

ATA Specification 300:

Specification for Packaging of Airline Supplies

REVISION
2008.1

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Highlights

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- Revision 2000.1: January 2000
- Revision 19: Issued July 31, 1996
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Revision 2008.1 (Revised March 2008)

Location	Description of Change
5-3. Regulatory Documents	Inserted a reference to a testing requirement in recently-adopted 49 CFR regulations (ie, PHMSA Amendment No. HM-224B) regarding the testing of packaging used to transport by air cargo cylinders containing compressed oxygen, other compressed, oxidizing gasses, or oxygen generators.
5-5. Packaging and Documentation Requirements	Specified additional marking applicable to packaging used to transport by air cargo cylinders containing compressed oxygen, other compressed, oxidizing gasses, or oxygen generators, to indicate the compliance of the packaging with the recently-amended regulations of PHMSA (ie, Amendment No. HM-224B).
Appendix B, B-2-2	Inserted a reference to recently adopted regulations in Amendment No. HM-224B which require testing of packaging used to transport by air cargo cylinders containing compressed oxygen, other compressed, oxidizing gasses, or oxygen generators. The provisions become effective on October 1, 2009.

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Chapter 1. Introduction

1-1. Purpose

This functional specification establishes guidelines for the packaging of aircraft parts and supplies shipped to an airline and contains minimum requirements of the airline industry to be used in the design, development, and procurement of effective packaging. Sufficient flexibility has been incorporated in these guidelines to permit desirable technological developments in the packaging field.

1-2. Application of Standards

Each individual airline will decide itself whether to adopt these guidelines or other standards to define its packaging requirements. Unless and until an airline adopts such guidelines as controlling in its relationships with suppliers, such guidelines have no legal effect.

The Air Transport Association (ATA) does not certify or approve shipping containers or designs as being in compliance with this specification.

To the extent these guidelines are based on provisions of the **Code of Federal Regulations** or other legal requirements, they will be deemed amended automatically to reflect any future amendments in those requirements.

1-3. General Description

ATA Spec 300 is organized into chapters, each to provide packaging instructions for repairable and expendable units and components. [\[Chapter 2\]](#) establishes standards which are applicable to the packaging of all parts and supplies. [\[Chapter 3\]](#) outlines additional requirements for repairables and expendables. [\[Chapter 4\]](#) provides packaging standards for kits. [\[Chapter 5\]](#) provides regulatory references and guidance for shipping hazardous materials. [\[Chapter 6\]](#) contains standards for packaging and handling electrostatic discharge sensitive devices. [\[Chapter 7\]](#) and outline requirements for **Category I, II, and III** containers.

Appendices contained within this specification for common and detailed instructions include:

- I Markings
- II Inspection / Tests
- III Glossary of Terms

1-4. Objectives

The primary intent of this specification is to foster the development and standardization of commercial airline packaging which will:

- Provide sufficient protection with a minimum of tare weight and cube consistent with optimum packaging versatility.
- Ensure proper identification of material and containers.
- Eliminate shipping damage due to packaging.
- Reduce packing and unpacking costs.
- Promote environmentally conscious packaging.
- Accommodate security features to expose unauthorized access during shipment

1-5. Packaging Requirement Codes

Information regarding the packaging requirements of aircraft spare parts shall be provided to the airline by the supplier in accordance with ATA Specification 2000 (Ref. [\[ATA Spec 2000\]](#)). Refer to ATA's Common Support Data Dictionary (CSDD) [\[ATA CSDD\]](#) for current references of codes and definitions, including the Packaging Code (see Table below). Information shall indicate if the aircraft part requires special packaging, marking, labeling, or handling when in transportation or storage because it is:

- Delicate (sensitive to shock or vibration)
- Hazardous material (includes magnetized materials)
- Kitted (part of a kit)
- Electrostatic discharge sensitive
- Magnetic field sensitive
- Shelf life sensitive

In addition to these packaging requirement codes, the [\[ATA Spec 2000\]](#) Provisioning Chapter requires suppliers to provide technical and descriptive data on all parts.

Packaging Codes	Description
0	No specific packaging requested.
1	Use ATA Spec 300 Category I container.
2	Use ATA Spec 300 Category II container.
3	Packaged and marked as described in ATA Spec 300, Chapter 3.
4	Each Kit to be packaged and identified as described in ATA Spec 300, Chapter 4.
5	Material handling devices required as described in ATA Spec 300, Chapter 6.
6	Hazardous Material requires specific packaging and approved markings as described in ATA Spec 300, Chapter 5.
7	Special Reference Packaging as described in ATA Spec 300, Para.1-4. Includes electrostatic devices, photosynthetic processes and other Chapter 1, requirements where protection is required from abnormal deterioration of damage in storage or by handling.
8	Part not shipped in ATA Spec 300 Category I container as indicated in the Purchase Order for repair/overhaul services.
9	Part shipped by way of electronic messaging. (Packaging is to observe structure, security and content protection features as prescribed in section....)

Chapter 2. Packaging of Repairable Parts

2-1. Purpose

To provide packaging requirements for repairable parts which are required to be packaged individually in reusable shipping containers in accordance with this specification.

2-2. Application of Standards

All repairable items which may be removed from the aircraft and economically restored to a fully serviceable condition and having a supporting **Overhaul Manual (OHM)** with a **Recommended Spares Part List** or a **Component Maintenance Manual (CMM)** with a matching **"T" File** shall be shipped to an airline customer in reusable shipping containers. This requirement is specified because of the need to protect the item through shipment, handling, and storage up to the moment of installation, and to repeat the cycle for the life of the item. For the purpose of this specification, reusable shipping containers are designated as follows:

Category I	Reusable for a minimum of 100 round-trips
Category II	Reusable for a minimum of 10 round-trips
Category III	Usable for a minimum of 1 trip (when used for repairable parts, see also [Chapter 8])

The above categories are differentiated by materials used in the container construction and tests described in this specification.

When it is impractical to individually package minor repairable items in a shipping container (small size, configuration, etc.), they may be packaged in unit containers for consolidation in shipping containers for shipment (Ref. [\[Chapter 3\]](#)).

Items separately packaged in individual containers may be consolidated into single or multiple overwraps for shipping.

Consideration of the special packaging, shipping, handling and storage aspects of components shall be provided by the manufacturer because of its superior knowledge of its products. This information should be made available sufficiently in advance of delivery of the unit to the customer to permit orderly physical and financial planning. This information shall include shock sensitivity, magnetic field sensitivity, hazardous materials classification, electrostatic discharge sensitivity, etc.

Some parts may require additional protection not prescribed by this specification and this specification does not limit or prescribe the additional protection may be required beyond the scope of this document.

For line replaceable units, manufacturers should be able to provide detailed information necessary for the development of protective packaging.

Unless a **Category I** container has been requested by the customer, the supplier of a repairable item as defined in this specification should ship in a **Category II** container designed in accordance with the requirements of this specification.

Category I and II reusable shipping containers received by a supplier with equipment to be installed in an aircraft prior to delivery, should be retained and returned to the container owner.

Suppliers receiving parts to be repaired in an airline's **Category I or II** container should reuse that container for a shipment back to the airline unless the container proves to be unfit for providing part protection. In this event, a replacement container should be provided for that unit upon shipment.

2-3. Special Packaging Requirements

2-3-1. Shelf Life and Storage Instructions

The manufacturer of the unit or component shall establish and inform the customers of the shelf life and storage instructions of its products. Items subject to abnormal deterioration, corrosion or chemical reaction in storage by exposure to liquids, vapors, gases, or dust shall be packaged in air-tight containers or wraps constructed of inert materials treated to neutralize any captive air with non-toxic results. Marking of each unit package shall be in accordance with [\[Appendix A\]](#).

2-3-2. Magnetic Fields

Assemblies or components which generate a magnetic field must be packaged and properly spaced in shielding materials which will prevent the magnetic field from adversely affecting adjacent items and instrumentation [\[Chapter 5\]](#).

2-3-3. Electrostatic Discharge Sensitive Devices

Items subject to electrostatic damage shall be packaged, marked and / or labeled and handled in accordance with [\[Chapter 6\]](#) of this specification.

2-3-4. Hazardous Materials

Articles, materials and substances which have been designated as being capable of posing an unreasonable risk to health, safety, and property by the applicable dangerous goods regulatory document shall be packaged in accordance with [\[Chapter 5\]](#) of this specification.

2-3-5. Delicate Materials

Items which are easily damaged when subjected to shock or vibration found in normal transportation must have those fragility characteristics documented by the manufacturer. This includes damage boundary curves or a recommended G-levels and acceleration for a given drop height.

2-3-6. Parts Containing Fluids

Where fluids such as jet fuel or hydraulic fluid are present in an aircraft part, the container and / or packing material must be capable of containing that fluid in the event of a leakage from the part. Fluids that are considered hazardous material by the applicable dangerous goods regulatory document shall be packaged in accordance with [\[Chapter 5\]](#) of this specification. Cushioning material which is permanently attached to the container or intended to be reusable shall not be capable of absorbing the fluid.

2-3-7. Logical Parts

Airplane software parts may be packaged in any of two mediums, physical or electronic. Industry conventions for the structure of physical or electronic medium have been formalized in form of standards prepared or accepted at an airplane industry level. Itemization of these standards need to be finalized and additional details will then be included in a future revision.

Logical parts defined in accordance with older standards call for the packaging of software within a physical media form, which itself is identified as a distinct airplane part. Accordingly, logical parts may manifest themselves in either physical and electronic form.

Chapter 3. Packaging of Expendable and Minor Repairable Parts

3-1. Purpose

To provide packaging requirements for expendable and minor repairable parts which are not required to be packaged in reusable shipping containers by [\[Chapter 2\]](#).

3-2. Application of Standards

All provisions of [\[Chapter 1\]](#) of this specification apply to the packaging of expendables and minor repairable items.

The special packaging requirements of [\[Section 2-3\]](#) also apply to expendable and minor repairable parts.

Items/parts are categorized under **Class A and B** to determine the package quantity. If an item is not directly referenced below, it is to be categorized according to the nature of the product and its intended use.

Class A items/parts must be individually packaged in **Unit Container** packaging; to be consolidated into a **Category III** shipping container. Minor repairable items/parts should be individually packaged in **Unit Container** packaging; to be consolidated into a **Category III** shipping container. This is acceptable only if the parts can be subjected to normal on-site warehousing and material handling operations while in their unit containers without requiring additional packaging to prevent damage.

Class A Items/parts

- Abrasive wheels (3" diameter or larger)
- Bearings, and / or higher assemblies containing bearings
- rings, seals and packings (excluding **Class B** material)
- Radioactive components
- Magnetic components
- Electrostatic discharge sensitive components
- Sensitive, precision, delicate components
- Sterile units, oxygen masks, headphones, ear plugs
- Matched sets must be packaged in one unit pack
- Hoses having a shelf life requirement
- Carbon seals
- Internal engine parts (System 72 per [\[ATA iSpec 2200\]](#)) normally assigned to a shop pool and repaired within an airline's facility (engine modules not included in this category)
- Internal brake assembly parts (Systems 32-40 per [\[ATA iSpec 2200\]](#))
- Cables which are damaged by bending or coiling
- Applicable software parts

All **Class B** expendable items/parts should be packaged in **Unit Container** packaging, and may be packaged in quantities greater than one.

Class B Items/parts

- Fabricated non-precision components
- Raw or bulk stocks
- Standard SAE, AN, MS, NAS, AGS, JAN type hardware
- Commercial hardware
- Paper products
- Catering and commissary supplies
- Fabricated hoses and flexible lines when protected with end caps
- Metal and teflon O rings, seals and packings

This list of classified descriptions is to provide a guide and does not restrict expansion nor reduce the need to use sound packaging practices.

In the event that a unit container is used for a minor repairable part which will generally require reshipment to final users at off site field locations, that unit container shall be capable of being used as a shipping container without requiring additional packaging.

If the standard issue quantity from inventory to a final user is always greater than one, packaging may be done in the standard issue quantity which applies.

This information will be published in a price list placed adjacent to the item to which it applies.

Chapter 4. Packaging of Kits

4-1. Purpose

The purpose of this chapter is to provide packaging, marking, and kit contents list requirements when preparing kits for shipment.

4-2. Application of Standards

Kits are made up of repairable or expendable items needed to accomplish modifications outlined in service bulletins or to facilitate a particular installation. A kit may consist of a single item or it may be complex and composed of hundreds of items. In either case the kit must be assembled, packaged, and clearly identified in order that the contents may be protected during transportation and storage, and immediately accessible for orderly issue and accomplishment of the work.

Kit items that fit the criteria of a repairable shall be packaged per [\[Chapter 2\]](#) of this specification.

Kit items that fit the criteria of an expendable or minor repairable shall be packaged per [\[Chapter 3\]](#) of this specification.

Kit items that have been determined to be a hazardous material shall be packaged and marked in accordance with the applicable regulatory agency referenced in [\[Chapter 5\]](#) of this specification. Examples of such material would include, but not be limited to squibs, compounds, cylinders, chemicals, etc. Special attention should be given to additional requirements associated with overpacks and compatibility of products.

Kit items that have been determined to be an electrostatic discharge sensitive device shall be packaged per [\[Chapter 6\]](#) of this specification.

4-3. Kit Detail Package Markings

The following information is required on all unit and intermediate (Unit Container) packages. Reference [\[Appendix A\]](#) for marking methods.

- (A) Part number
- (B) Nomenclature
- (C) Quantity and unit of issue
- (D) Special markings (serial number, cure date, etc.) as applicable.
- (E) Identification of logical parts pre-loaded, not discretely packaged.
- (F) Source for logical parts not included in physical form.

4-4. Shipping Container Markings

One (1) Kit Packed in One (1) Container - Mark one (1) kit packed in one (1) container with the following information:

- (A) Kit part number
- (B) Nomenclature
- (C) Quantity and unit of issue

-
- (D) Special markings (serial number, cure date, etc.) as applicable

Example: SB1008967-1
PANEL ASSEMBLY KIT
1 EA
SERIAL NO. 09876

One (1) Kit Packed in Multiple Containers - Mark one (1) kit packed in multiple containers with the following information:

- (A) Kit part number
(B) Nomenclature
(C) Quantity and unit of issue (1 EA, 2 LB., etc.)
(D) Special markings (serial number, cure date, etc.) as applicable
(E) Box number and total number of boxes

Example: SB1008967-1
PANEL ASSEMBLY KIT
1 EA
SERIAL NO. 09876
BOX 1 OF 3

Multiple of One (1) Kit in Multiple Containers - Same information as one (1) kit packed in multiple containers, see paragraph 4.4.3.2.2 with additional data:

Example: SB1008967-1
PANEL ASSEMBLY KIT
1 EA
SERIAL NO. 09876
KIT 2 BOX 3 OF 3

4-5. Kit Contents List

Each kit will have a kit contents list enclosed within the package in an easily accessible location. The kit contents list shall include:

- (A) Kit part number
(B) Detail part number, nomenclature, quantity, and unit of measure on all items that make up the kit

Kit contents list shall be printed on white paper in black ink with a minimum font size of 8 pt.

Chapter 5. Packaging of Hazardous Material

5-1. Purpose

The purpose of this specification is to identify the applicable regulatory documents that govern the commercial transport of hazardous materials and substances and to describe materials subject to those regulatory documents. Regulatory and legal requirements may change before the next revision of this specification. Therefore, it is the responsibility of the user of this specification to assure that all current regulatory and legal requirements are met.

The terms **Hazardous Materials**, **Dangerous Goods and Restricted Articles** are **synonymous**, and include **Hazardous Substances**, **Hazardous Wastes**, **Marine Pollutants**, and **Elevated Temperature Materials**.

5-2. Application of Standards

These materials and substances are defined and listed in 49 CFR Parts 171, 172, 173 and as authorized in 49 CFR 171.11 [DOT Title 49], and the ICAO Technical Instructions for the Safe Transport of Dangerous Goods by Air [ICAO Doc 9284].

5-3. Regulatory Documents

In determining the specifications for packaging designed, constructed, tested, maintained, and filled with Hazardous Materials, Dangerous Goods or Restricted Articles, the following regulatory documents must be consulted. Users should assure that they consult the most recent version of these documents.

[DOT Title 49]	<i>Code of Federal Regulations Title 49, Parts 100 through 199.</i> United States Department of Transportation (DOT) (www.dot.gov). More information is available online
[ICAO Doc 9284]	<i>Technical Instructions for the Safe Transport of Dangerous Goods by Air</i> , International Civil Aviation Organization (ICAO) (www.icao.org). ICAO catalog Doc. 9284.
[IATA DGR]	<i>Dangerous Goods Regulations</i> , International Air Transport Association (IATA) (www.iata.org). Catalog is available online.
[IMO IMDG]	<i>International Maritime Dangerous Goods Code (for transport of dangerous goods by sea)</i> . International Maritime Organization (IMO) (www.imo.org). More information is available online.

5-4. Packaging and Documentation Requirements

Hazardous Materials or **Substances**, **Dangerous Goods** and **Restricted Articles** shall be properly classified, described, packaged, marked, labeled, documented and in condition for transport in compliance with applicable regulations and instructions.

5-5. Additional U.S. Packaging and Documentation Requirements

In addition to 5-4 requirements, for the United States, effective October 1, 2009, packaging used to transport by air cargo cylinders containing compressed oxygen, other compressed oxidizing gasses, or oxygen generators, applicable instructions include instructions for marking packaging on a voluntary basis as stated in the preamble of applicable published regulations (refer to HM 224B). Manufacturers of affected cylinders and outer packages are strongly encouraged to adopt the DOT31FP marking standards to facilitate commerce with the aviation industry. This reference does *not* apply to ground shipments.

Chapter 6. Packaging of Electrostatic Discharge Sensitive Devices

6-1. Purpose

The purpose of this chapter is to provide packaging requirements for **electrostatic discharge sensitive devices**. It also provides instructions for labeling and handling of such devices.

6-2. Application of Standards

All applicable packaging provisions of this specification will be adhered to in addition to the requirements specified in this chapter.

Electrostatic discharge sensitive devices, including magnetic media containing software parts, will be individually packaged in appropriate protective packaging and labeled with ESDS precautionary labels. See [\[Figure 6-2.1\]](#) and [\[Figure 6-2.2\]](#).

Figure 6-2.1. Packaging of Electrostatic Discharge Sensitive Devices

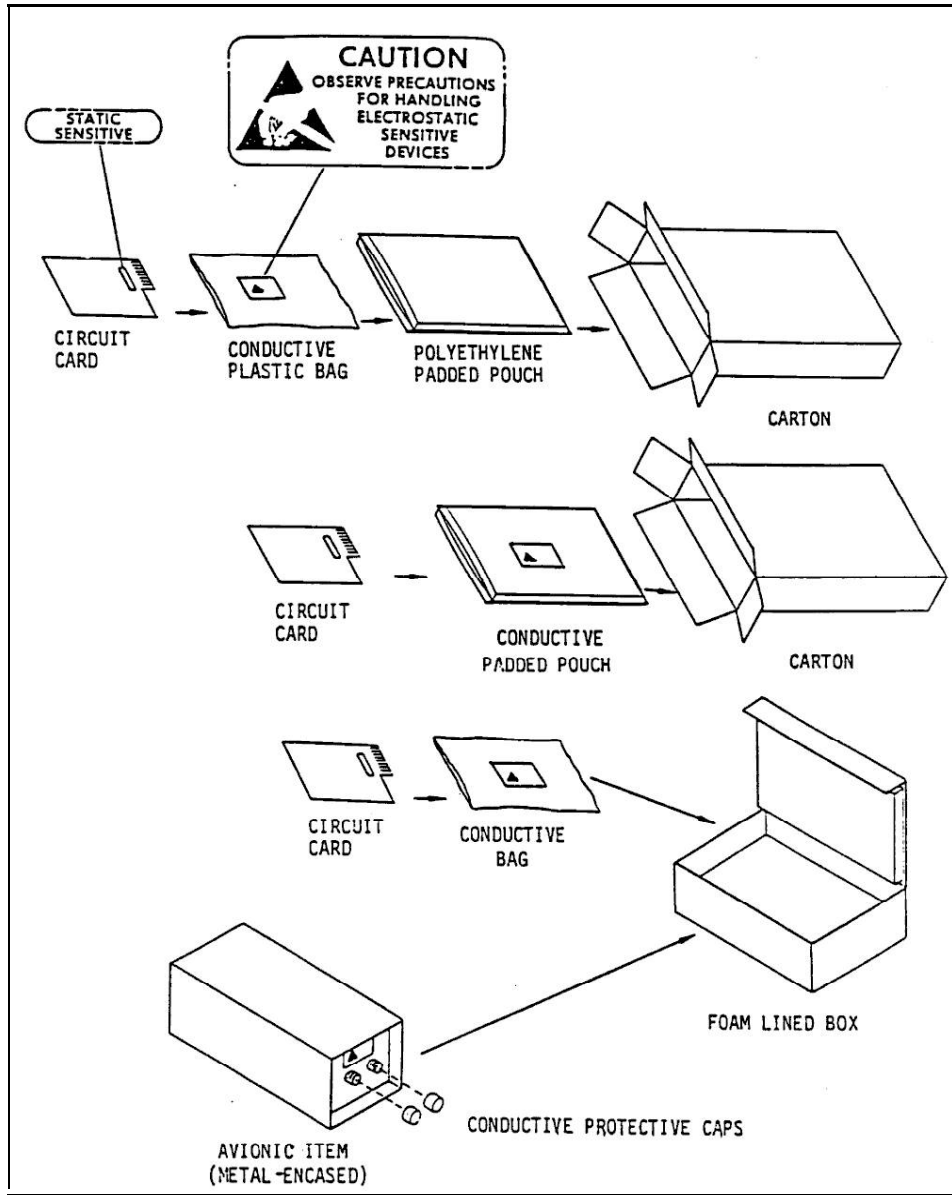
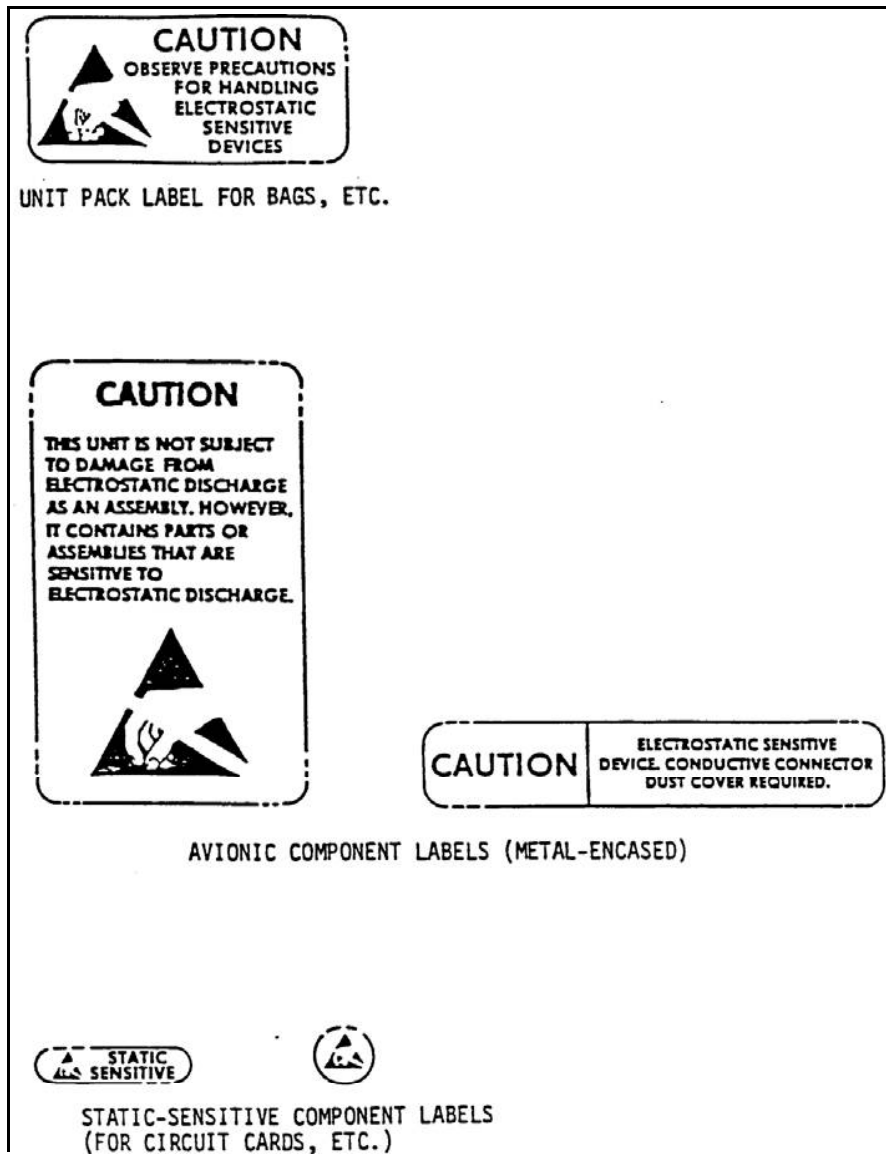


Figure 6-2.2. Electrostatic Discharge Sensitive Device Labels



6-3. Physical Requirements

6-3-1. Materials

Electrostatic discharge protection shall be provided by a plastic bag or container that is conductive, static dissipative or antistatic having sufficient properties to provide electrostatic discharge protection to electrostatic discharge sensitive devices and assemblies such as microelectronic **metal oxide semiconductors (MOS)**, **field-effect transistors (FET)** and **printed circuit boards (PCB)**.

Cushioning materials shall provide electrostatic discharge protection and be non-corrosive.

Packaging materials shall have a maximum surface resistivity of 10--14 ohms per square centimeter, when tested in accordance with ASTM D257 and a maximum bleed-off time of 2 seconds for 5,000 volts static of Federal Test Standard 101.

Insulating or static producing material such as polyethylene bags shall not be used to package static sensitive devices where the material is in direct contact with the item being packaged.

Metal-encased devices that have static sensitive components must be fitted with conductive or equivalent dust covers or connector caps before being packaged directly in polyethylene bags or wraps. Conductive covers or caps must be marked "conductive".

6-3-2. Design and Construction

Packaging shall be designed to provide physical and environmental protection to electrical and electronic parts and assemblies during transportation, storage and handling up to the point of use by the customer.

Basic packaging and labeling methods depicted in [\[Figure 6-2.1\]](#) apply.

6-3-3. Markings

Packaged items will be marked in accordance with [\[Appendix A\]](#) and this chapter.

Unit containers will be labeled with an appropriate internationally recognized caution label or equivalent as depicted in [\[Figure 6-2.2\]](#).

The manufacturer of a static sensitive device will affix an appropriate ESDS warning label to the item when required, located preferably near the part number as depicted in [\[Figure 6-2.1\]](#).

6-3-4. Handling

Items subject to electrostatic discharge damage shall not be subjected to an environment that would cause damage to the item during handling and packaging.

Electrostatic discharge sensitive devices subject to electrostatic discharge damage must have an ESDS label affixed to the packaged item identifying it as an ESDS item for handling purposes.

Metal-encased electrical assemblies ("**black boxes**") with protective material can be safely handled without protective caps or covers installed.

Metal-encased assemblies bagged or wrapped in static discharge protective material can be safely handled without protective caps or covers installed.

Metal-encased assemblies, which contain static sensitive items and which are labeled with a caution label indicating the unit is not subject to electrostatic discharge damage unless opened or disassembled, can be safely handled without protective bags, covers or caps installed.

Bare static sensitive devices subject to static discharge damage must not be handled or packaged unless this process is accomplished in a safe work area environment.

Chapter 7. General Requirements for Category I and II Reusable Containers

7-1. Purpose

The purpose of this chapter is to provide general requirements for the design of **Category I and II** reusable shipping containers and to provide minimum material and design performance levels for them. These requirements are intended to produce a given container that will be capable of containing an item and protecting it from damage for the number of round trip shipments indicated by its category classification.

In addition to meeting the requirements of this specification, **Category I and II** container designs must be tested in accordance with [\[Appendix B\]](#) and meet the minimum criteria described in that section for the applicable reusability **Category I or II**.

7-2. Physical Requirements

7-2-1. Container Materials

Materials used in the construction of reusable containers shall be of good quality and sufficient to protect the contained item from the elements and other normal hazards to which it may be subjected during transportation.

Standard parts (SAE, AN, MS, NAS, AGS, JAN, etc.) shall be used wherever possible.

Containers should be constructed from one or more of the following materials, not including interior dunnage material:

Examples of Category I Container Materials

Metal
Plastic
Fiberglass
Plywood

Examples of Category II Container Materials

Wood - **export/import restrictions, such as 7 CFR section 319.40-3(b) concerning treatment and marking of regulated wood packaging material, may apply**
Fiberboard
Cardboard
Any **Category I** material

Note: All materials must be of sufficient thickness, strength, quality and design to pass all other applicable requirements of this specification including container testing per [\[Appendix B\]](#).

Containers constructed of material combinations in a synthesis or lamination process (such as plywood permanently fastened or laminated to a plastic sheet) or containers constructed of materials which are not listed above, shall be categorized under the appropriate category consistent with the material's ability to meet all performance criteria listed in this specification and the container's ability to comply with the testing requirements outlined for the given category of container in [\[Appendix B\]](#).

Materials shall maintain performance characteristics and be capable of withstanding long term exposure to a temperature range of (-40° F to 130° F, or -40° C to 54° C).

Materials shall withstand deterioration by industrial solvents, hydraulic fluid, petroleum products and jet fuel to which the container may normally be subjected.

All metallic parts shall be corrosion-resistant or suitably protected against corrosion.

For **Category I** containers, materials shall be treated or otherwise engineered for protection against deterioration caused by moisture, molding, rotting and ultra-violet radiation.

7-2-2. Design and Construction

Containers transportable by air shall be so designed that distribution of load will not exceed 150 lbs. per square foot or the applicable maximum cargo floor load limits of the transporting aircraft.

Designs which utilize a "box within a box" concept must have the interior box permanently attached or have a label on the interior box which states "NOT A SHIPPING CONTAINER".

There shall be no loose container parts that could become detached and lost (such as bolts or lockpins used to secure part in container).

Container design shall provide complete enclosure and incorporate vents or drains where required.

There must be no sharp edges or corners which could cause injury or damage.

Design, insofar as practical, shall render the contained item less susceptible to loss or tampering.

Category I containers should be capable of being repaired.

7-2-3. Configuration and Size

Size of packages is extremely critical and must be restricted to the minimum commensurate with the dimensions and fragility of the item packaged.

Inside container dimensions should not exceed the measurements of the item to be contained by more than 20 cm (8 in) in any dimension.

Conventional rectangular shapes shall be used in construction of reusable shipping containers whenever practical. To enhance transportability of large items, contoured (non-rectangular) shipping containers are acceptable.

7-2-4. Interior Cushioning

Containers shall protect the item from shock or vibration to the degree specified by the component manufacturer.

Delicate materials as described in [\[Chapter 2\]](#), during drop testing from a drop height of 1 meter measured from the bottom of the container to the floor or drop surface, must not have a deflection of less than 60% into the cushioning material, and the unit must not be capable of 'bottoming out' at that drop height.

For the purpose of this specification, all materials and devices used internally in reusable shipping containers for the purpose of absorbing shock are considered to be cushioning materials. Materials shall possess the following properties:

Resilient
Non-Dust Producing
Mold Resistant
Durable

All cushioning material shall be permanently attached to the container sides. Additional void fill material such as plastic bubble wrap or foam sheets may be added to restrict movement of an item within its container as long as the material is reusable and does not reduce the cushioning characteristics of the container.

It is acceptable to have dunnage material which is adjustable and interchangeable. Adjustable materials, while fixed to the containers, are capable of adjustment to receive varying sizes of units. Interchangeable materials may be switched between parts and / or containers. Containers using the "dunnage board" principle fall into this type.

Shock absorbing devices such as shock mounts, air cylinders, or chambers, etc., shall be suitable for use when designed to provide the protection required.

Miscellaneous wadding such as newspaper or rags, and loose fill packing materials such as plastic 'chips' or 'peanuts' shall not be used as dunnage or cushioning material.

Foam-in-Place (FIP) dunnage is not acceptable for use in **Category I** containers.

7-2-5. Lids

Lids shall be designed to prevent warping.

Where hinged lids are used, they shall be equipped with appropriate limit devices (lid stays).

Where unhinged lids are used, lid limiting devices presenting potential damage to the packaged unit or container closure mechanism shall be sleeved or positioned to protect against this possibility.

Lids will not be nailed or glued to the container sides.

7-2-6. Closure Fasteners and Hardware

All hardware, including fasteners used to secure a lid closed, shall be recessed, flush or guarded so that no protrusions could cause damage to the container or to other goods shipped in the same conveyance.

The design should avoid the need for special opening or closing tools other than a band or tape-cutting device and / or a common tool.

Taping, banding, or the use of straps and buckles as closing devices are generally not acceptable for **Category I** containers; however, side-release buckles/straps that are recessed flush with the container surface and meet or exceed all other **Category I** requirements, are acceptable.

7-2-7. Handle / Hand Holds

All handles, **hand holds** or **grips** shall be recessed flush with the container surface. Where size or configuration does not permit the use of recessed handles, the use of guarded, surface mounted handles is acceptable.

The number of handles or hand holds required on reusable shipping containers is based on meeting the given container volume and / or the maximum gross weight parameters shown in the table below.

# of Handles	Container Volume	Container Weight
none	less than 0.033 cu. m. (2000 cu. in.)	< 16 kg (35 lbs.)
one or more	0.033 to 0.057 cu. m. (2000 - 3500 cu. in.)	16 to 34 kg (35 - 75 lbs.)
two or more	greater than 0.057 cu. m. (3500 cu. in.)	>>34 kg (75 lbs.)

When two or more handles or hand holds are used, they shall be positioned on opposite sides of the container at the center of balance and not more than 1/3 of the container height measured from the top.

Handles shall be positioned to provide balance when the loaded container is lifted.

Notwithstanding the requirements outlined above, containers of smaller volumes or weights may be equipped with handles or hand holds if they are required for more efficient handling.

Where hand holes are used for handling purposes, the interior shall be covered to protect against dust and moisture entering the container.

7-2-8. Material Handling Devices

Where the weight, size or configuration of the container cap / lid precludes manual removal / opening, a material handling device (e.g. nylon straps, eye bolts, etc.) shall be provided to facilitate the opening of the container. It should:

- Provide protection for the contained item.
- Adhere to all applicable provisions of this specification.
- Utilize materials with good strength-to-weight ratios and corrosion resistance and be durable for the life of the associated shipping container.

- Aid in transportability and handling and be compatible with material handling equipment and ground support equipment (towing, slinging, lifting, etc.).
- When required, provide for additional functions such as assembly, testing, installation fixtures.
- The construction of the material handling devices must withstand the tests described for reusable containers. See [\[Appendix B\]](#).

7-2-9. Skids

Containers designed for gross weights over 90 kg (200 lbs) or gross sizes over 0.028 cubic meters (27 cub. ft.) with minimum bottom area of 0.093 sq. meters (9 sq. ft), shall be equipped with skids or supports allowing at least 7.6 cm (3.00 in.) ground clearance for materials handling equipment. Skid height requirement is waived when it unduly restricts transportability or prevents shipment of the item due to the height of the shipping container.

Skids are to be permanently attached to ensure the skids can withstand severe impact on any side of the skid.

Note: Export/import restrictions, such as 7 CFR section 319.40-3(b) concerning treatment and marking of regulated wood packaging material, may apply to wood skids.
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7-2-10. Stackability

All containers having a surface exceeding 0.37 square meters, must be capable of holding an object centered on that surface which weighs 135 kg with a 0.09 square meter platform base for a period of 24 hours. The lid shall not deflect as to touch the part. In addition, there must be no fracturing or other permanent degradation of the container structure.

7-2-11. Colors

Colorfast white containers are recommended for **Category I** containers and optional for **Category II** containers. Where traditional colors are a part of the carriers' "**stock-in-trade**" or trademark this requirement is waived; however very dark colors should be avoided because of visibility requirements during nighttime airline operations.

7-2-12. Markings

All reusable shipping containers shall be marked in accordance with [\[Appendix A\]](#) of this specification.

7-2-13. Inspection / Tests

Reusable shipping containers will be tested in accordance with [\[Appendix B\]](#).

7-2-14. Re-usable Memory Devices

Reusable memory devices may be used to transport logical parts (i.e. processors, servers, drives) providing between each use, the device is re-formatted to remove all digital content previously loaded. All labeling associated to the previous usage shall also be removed.

Chapter 8. General Requirements for Category III Containers

8-1. Purpose

The purpose of this chapter is to provide general requirements for the design of **Category III shipping containers** and to establish minimum material and design performance levels so that a given packaging will be capable of containing an item and protecting it from damage.

In addition, specifications for **Category III** packagings are intended to allow aircraft parts to be binned, issued and handled in a manner that compliments the warehousing and distribution of material at aircraft overhaul facilities.

8-2. Physical Requirements

8-2-1. Materials

Materials shall be sufficiently durable to properly protect the packaged item during normal shipping and handling processes.

Foam sheets, bubble wrap, or other cushioning and void fill materials are acceptable but must be non-dust producing and mold resistant. Miscellaneous wadding such as newspaper or rags, and loose fill packing materials such as plastic 'chips' or 'peanuts' shall not be used as dunnage. Loose fill absorbent is acceptable when required for shipment of liquids.

All packaging materials, including the outer containers and inner packings, shall be reusable to the greatest extent possible and shall utilize recycled post consumer waste where available and feasible.

8-2-2. Design and Construction

Category III containers shall provide adequate protection for normal transportation and storage conditions.

The design, construction and degree of durability of **Category III** containers will vary depending on the nature of the material being protected and its intended use and handling. The three basic types of **Category III** containers are the **Unit Container**, the **Single Trip Container**, and the **Round Trip Container**.

Unit Containers - When authorized for **Class A** and minor repairable items in [Chapter 3], unit containers are designed to be consolidated into a larger **Category III** shipping container. When removed from its larger container, the unit container must be capable of protecting the part during normal on-site warehousing and material handling operations without additional packaging.

Single Trip or One-way Category III Containers - When the part is required to make a one way trip as in the case of expendable Class A and B materials as defined in [Chapter 3], the parts must be packaged in a manner that will allow handling and distribution as outlined in [Chapter 3].

Round Trip Category III Containers - When a part is required to make a complete round trip, as in the case of a minor repairable item, the shipping container and packing materials must be capable of being reused for reshipment of the part back to the repair or warranty facility, while providing adequate part protection.

Appendix A. Markings

A-1. General

Markings shall be clear, legible, nonfading, durable and contrasting.

Arrange markings so that the opening and reclosing of the container will not cause loss of identification.

For additional Kit markings see [\[Chapter 4\]](#). For additional Dangerous Goods markings see [\[Chapter 5\]](#). For additional Electrostatic Discharge Sensitive device markings see [\[Chapter 6\]](#).

A-2. Container Orientation and Dimensions

For the purposes of ATA Specification 300, container orientation and container dimensions used in this Appendix A may be as described below:

- **Front** panel shall be the container panel opposite the panel on which the lid hinge is mounted. If no hinge is utilized, the **Front** panel shall be logically decided upon by the container manufacturer, and perpendicular to the **Top** and **Bottom** panels.
- **Back** panel shall be the container panel opposite the **Front** panel.
- **Top** panel shall be the container panel of the lid, or the "up" panel for containers that will utilize orientation arrows.
- **Bottom** panel shall be the container panel opposite the **Top** panel.
- **Length** (L) shall be the larger of the two dimensions of the open face (lid open/removed) of the container.
- **Width** (W) shall be the lesser of the two dimensions of the open face (lid open/removed) of the container.
- **Height** (H) shall be the distance perpendicular to the Length and Width.
- If **Length** and **Width** dimensions of the container are the same, the container manufacturer shall logically decide which is which.

A-3. Permanent Markings for Category I and II Containers

All **Category I and II** containers shall have the permanent markings indicated on [\[Figure A-3-2.1\]](#) along with the applicable minimum letter size and location.

Permanent markings shall be applied by use of hot stamping, engraving, or other equivalent means of embossing the image into the surface. For wood, fiberboard, fiberglass, or other materials which do not permit embossing, the printing or stenciling of markings is acceptable provided the markings will withstand long term exposure to the elements and abrasions normal to shipment and handling.

Labels are not acceptable for permanent markings except for handling or precautionary labels where specifically authorized by the container customer.

Containers imprinted with "**Glass, Do Not Drop or Throw**" or "**Glass, Handle with Care**," or a similar permanent marking do not require fragile labels.

Use of the internationally recognized "**FRAGILE**" and "**PACKAGE ORIENTATION (THIS WAY UP)**" label or marking is preferred. See American Society for Testing and Materials (ASTM) D 5445, "Standard Practice for Pictorial Markings for Handling of Goods."

A-3-1. Multipacks

When assorted items are consolidated into one container, use the word "MULTIPACK" in lieu of Part Number, Quantity and Unit of Measure.

Example: MULTIPACK
 2/86

A-3-2. Multiple Containers

When the quantity of a shipment is too great for one container and must be shipped in multiple containers, indicate the box number and the total number of boxes directly beneath the Identification Markings.

Example: 88423

BOLT
25 EA
SERIAL NO. 1-25
"BOX 1 OF 4"

AOG Shipments - For AOG shipments only, place an AOG Label on the container near the address markings.

Figure A-3-2.1. Permanent Markings, Locations, & Size for Various Containers

MARKINGS	MINIMUM LETTER SIZE	LOCATION
REUSABLE CONTAINER ATA SPEC. 300 CATEGORY I (or Category II as applicable)	1/2" (12 mm)	Lower part of front & back panels
Airline or Component Mfg Insignia (when required)	1" letters or 3" logo (25 mm or 75 mm)	Center of front & back panels
Container Manufacturer name (mandatory on Cat I containers only)	1/4" (6 mm)	Lower part of any side panels
Container Part Number (when required)	1/2" (12 mm)	Upper part of front & back panels
DELICATE UNIT (for delicate units only)	1" (25 mm)	Upper center of front & back panels
Center of Balance with arrow (when required)	1" (25 mm)	Lower part of front & back panels
Structural Markings (when required)	1/4" (6 mm)	On or near the structure described
Precautionary Markings (when required)	as applicable	Upper center of front & back panels
Orientation Arrows (when required)	as applicable	Upper corner of front & back panels

Notes:

- (1) These markings, sizes, and locations are strictly guidelines; actual markings, their sizes, and their locations are decided upon by the container owner and the container manufacturer.
- (2) When the lettering specified in the table cannot be stenciled in the space provided, the largest letters possible will be used.
- (3) When the box size is such that a single panel exceeds 1000 square inches, each letter size shown above shall be doubled.
- (4) Minimum spacing between lines shall not be less than 1/4 inch.

Appendix B. Inspection / Tests

B-1. Test Requirements – General

Conformity with ATA Spec 300 for unique/oversized containers is the responsibility of the person(s) designing the package to ensure the part is adequately protected from damage during normal shipping.

Inspection/tests for shipping containers, other than unique/oversized containers, shall be conducted by the container manufacturer and shall be acceptable to the party responsible for the original part(s) for which the container was manufactured.

B-1-1. Reusable Shipping Containers

Tests for **reusable shipping containers** shall be conducted in accordance with the following selections:

- | | |
|----------------------|--|
| Category I - | Conducted on prototype container of each design prior to production and on at least one other container of that design selected at random from the first production lot. Where any element of the design or material used is altered, this process will be repeated. |
| Category II - | Conducted on each container design prior to or during production and on at least one other container of that design selected at random from the first production lot. Where the design or material used is altered, this process will be repeated. |

B-1-2. Containers for Expendable Items

Tests applied to containers for expendable items shall be in accordance with generally accepted commercial testing methods.

B-2. Tests For Reusable Shipping Containers

Reusable shipping containers will be subjected to tests specified in this section.

B-2-1. Drop Test or Impact Test

The Drop Test is required; however, the Impact Test may be used in lieu of the Drop Test when container is of such bulk and/or weight that it cannot normally be handled manually.

1. Drop Test

Drop tests shall be conducted in accordance with [\[Table B-2-1.1\]](#) of this section. In each case, Face, Edge and Corner drops shall be performed.

Table B-2-1.1. Height and Number of Drops

GROSS WEIGHT Not Exceeding	DIMENSIONS ON ANY EDGE Not Exceeding	FACE DROP TEST (Height & Number of Drops)		EDGEWISE DROP TEST (Height & Number of Drops)		CORNERWISE DROP TEST (Height & Number of Drops)	
		Category I	Category II	Category I	Category II	Category I	Category II
		160 Drops at	16 Drops at	80 Drops at	8 Drops at	40 Drops at	4 Drops at
50 lbs.	36 in.	30 in.	22 in.	36 in.	27 in.	36 in.	27 in.
100 lbs.	48 in.	21 in.	16 in.	36 in.	27 in.	36 in.	27 in.
150 lbs.	60 in.	18 in.	14 in.	36 in.	27 in.	36 in.	27 in.
200 lbs.	60 in.	16 in.	12 in.	36 in.	27 in.	36 in.	27 in.
600 lbs.	72 in.	16 in.	12 in.	36 in.	27 in.	36 in.	27 in.
3000 lbs.	No Limit	16 in.	12 in.	24 in.	18 in.	24 in.	18 in.
No Limit	No Limit	16 in.	12 in.	12 in.	9 in.	12 in.	9 in.

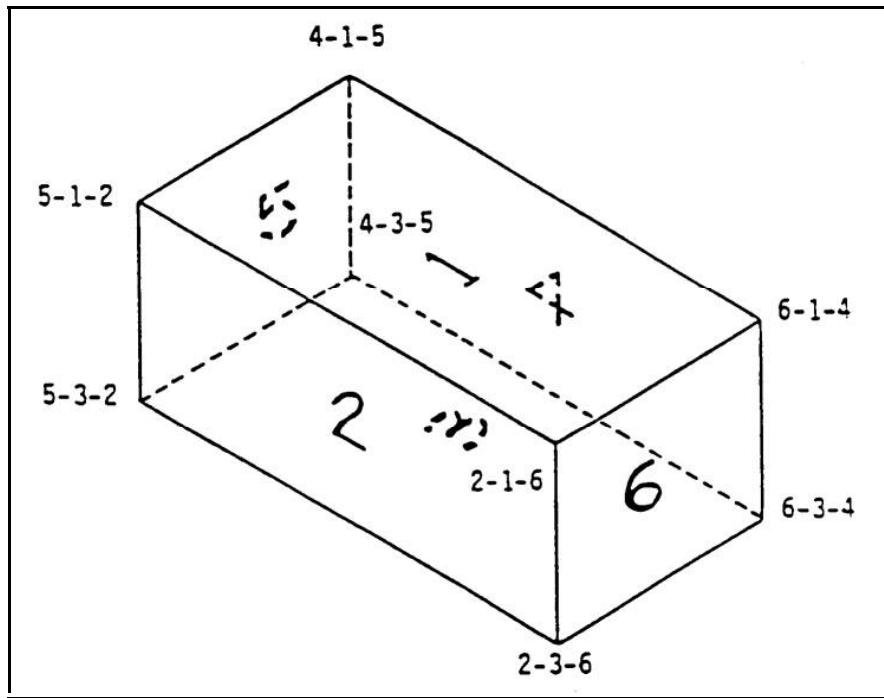
2. Impact Test

Impact Tests shall be conducted in accordance with [Table B-2-1.2] of this section.

Table B-2-1.2. Impact Velocity and Sequence For Incline Impact Test

GROSS WEIGHT OF CONTAINER AND LOAD SHALL NOT EXCEED 1000 POUNDS	
EDGE IMPACT SEQUENCE AT EACH VELOCITY Edge Numbers 1-5, 1-2, 1-6, 1-4, 3-5, 3-2, 3-6, 3-4, 5-2, 6-2, 6-4	This sequence will be performed with one impact on each edge in sequence shown, at the following velocities: 6 ft. per sec., 8 ft. per sec., 10 ft per sec., and 12 ft per sec. for a total of 96 impacts on the container edges (Two complete cycles of 48 impacts each).
CORNER IMPACT SEQUENCE AT EACH VELOCITY Corner Numbers 2-3-6, 6-3-4, 4-3-5, 5-3-2, 2-1-6, 6-1-4, 4-1-5, 5-1-2	This sequence will be performed with one impact on each corner in sequence shown at the following velocities: 6 ft. per sec., 8 ft. per sec., 10 ft. per sec., and 12 ft. per sec. for a total of 128 impacts on the container corners (Four complete cycles of 32 impacts each).

Figure B-2-1.1. Impact Velocity and Sequence for Incline Impact Test



B-2-2. Flame Penetration and Thermal Resistance

Outer packaging used to transport as air cargo cylinders containing compressed oxygen, other compressed, oxidizing gasses, or oxygen generators must comply with applicable regulations (refer to HM 224B) including flame penetration and thermal resistance tests and documentation of the tests. The applicable regulations mentioned have an effective date of October 1, 2009 and will apply to air shipments only.

B-2-3. Water Resistance

Category I containers shall be resistant to normal precipitation.

B-2-4. Vibration Test for Category I Containers

Vibration tests shall be conducted on **Category I** containers in accordance with ASTM Designation D-999 [ASTM D-999], Procedural Method B, within the range of 5 to 50 cycles per second for a period of not less than two (2) hours.

B-2-5. Penetration Test for Category I Containers

All **Category I** containers must be capable of passing the impact resistance test which consists of a bar of 3.2 centimeters in diameter with a hemispherical end, weighing 6 kilograms being dropped with its longitudinal axis vertical, onto the weakest point of any exterior surface of the container. The drop shall be 0.5 meters from the bottom of the bar to the top of the container surface. Failure occurs if the bar either penetrates the outer wall or permanently damages it in a manner which will degrade the structural strength of the container or container wall.

B-2-6. Cause for Rejection

At the conclusion of the testing, the contents of the container, its interior shock-absorbing materials and devices shall not show any changes that affect their utility. The interior or exterior of the container shall not reveal any failure of the container or shifting of the part.

B-3. Tests for Preservation Packaging

The efficiency of sealed barriers or containers which provide preservation shall be determined in accordance with generally accepted quick-leak or vacuum retention tests.

B-4. Records and Certification

The container manufacturer shall maintain records of tests and provide copies of these records to the supplier's customers upon request. Containers of either category from a particular production run which have successfully demonstrated compliance with requirements of this specification shall be marked "**ATA Spec 300**" and "**Reusable Container**" and "**Category I**" or "**Category II**" as applicable.

These records and marks shall be the container manufacturer's certification to the customer of compliance with ATA Spec 300.

Appendix C. Glossary of Terms

Antistatic Material	Electrostatic discharge protective material having a surface resistivity greater than 10 ⁹ but not greater than 10 ¹⁴ ohms per square centimeter
ATA Specification 2000	Specification for the exchange of information pertaining to provisioning, order placement and shipment of aircraft related material, between suppliers and airlines ([ATA Spec 2000] replaces ATA Specification 200)
ATA Specification 300	Specification for the packaging of airline supplies shipped by suppliers to customers
Bar Code	Computerized information system using 3 of 9 bar code symbology with human readable interpretation (HRI)
Category I Container	A reusable shipping container capable of shipping an item for a minimum of 100 trips usually fabricated out of plastic and / or metal
Category II Container	A reusable shipping container capable of shipping an item for a minimum of 10 trips usually fabricated out of wood or fiberboard
Category III Container	Expandable packaging for expandable items
Class A Items	Selection of items which are to be packaged individually in a package
Class B Items	Selection of items which may be packaged in quantities of more than one per package
Component Maintenance Manual (CMM)	A manual containing repair procedures that will enable a mechanic who is unfamiliar with the item to restore it to serviceable condition
Conductive Material	Electrostatic discharge (ESD) protective materials having a surface resistivity of 10 ⁵ ohms maximum per square centimeter
Cure Date	Date of manufacture of a rubber or rubber like item. May also be date item was installed in an assembly or the packaging date. This date is used to control first-in, first-out storage and issue process.
Dangerous Goods	ICAO designation for hazardous materials. See hazardous materials
Electrostatic Charge	Electrical energy at rest
Electrostatic Discharge (ESD)	A transfer of electrostatic charge between bodies at different electrostatic potentials caused by direct contact or induced by an electrostatic field

Electrostatic Discharge Sensitive (ESDS) Device	A device whose physical or electrical characteristics can be altered as a result of an electrostatic discharge through or across the surface of the item
Electrostatic Sensitive Device	Same as electrostatic discharge sensitive (ESDS) device
Expendable Item	Items for which no authorized repair procedure exists, and for which cost of repair would normally exceed that of replacement
Expendable Package	One-way trip package intended to be used once for shipment of an item by a supplier to a customer
Faraday Cage	An enclosure made of materials sufficiently conductive to shield ESDS items from electrostatic fields
Fragility Factor	The amount of "G" force to which an item can be subjected without causing damage
Hazardous Material	Hazardous materials are articles and substances which are capable of posing a significant risk to health, safety or property when transported
Insulative Material	Materials having a surface resistivity greater than 10 ¹⁴ ohms per square centimeter such as polyethylene film which can generate, hold or induce an electrostatic charge
Item	Any level of hardware assembly (i.e., system, subsystem, module, accessory, component, unit, part, etc.)
Kit	Grouping of part(s) either expendable, repairable or a combination of both, created to accomplish modification outlined in service bulletin or to facilitate an installation
Life Cycle	The time that an item remains in service before it becomes uneconomical to repair or overhaul
Major Repairable Item	Major repairable items are defined for the purpose of this specification as items which can be economically restored to a fully serviceable condition and having a supporting Overhaul Manual (OHM) with a Recommended Spares Part List or a Component Maintenance Manual (CMM) with a matching "T" file . These items are packaged individually in reusable containers
Matched Set	Items usually consisting of two parts which should not be separated. They are matched sets, i.e., uniquely mated or associated.
Material Handling Device	A type of special dunnage used to secure an item in a shipping container and which may be used to remove or replace the item in the container when due to size and weight it is difficult to handle
Metal-Encased Assembly	A unit which provides an effective Faraday cage about electrostatic sensitive items (ESDS). See Faraday Cage term

Minor Repairable Item	Minor repairable items are defined for the purpose of this specification as items which do not have a supporting Overhaul Manual (OHM) with a Recommended Spares Part List or a Component Maintenance Manual (CMM) with a matching ' T' File . These items are either (1) packaged individually in expendable shipping containers when they can be economically repaired or (2) packaged in expendable unit containers when it is impractical to package the item in an expendable shipping container due to its small size, configuration and minor repair status
Overhaul Manual (OHM)	Now known as a Component Maintenance Manual. See definition for Component Maintenance Manual
Packaging Code	Packaging Code specifies the type of container, packaging requirements or material handling devices to be used when shipping subject parts per specified Order Number. See Packaging Requirement Code Capability in 'Introduction'.
Repairable	See definitions for Major Repairable Item and Major Repairable Item and [Chapter 1], [Chapter 2], and [Chapter 3]
Reusable	Capable of being used again or repeatedly
Rigid Pack	For the purposes of this specification, a rigid pack is a package such as a fiberboard container, folding carton or padded bag that affords greater protection than a paper or plastic bag
Shelf Life	See definition for Storage Life
Standard Package Quality	Specifies the number of units of measure contained in a standard sales package
Static Dissipative Material	Electrostatic discharge protective materials which have a surface resistivity greater than 10 ⁵ but not greater than 10 ⁹ ohms per square centimeter
Storage Life	The length of time an item can be stored under specified conditions and still meet specified requirements
'T' File	All items contained in the Illustrated Parts List of the airframe, engine or component manufacturer's Component Maintenance Manual as spares
Unit Container	The first bag, carton or box applied to a single item or a quantity thereof, or to a group of items of a single part number which constitutes a complete or identifiable package. The unit container should be overpacked for shipment unless it is specifically designed to provide shipping protection
Unit of Measure	Specifies the type of count, measurement, container or form of the subject part

Annex 1.

References (Additional)

See [Section 5-3], Regulatory Documents for more references.

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| [ASTM D-5445] | Standard Practice for Pictorial Markings for Handling of Goods , American Society For Testing and Materials (http://www.astm.org), West Conshohocken, PA. More information is available online. |
| [ASTM D-999] | Standard Test Methods for Vibration Testing of Shipping Containers , American Society For Testing and Materials (http://www.astm.org), West Conshohocken, PA. More information is available online. |
| [ATA CSDD] | ATA Common Support Data Dictionary. Air Transport Association (http://www.airlines.org), Washington, DC. |
| [ATA SPEC 2000] | ATA Specification 2000. E-Business Specification for Materials Management, Air Transport Association (http://www.airlines.org), Washington, DC. |
| [ATA iSpec 2200] | ATA iSpecification 2200. Information Standards for Aviation Maintenance. Air Transport Association (http://www.airlines.org), Washington, DC. |



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