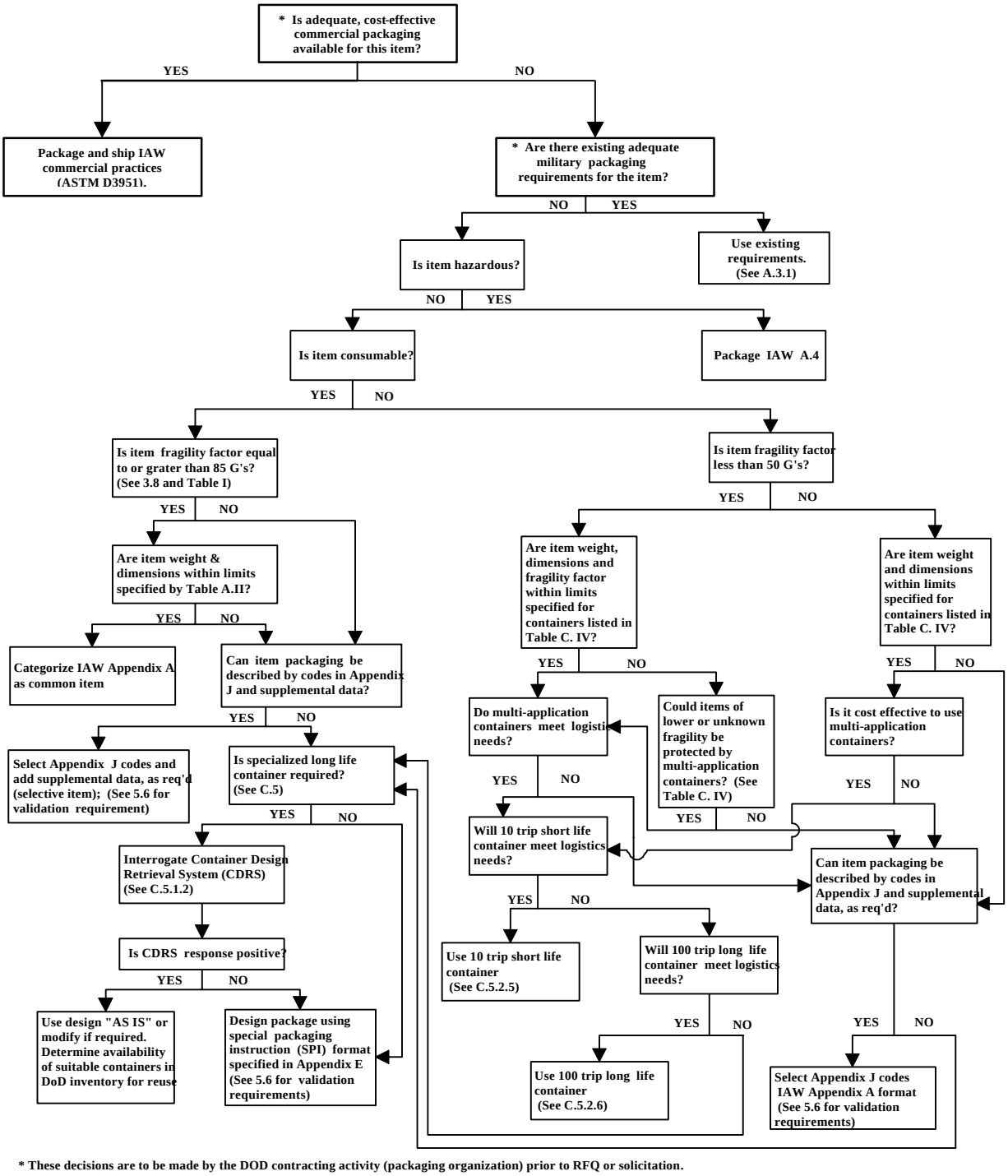

FIGURE 1. Military packaging requirements development decision chart.

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rods which exert concentrated forces on the shipping container; motors, telephones, typewriters, drop forgings, rivets, hardware, or other items that are random packed in bulk; and fragile or delicate items requiring special protection.

3.12 Packaging design validation. Testing to ascertain the capability of the prototype pack to protect the integrity and serviceability of the item(s) for which the package is designed.

3.13 Prototype pack. A preproduction pack designed and constructed to meet specified requirements and which is the model for production packaging.

3.14 Proper shipping name. The name of the hazardous material shown in Roman print (not italics) in part 172.101 of Title 49 CFR or the applicable modal regulations.

3.15 Repairable item. An item which, by the application of engineering, economic, and other factors, could be reasonably restored to a serviceable condition through regular repair procedures.

3.16 Reusable container. A shipping and storage container that can be reused without impairment of its protective function and which can be repaired or retrofitted to prolong its life or modified to adapt it for shipment of items other than that for which it was originally intended. Reusable shipping and storage containers are further defined as follows:

a. Long life container (100 trips minimum). A shipping container that can be used repeatedly, and whose service life can be expected to equal the service life of the item it is designed to protect. These containers may be refurbished by appropriate maintenance practices to their original condition and subsequently reused.

b. Short life container (10 trips minimum). A shipping container that can be reused for a limited number of times. The container is usually made of wood, plywood, fiberboard or similar material that has a limited life.

c. Multiapplication containers. Multiapplication containers are designed to protect a variety of components within a given fragility and size range. They can be manufactured in a similar manner to that used for specialized containers or in accordance with applicable/specified military or federal specifications. A multiapplication container can be either of the short-life or long-life variety. Short life multiapplication containers include "fast packs," consisting of a family of standard size cushioned fiberboard shipping containers of four types. These types are fully described in PPP-B-1672 and are identified as Types I, II, III and IV in table C.IV. Long-life multiapplication reusable containers are designated as Types

VI thru X and are also described in table C.IV. These containers are made of rugged plastic construction containing internal cushioning pads or permanent shock mitigation systems (for example, shear mounts, steel coils, and springs.) and are designed to protect repairable components packaged therein, during forward and retrograde movements within the military supply system.

d. Specialized container. Specialized containers are generally the long-life variety and are uniquely configured to support and protect a specific item, or limited variety of items, during handling and storage or to protect personnel and equipment from hazardous contents. Containers of this type frequently incorporate energy absorbing systems, temperature control systems or special features to make handling or shipment possible, easier or safer. Engineering drawings, or equivalent, are used to define form, fit, function, materials, tolerances and manufacturing techniques. Internal fixtures and other fitments within specialized shipping containers result from either original design efforts or the redesign or modification of an existing container to meet a specific application or need.

3.17 Sealed. An item is considered sealed if the entrances to the interior of the item are sealed with gaskets or closely mated surfaces under mechanical pressure or are sealed by threaded closure devices (except plastic caps). Sealed items also include assemblies which are encapsulated in plastics, ceramics, glass or metal with completely cemented seams or joints closing the interior to the entrance of liquid water. Hermetic sealing is a seal that will exclude air and will be leakproof at ambient temperatures and atmospheric pressures and is usually glass to glass, metal to metal or metal to glass.

3.18 Selective group items. Items that cannot appropriately utilize predetermined packaging developed for common group items (see 3.3) yet do not require a drawing, sketch, illustration or separate narrative type instruction to specify packaging details.

3.19 Special group items. Items with peculiar characteristics such as weight, configuration, complexity, fragility, or other considerations that cannot be classified as common or selective. An item is considered special if drawings, sketches, illustrations, narrative type instructions or specialized containers are required to specify packaging details.

4. GENERAL MILITARY PACKAGING REQUIREMENTS

4.1 General. Military packaging requirements shall be developed using the figure 1 decision chart in accordance with the requirements of this section, Section 5 and all Appendices herein. Paragraph 6.10 provides additional applicability guidance. The developed military packaging requirements shall be documented in accordance with Appendix E and as specified on the Contract Data Requirements List (CDRL) (see 6.3). These

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6.7 Copies of regulations. Copies of AFJMAN24-204/DLAM 4145.3/TM 38-250/NAVSUP PUB 505/MCO P4030.19 should be available from the applicable system program office or the USAF Material Command's hazardous material bulletin board on the Internet World Wide Web.

6.8 Supersession. In addition to the document listed on the front cover, this standard also has superseded the following documents:

MIL-P-116	-	Preservation, Methods of.
MIL-STD-726	-	Packaging Requirement Codes.
MIL-STD-794	-	Parts and Equipment, Procedures for Packaging of.
MIL-STD-834	-	Packaging Data Forms, Instructions for Preparation and Use of.
MIL-STD-1510	-	Container Design Retrieval System, Procedures for Use of.
MIL-STD-2073-2	-	Packaging Requirement Codes.
MIL-P-14232	-	Parts, Equipment and Tools for Army Material, Packaging of.

6.9 Changes from previous issue. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

6.10 Guidance for determining applicability. To determine the applicability of either commercial or military packaging, the decision will be guided by the policy outlined in DOD 4140-1R. Additionally, the Defense Federal Acquisition Regulation Supplement (DFARS) 211.272 and 252.211-7004 should also be used to determine the applicability of either commercial or military packaging processes.

a. The nature of items should be characterized to identify properties to be considered in evaluating the suitability of commercial packaging. Commercial packaging practices that adequately accommodate these properties should be deemed acceptable.

b. Judgment on "known logistics requirements" should be based on the location of the ultimate user and storage and preservation requirements. The Government is responsible for clearly communicating these requirements, in advance of each contract award or order, to the contractor to ensure effective and efficient packaging. Commercial practices for extending storage life and providing environmental protection should be considered in addition to federal and military specifications.

c. Economic or normal consumer quantities as determined in advance of each contract award or order, should be used to determine whether it is cost effective to ship all items of a particular class commercially to a government distribution depot where only those requiring special military packaging would be repackaged and shipped to field users as needed, or to require special packaging and separate shipment of such items under the contract or order.

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TABLE I. Approximate fragility factors.

15 G's or less Some inertial guidance platforms and space vehicles.
16 - 24 G's Missile guidance systems, precision aligned test equipment, gyros, some inertial guidance platforms.
25 - 39 G's Mechanically shock-mounted instruments (shock mounts secured prior to packaging provided for in-service use only), vacuum tube electronics equipment.
40 – 59 G's Aircraft accessories such as constant speed drives; electric typewriters, most solid state electronics equipment, oscilloscopes, computer components.
60 – 84 G's TV receivers, aircraft accessories such as generators, starters; some solid state electronics equipment, some circuit cards and some terminal boards.
85 - 110 G's Refrigerators, appliances, some electromechanical equipment, some circuit cards, air duct hoses, attenuators, cable assemblies, some capacitors, gears, housings, receivers, couplers, some resistors, some terminal boards.
110 + G’s Machinery, aircraft structural parts such as landing gear, control surfaces, hydraulic equipment, washers, latch pins, plates, screw brackets, bushings, gaskets, cable assemblies, some capacitors, coupling cover drive discs, fittings, some resistors, rings, rollers, shafts, supports.

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