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PERFORMANCE SPECIFICATION

CONTAINER: SHIPPING, REUSABLE-FOR TANK-AUTOMOTIVE ENGINES, TRANSMISSIONS, DIFFERENTIALS, TRANSFERS, FINAL DRIVES, DRIVE AXLES, AND SIMILAR ASSEMBLIES

This specification is approved for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 <u>Scope</u>. This specification covers five types of reusable shipping containers with cover assembly for use in shipment and storage of engines, transmissions, differentials, transfers, final drives, driving axles, and similar assemblies.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: U.S. Army Tank-automotive and Armaments Command, ATTN: AMSTA-TR-E/BLUE, Warren, MI 48397-5000 by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A FSC 8145 DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

1.2 <u>Classification</u>. Containers are classified by one of the following types as specified (see 6.2).

TYPE I - For items weighing over 45 kilograms (kg) (100 pounds) but not over 91 kg (200 pounds).

TYPE II - For items weighing over 91 kg (200 pounds) but not over 726 kg (1600 pounds).

TYPE III - For driving axle assemblies only, weighing not over 726 kg (1600 pounds).

TYPE IV - For items weighing over 454 kg (1000 pounds) but not over

1,134 kg (2500 pounds).

TYPE V - For items weighing over 1,134 kg (2500 pounds) but not over

3,175 kg (7000 pounds).

2. APPLICABLE DOCUMENTS

2.1 <u>General</u>. The documents listed in this section are specified in sections 3 and 4 of this specification. This section does not include documents cited in other sections of this specification 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 in documents cited in sections 3 and 4 of this specification, whether or not they are listed.

2.2 Government documents.

2.2.1 Specifications, standards, and handbooks. The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2).

SPECIFICATIONS

FEDERAL

A-A-208 - Ink, Marking, Stencil, Opaque (Porous and Non-Porous Surfaces).

STANDARDS

FEDERAL

FED-STD-101 - Test Procedures for Packaging Materials.

(Unless otherwise indicated, copies of the above specifications, standards, and handbooks are available from the Standardization Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia, PA 19111-5094).

2.3 <u>Non-Government publications</u>. The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issue of the documents cited in the solicitation (see 6.2).

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D951 - Standard Test Method for Water Resistance of Shipping Containers by Spray Method.

(Copies of ASTM standards may be obtained from the American Society for Testing and Materials, 1916 Race St., Philadelphia, PA 19103-1187.)

2.4 <u>Order of precedence</u>. 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. REQUIREMENTS

- 3.1 <u>First article</u>. When specified (see 6.2), a sample shall be subjected to first article inspection in accordance with 4.2.
- 3.2 <u>Drawings</u>. In the event that contractor container drawings are required (see 6.2), the drawing requirements shall be specified in the contract.
 - 3.3 Characteristics.
 - 3.3.1 Performance.

- 3.3.1.1 <u>Stackability</u>. The container shall be constructed in a manner which shall safely permit stacking of loaded containers to a height of 4900 millimeters (mm) (15.9 feet) with a safety factor of 1.5. The containers shall exhibit top and bottom interfaces allowing a method to interlock them to increase stacking stability (see 4.6.2.1).
 - 3.3.1.2 Rough handling. (see 4.6.2.2).
- 3.3.1.2.1 <u>Cornerwise-drop</u>. The container shall be constructed in a manner which shall enable it to withstand a cornerwise-drop without damage to or shifting of its contents (see 4.6.2.2.1).
- 3.3.1.2.2 <u>Pendulum-impact</u>. The container shall be constructed in a manner which shall enable it to withstand a pendulum-impact without damage to or shifting of its contents (see 4.6.2.2.2).
- 3.3.1.2.3 <u>Incline-impact</u>. The container shall be constructed in a manner which shall enable it to withstand an incline-impact without damage to or shifting of its contents (see 4.6.2.2.3).
- 3.3.1.2.4 <u>Edgewise-drop</u>. The container shall be constructed in a manner which shall enable it to withstand an edgewise-drop without damage to or shifting of its contents (see 4.6.2.2.4).
- 3.3.1.2.5 <u>Vibration</u>. The container shall be constructed in a manner which shall enable it to withstand vibration without damage to or shifting of its contents (see 4.6.2.2.5).
- 3.3.2 <u>Physical characteristics</u>. Containers shall be of minimum practicable size and weight in conformance with the requirements specified herein. Sufficient clearance shall be provided by the container to accommodate the shipping item without consequent damage subject to the tests prescribed herein. Outside dimensions of Type I, II, and III containers shall not exceed 3660 mm (144 inches) in length, 1220 mm (48 inches) in width, and 910 mm (36 inches) in height.
- 3.3.2.1 <u>Cover construction</u>. All containers shall have removable covers. For Type IV and V construction, the cover shall be an assembly consisting of the top and side panels. Whereas, for Type I, II and III construction the cover shall not include the side panels (see 4.6.3).
- 3.3.2.2 <u>Disassembly of item</u>. Disassembly of the item to provide maximum reduction in cubage shall be considered in the design of the container, provided no special tools or instructions are required to reassemble the item.

- 3.3.2.3 <u>Inspection hinges</u>. When specified (see 6.2) for Type IV or Type V containers, inspection hinges shall be installed on the side and end panels as required. Openings for inspection hinges shall not be constructed in a manner which damages the container integrity (see 4.6.3.1).
- 3.3.2.4 <u>Drainage</u>. Sufficient drainage shall be provided in the base of the container to prevent trapped water (see 4.6.3.2).
- 3.3.2.5 <u>Ventilation</u>. Sufficient ventilation shall be provided to ensure that the container internal humidity and pressure levels match the ambient environment (see 4.6.3.3).
- 3.3.2.6 <u>Water resistance</u>. With the exception of the inspection hinges, the drainage holes, and the ventilation holes, the container shall resist water (see 4.6.3.4).
- 3.3.2.7 <u>Axle supports</u>. Type III containers shall have axle supports at appropriate locations to support the item to be crated (see 4.6.3.5).
- 3.3.2.8 <u>Built-in cradle</u>. Unless otherwise specified (see 6.2), each type I and type II container shall have a built-in cradle. The cradle shall be so constructed as to support the item to be packed and to prevent sidewise and endwise movement of the item (see 4.6.3.6).
- 3.3.2.9 <u>Removable cradle</u>. When specified (see 6.2), each type I and type II container shall have a removable cradle which shall be secured to the ends or sides of the container. The cradle and fasteners shall be sufficiently strong to hold the packed item securely in position (see 4.6.3.7).
- 3.3.2.10 <u>Infestation protection</u>. All openings shall be constructed or protected to prevent insect or critter infestation (see 4.6.3.8).
- 3.3.3 <u>Interface characteristics</u>. Containers with a gross weight over 68 kg (150 pounds) shall be fitted with a universally available mechanical moving device, such as forklift entries. There shall be no fracture or permanent deformation in the container after lifting with the device (see 4.6.4).
- 3.3.3.1 <u>Cover-lifting devices</u>. Cover assemblies weighing over 68 kg (150 pounds) shall be provided with a minimum of four cover-lifting devices. The cover-lifting devices shall be recessed into the cover assembly to prevent interference. The minimum inside diameter of the lifting tie down devices shall be 76 mm (2.5 feet). When tested as specified in 4.6.4.1 there shall be no fracture, distortion, loosening, or other deflection in the cover-lifting device.

- 3.3.4 <u>Reliability</u>. The container shall be constructed in a manner which shall provide a minimum useful life of 20 uses under normal usage prior to needing repair.
- 3.3.5 <u>Maintainability</u>. The container shall be constructed in a manner which shall allow repair.
 - 3.3.6 Environmental conditions.
- 3.3.6.1 <u>Temperature</u>. The container shall be constructed in a manner which shall allow it to withstand a -55°C to +70°C (-67°F to +158°F) temperature range without cracking, deformation or other signs of damage (see 4.6.5.1).
- 3.3.6.2 <u>Humidity</u>. The container shall be constructed in a manner which will allow it to withstand a 5% to 100% humidity range without cracking, swelling, deformation or other signs of damage (see 4.6.5.2).
 - 3.3.6.3 <u>Fungus resistance</u>. The container shall resist fungal growth.
 - 3.3.6.4 Rust. The container and all hardware shall resist rust.
- 3.3.7 <u>Workmanship standards</u>. Containers shall be manufactured in a manner which shall ensure uniform quality and freedom from defects which will adversely affect their life and serviceability.
- 3.3.8 <u>Identification and marking</u>. Containers shall be legibly marked by either casting, die stamping, embossing, or stenciling. The markings shall include the manufacturer's identification, container type and size. Stencil ink for marking shall conform to A-A-208 (see 4.6.6).
 - 3.3.8.1 Special marking.
- 3.3.8.1.1 <u>Center of balance</u>. The location of the center of balance of the loaded container shall be marked on the bottom edge of both sides with a vertical line 25 mm (1 inch) wide and a minimum of 25 mm (1 inch) high located at the center of balance and clearly marked "center of balance".
- 3.3.8.1.2 <u>Matching assemblies</u>. When cover assemblies can be assembled correctly in one direction only, both the cover assembly and base shall be appropriately marked so they can be matched for assembly.

- 3.3.8.2 Type I containers.
- 3.3.8.2.1 <u>Exterior</u>. The cover of the container shall be marked (see figure 1) in letters not less than 13 millimeters (mm) (.5 inches) high as follows:

REUSABLE CONTAINER - DO NOT DESTROY, TO OPEN - "INSTRUCTIONS".

If the container is physically too small to place all this on one line, divide at the period. Additional wording, if required shall be supplied by the procuring activity (see 6.2).

3.3.8.2.2 <u>Interior</u>. The following shall be marked in a conspicuous location on the inside of the cover:

REUSABLE CONTAINER - DO NOT DESTROY

- 3.3.8.3 Type II and III containers.
- 3.3.8.3.1 Exterior. The cover of the container shall be marked according to 3.3.8.2.1, except that the letters shall not be less than 19 mm (.75 inches) high.
- 3.3.8.3.1.1 <u>Cover-lifting devices</u>. When cover-lifting devices are required (see 3.3.3.1), the following warning shall be placed as close to one of the devices as possible in letters not less than 19 mm (.75 inches) high (see 4.6.6).

WARNING: COVER-LIFTING DEVICES INTENDED ONLY FOR LIFTING COVER FROM BASE. LIFT LOADED CONTAINER BY BASE ONLY.

- 3.3.8.3.2 <u>Interior</u>. The interior of the container shall be marked in accordance with 3.3.8.2.2.
 - 3.3.8.4 Type IV and V containers.
 - 3.3.8.4.1 Exterior.
- 3.3.8.4.1.1 <u>Cover</u>. The cover of the container shall be marked (see figure 2) according to 3.3.8.2.1, except that the letters shall not be less than 38 mm (1.5 inches) high.
- 3.3.8.4.1.2 <u>Cover-lifting devices</u>. When cover-lifting devices are required (see 3.3.3.1), the following warning shall be placed as close to one of the devices as possible in letters not less than 38 mm (1.5 inches) high (see 4.6.6).

WARNING: COVER-LIFTING DEVICES INTENDED ONLY FOR LIFTING COVER FROM BASE. LIFT LOADED CONTAINER BY BASE ONLY.

- 3.3.8.4.2 <u>Interior</u>. The interior of the container shall be marked in accordance with 3.3.8.2.2.
- 3.3.8.5 <u>Metal plates</u>. Metal plates imprinted with the information specified in 3.3.8.2.1, 3.3.8.3.1, 3.3.8.4.1.1, or 3.3.8.4.1.2 may be used in lieu of stenciled markings. The plates shall be a minimum of 150 mm (6 inches) by 230 mm (9 inches). They shall be attached to the container in a secure manner, such that accidental loosening will not occur.
- 3.3.9 <u>Interchangeability</u>. Each container shall be constructed to insure that its cover assembly and base are interchangeable with the cover assembly and base of every other container of the same design for the same item, contract and manufacturer.
- 3.4 <u>Recycled, recovered, or environmentally preferable materials</u>. Recycled, recovered, or environmentally preferable materials should be used to the maximum extent possible provided that the material meets or exceeds the operational and maintenance requirements, and promotes economically advantageous life cycle costs.

4. VERIFICATION

- 4.1 <u>Classification of inspection</u>. The inspection requirements specified herein are classified as follows:
 - a. First article inspection (see 4.2).
 - b. Conformance inspection (see 4.3).
- 4.2 <u>First article inspection</u>. Unless otherwise specified (see 6.2), first article inspection shall be performed on one container of each type produced under the production contract, when a first article sample is required (see 3.1). This inspection shall include the examinations of 4.4 (see table I) and the tests of table II.
- 4.3 <u>Conformance inspection</u>. Conformance inspection shall include the examinations of 4.4 and the tests of 4.5.

TABLE I. Classification of defects.

Category	Defect	Method of Examination
Critical		
1	Lifting device warning markings omitted.	Visual
2	Container type not as specified.	Visual
<u>Major</u>		
101	Identification marking improper.	Visual
102	Ventilation holes missing.	Visual
103	Cradles or axle supports missing where	Visual &
	applicable.	Functional
104	Openings not protected against infestation.	Visual
Minor		
201	Inspection hinges missing.	Visual
202	Cover or base not interchangeable with like	Functional
	unit of same type and design container.	
	Workmanship faulty.	
203		Visual

4.4 Examination.

- 4.4.1 <u>Sampling plan</u>. Unless otherwise specified (see 6.2), the sampling plan specified herein shall be used.
- 4.4.1.1 <u>Lot formation</u>. An inspection lot shall consist of all containers of a single type, from an identifiable production period, from one manufacturer, from one manufacturing location, submitted at the same time for acceptance.
- 4.4.1.2 <u>Sample</u>. The sample for conformance inspection examination and acceptance tests shall be randomly selected from the inspection lot in accordance with table III.

TABLE II. Classification of tests.

			First	Quality conformance		
Title	Requirement	Test	Article	Acceptance (100%)	Control	
Stackability	3.3.1.1	4.6.2.1	X	X	X	
Rough handling						
Cornerwise-drop	3.3.1.2.1	4.6.2.2.1	X	X	X	
Pendulum-impact	3.3.1.2.2	4.6.2.2.2	X	X	X	
Incline-impact	3.3.1.2.3	4.6.2.2.3	X	X	X	
Edgewise-drop	3.3.1.2.4	4.6.2.2.4	X	X	X	
Vibration	3.3.1.2.5	4.6.2.2.5	X	X	X	
Drainage	3.3.2.4	4.6.3.2	X			
Water resistance	3.3.2.6	4.6.3.4	X	X	X	
Interface characteristics	3.3.3	4.6.4	X			
Cover-lifting devices	3.3.3.1	4.6.4.1	X	X	X	
Environmental conditions						
Temperature						
Humidity	3.3.6.1	4.6.5.1	X			
	3.3.6.2	4.6.5.2	X			

TABLE III. Sampling plan for conformance inspection.

Conformance inspection sampling plan						
	Sample size					
Inspection	Exam					
lot size	Major	Minor	Test			
2 to 8	5	3	2			
9 to 15	5	3	2			
16 to 25	5	3	3			
26 to 50	5	5	3			
51 to 90	7	6	5			

TABLE III. Sampling plan for conformance inspection - Continued.

Conformance inspection sampling plan					
	Sample size				
Inspection	Exam				
lot size	Major	Minor	Test		
91 to 150	11	7	6		
151 to 280	13	10	7		
281 to 500	16	11	9		
501 to 1200	19	15	11		
1201 to 3200	23	18	13		
3,201 to 10,000	29	22	20		
10,001 to 35,000	35	29	20		
35,001 to 150,000	40	29	32		
150,001 to 500,000	40	29	32		
500,001 and over	40	29	50		

- 4.4.2.1 <u>Unclassified defects</u>. All defects having no bearing on function, safety, interchangeability, or life, but which are considered departures from good workmanship, shall be noted in writing. Workmanship deficiencies falling within this category and recurring in five consecutive lots or in 10 lots or more within a 30-day period, will be added to the minor classification of defects.
- 4.4.3 <u>Acceptance test</u>. The sample selected in accordance with 4.4.1.2 shall be subjected to the tests specified in table II. The acceptance number in all cases is zero.
- 4.4.4 Conformance inspection failure. Any item that fails to conform to any specified requirement shall be rejected; any failure (one or more) of the selected sample in either the Major/Minor categories or test for the appropriate inspection lot size shall constitute a failure of the entire lot. The rejected item(s) may be repaired or corrected and resubmitted for inspection. If the contractor utilizes sampling inspection as an element of his inspection system, rejected inspection lots may be resubmitted for acceptance if the contractor performs 100 percent inspection on the lot for those characteristics which were defective and resulted in rejection of the lot and removes all defective units or obtains procuring activity approval to resample the lot due to the insignificance of the defects. Resubmitted lots shall be kept separate from new lots and shall be clearly identified as resubmitted lots.

- 4.5 <u>Control tests</u>. Control tests shall be selected at the rate of three per month or three of each 500 units produced, whichever occurs first. Not more than six containers shall be selected in any 30-day test period. The containers shall be subjected to the control tests specified in table II.
- 4.5.1 <u>Failure</u>. Failure of any container to pass any of the specified control tests shall be cause for the Government to refuse acceptance of the production quantity represented, until action taken by the contractor to correct defects and prevent recurrence has been approved by the Government.

4.6 Method of inspection.

4.6.1 <u>Test/inspection conditions</u>. Unless otherwise stated, all testing shall be conducted under ambient temperature and humidity conditions.

4.6.2 Performance.

- 4.6.2.1 <u>Stackability</u>. To determine conformance to 3.3.1.1, a load equal to 1.5 times the total weight of fully packed containers stacked to a height of 4900 mm (15.9 feet) shall be placed on top of the container to be tested for 24 hours without tipping or demonstrating other physical distortion likely to cause instability.
- 4.6.2.2 <u>Rough-handling tests</u>. Samples selected for testing (see 3.3.1.2) shall be packed as for shipment and subjected to the cornerwise-drop test (see 4.6.2.2.1) followed by the pendulum-impact test (see 4.6.2.2.2) or the incline-impact test (see 4.6.2.2.3) and then subjected to the vibration test (see 4.6.2.2.5). If the cornerwise-drop test is impractical because of container size or shape, the edgewise-drop test (see 4.6.2.2.4) may be substituted in lieu thereof. The container shall be packed with the item for which it was originally designed or with a dummy load of the same size, weight, and weight distribution.
- 4.6.2.2.1 <u>Cornerwise-drop test</u>. To determine conformance to 3.3.1.2.1 the cornerwise-drop test shall be conducted in accordance with the level A requirements of method 5005.1 of FED-STD-101 except as modified by table IV for drop heights.
- 4.6.2.2.2 <u>Pendulum-impact test</u>. To determine conformance to 3.3.1.2.2, the pendulum impact test shall be conducted in accordance with requirements of method 5012 of FED-STD-101 except as modified by table IV for impact heights.
- 4.6.2.2.3 <u>Incline-impact test</u>. To determine conformance to 3.3.1.2.3, the incline-impact test shall be conducted in accordance with the requirements of method 5023 of FED-STD-101 except as modified by table IV for impact heights.

4.6.2.2.4 <u>Edgewise-drop</u>. To determine conformance to 3.3.1.2.4, the edgewise-drop test shall be conducted in accordance with level A requirements of method 5008.1 of FED-STD-101 except as modified by table IV for drop and impact heights.

TABLE IV. Graduated drop and impact test heights.

Gross weight of container and contents	Cornerwis a Edgewise	Impact tests				
Kilograms (Pounds)	Height of drop (Millimeters) (Inches)		Pendulum Impact (mm) (in)		Incline Impact (mm) (in)	
Through 113 (250)	760	30	360	14	2130	84
Over 113 (250) thru 227 (500)	610	24	280	11	1680	65
Over 227 (500) thru 454 (1000)	460	18	200	8	1220	48
Over 454 (1000)	300	12	130	5	760	30

- 4.6.2.2.5 <u>Vibration test</u>. To determine conformance to 3.3.1.2.5, the vibration test shall be conducted in accordance with the requirements of method 5019.1 or 5020.1 of FED-STD-101.
- 4.6.3 <u>Cover construction</u>. Visual inspection shall be used to determine conformance to 3.3.2.1.
- 4.6.3.1 <u>Inspection hinges</u>. Visual inspection shall be used to determine conformance to 3.3.2.3.
- 4.6.3.2 <u>Drainage</u>. To determine conformance to 3.3.2.4, the unloaded container shall be submerged in water for 2 minutes, then allowed to drain in an upright position in a dry place for not more than 15 minutes. A visual inspection immediately following the 15 minute drainage period shall be used to determine conformance to 3.3.2.4.
- 4.6.3.3 <u>Ventilation</u>. To determine conformance to 3.3.2.5, a visual inspection shall be made to ensure that ventilation holes are provided.

- 4.6.3.4 <u>Water resistance</u>. To determine conformance to 3.3.2.6, test the container according to ASTM D951 using the high intensity water spray test.
- 4.6.3.5 <u>Axle supports</u>. Demonstration and visual inspection shall be used to determine conformance to 3.3.2.7.
- 4.6.3.6 <u>Built-in cradle</u>. Demonstration and visual inspection shall be used to determine conformance to 3.3.2.8.
- 4.6.3.7 <u>Removable cradle</u>. Visual inspection shall be used to determine conformance to 3.3.2.9.
- 4.6.3.8 <u>Infestation protection</u>. Visual inspection shall be to determine conformance to 3.3.2.10.
- 4.6.4 <u>Interface characteristics</u>. To determine conformance to 3.3.3, the container shall be loaded, either with the intended contents or with a dummy load of the same weight and weight distribution as the intended load, then lifted by appropriate moving equipment, such as a forklift. The container shall be examined.
- 4.6.4.1 <u>Cover-lifting device test</u>. To determine conformance to 3.3.3.1, the cover assembly shall be lifted by use of the cover-lifting devices. The test shall be applied separately to each lifting device on the cover assembly. Lifting devices and component members of the cover assembly shall be examined.

4.6.5 Environmental conditions.

- 4.6.5.1 <u>Temperature</u>. To determine conformance to 3.3.6.1, the loaded container shall be placed in an environmental chamber for eight hours at a temperature of -55°C (-67°F), then removed and allowed to warm up to ambient temperature. When the container reaches ambient temperature, it shall be placed in an environmental chamber for eight hours at a temperature of +70°C (+158°F), then removed to allow cooling. The container shall be examined.
- 4.6.5.2 <u>Humidity</u>. To determine conformance to 3.3.6.2, the loaded container shall be placed in an environmental chamber for eight hours at a humidity level of 5%. The humidity level shall then be increased to 100% for eight hours. Afterwards, the container shall be removed from the chamber and examined for damage.
- 4.6.6 <u>Identification and marking</u>. Visual inspection shall be used to determine conformance to 3.3.8.

4.6.7 <u>Interchangeability</u>. Visual inspection shall be used to determine conformance to 3.3.9.

5. PACKAGING

5.1 <u>Packaging</u>. For acquisition purposes, the packaging requirements shall be as specified in the contract or order (see 6.2). When actual packaging of materiel is to be performed by DoD personnel, these personnel need to contact the responsible packaging activity to ascertain requisite packaging requirements. Packaging requirements are maintained by the Inventory Control Point's packaging activity within the Military Department or Defense Agency, or within the Military Department's System Command. Packaging data retrieval is available from the managing Military Department's or Defense Agency's automated packaging files, CD-ROM products, or by contacting the responsible packaging activity.

6. NOTES

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

- 6.1 <u>Intended use</u>. Reusable containers covered by this specification are intended for use for shipment and storage of engines, transmissions, differentials, transfers, final drives, driving axles, and similar assemblies for which no specific container design is available.
 - 6.2 Ordering data. Acquisition documents must specify the following:
 - a. Title, number, and date of this specification.
 - b. Type of container required (see 1.2).
 - c. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.2.1).
 - d. If first article is required (see 3.1).
 - e. If drawings are to be submitted (see 3.2).
 - f. If inspection hinges are required (see 3.3.2.3).
 - g. If a built-in cradle is not required (see 3.3.2.8).
 - h. If a removable cradle is required (see 3.3.2.9).
 - i. Additional wording to be stenciled on the container or supplied (see 3.3.8.2.1).
 - j. If sampling plan for conformance inspection is other than as specified (see 4.4.1).
 - k. Selection of applicable level and packaging requirements (see 5.1).
- 6.3 <u>First article</u>. When first article inspection is required, the contracting officer should provide specific guidance to offerors whether the item(s) should be first article sample, a first production item, or a standard production item from the contractor's current inventory and the number of items to be tested as specified in 4.2. The contracting officer should include specific

instructions in the acquisition document regarding arrangements for examinations, approval of first article test results and disposition of first articles. Invitations for bids should provide that the Government reserves the right to waive the requirement for first article inspection to those bidders offering a product which has been previously acquired or tested by the Government, and that bidders offering such products, who wish to rely on such production or test, must furnish evidence with the bid that prior Government approval is presently appropriate for the pending contract.

- 6.3.1 <u>Waiver of first article inspection</u>. Products manufactured under this specification by one manufacturer, for delivery to the Government not more than 12 months after first article approval has been granted, may qualify for waiver of first article inspection.
- 6.4 <u>Drawings</u>. When it is required that drawings be submitted, it should be specified that they be furnished with no restrictions regarding their use by the Government in connection with manufacture or acquisition for military purposes.

6.5 Definitions.

- a. <u>Classification of defects</u>. A classification of defects is the enumeration of possible defects of the unit of product classified according to their seriousness. A defect is any nonconformance of the unit of product with specified requirements. Defects will normally be grouped into one or more of the following classes: critical, major, and minor defects. Also, defects may be grouped into other classes or into subclasses within these classes.
- b. <u>Critical defect</u>. A critical defect is a defect that judgement and experience indicated would result in hazardous or unsafe conditions for individuals using, maintaining, or depending upon the product, or a defect that judgement and experience indicate is likely to prevent performance of the tactical function of a major end item such as a ship, aircraft, tank, missile, or space vehicle.
- c. <u>Critical defective</u>. A critical defective is a unit of product which contains one or more critical defects and may also contain major and/or minor defects.
 - d. <u>Defective</u>. A defective is a unit of product which contains one or more defects.
- e. <u>Formation of lots or batches</u>. The product shall be assembled into identifiable lots, sublots, batches, or in such other manner as may be prescribed (see 6.5.1.1). Each lot or batch shall, as far as is practicable, consist of units of product of a single type and composition, manufactured under essentially the same conditions, and at essentially the same time.

- f. <u>Lot or batch</u>. The term lot or batch shall mean "inspection lot" or "inspection batch", i.e., a collection of units of product from which a sample is to be drawn and inspected and may differ from a collection of units designated as a lot or batch for other purposes (e.g., production, shipment, etc.).
- g. <u>Lot or batch size</u>. The lot or batch size is the number of units of product in a lot or batch.
- h. <u>Major defect</u>. A major defect is a defect, other than critical, that is likely to result in failure, or to reduce materially the usability of the unit of product for its intended purpose.
- i. <u>Major defective</u>. A major defective is a unit of product which contains one or more major defects, and may also contain minor defects but contains no critical defect.
- j. <u>Minor defect</u>. A minor defect is a defect that is not likely to reduce materially the usability of the unit of product for its intended purpose, or is a departure from established standards having little bearing on the effective use or operation of the unit.
- k. <u>Minor defective</u>. A minor defective is a unit of product which contains one or more minor defects but contains no critical or major defect.
- 1. <u>Presentation of lots or batches</u>. The formation of the lots or batches, lot or batch size, and the manner in which each lot or batch is to be presented and identified by the supplier shall be designated or approved by the responsible authority. As necessary, the supplier shall provide adequate and suitable storage space for each lot or batch, equipment needed for proper identification and presentation, and personnel for all handling of product required for drawing of samples.
- m. <u>Representative sampling</u>. When appropriate, the number of units in the sample shall be selected in proportion to the size of sublots or subbatches, or parts of the lot or batch, identified by some rational criterion. When representative sampling is used, the units from each part of the lot or batch shall be selected at random.
- n. <u>Sample</u>. A sample consists of one or more units of product drawn from a lot or batch, the units of the sample being selected at random without regard to their quality. The number of units of product in the sample is the sample size.
- o. <u>Sampling plan</u>. A sampling plan indicates the number of units of product from each lot or batch which are to be inspected (sample size or series of sample sizes) and the criteria for determining the acceptability of the lot or batch (acceptance and rejection numbers).

- p. <u>Time of sampling</u>. Samples may be drawn after all the units comprising the lot or batch have been assembled, or samples may be drawn during assembly of the lot or batch.
- q. <u>Recovered materials</u>. "Recovered materials" means materials that have been collected or recovered from solid waste.
- r. <u>Solid waste</u>. "Solid waste" means (a) any garbage, refuse, or sludge from a waste treatment plant, water supply treatment plant, or air pollution control facility; and (b) other discarded material, including solid, liquid, semisolid, or contained gaseous material resulting from community activities. It does not include solid or dissolved material in domestic sewage, or solid or dissolved material in irrigation return flows or industrial discharges which are point sources subject to permits under section 402 of the Clean Water Act (33 U.S.C. 1342 et seq.), or source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 U.S.C. 2011 et seq.) (Source: Federal Acquisition Regulations, section 23.402).

6.6 Subject term (key word) listing.

Differential containers
Driving axle containers
Engine containers
Final drive containers
Transmission containers
Transfer containers

- 6.7 <u>AMC policy on AQLs/LTPDs</u>. This specification is certified to be in compliance with current Army Materiel Command (AMC) policy for the elimination of AQLs/LTPDs (Acceptable Quality Levels/Lot Tolerance Percent Defectives) from military specifications.
- 6.8 <u>Changes from previous issue</u>. Marginal notations are not used in this revision to identify changes with respect to the previous issue due to the extent of the changes.

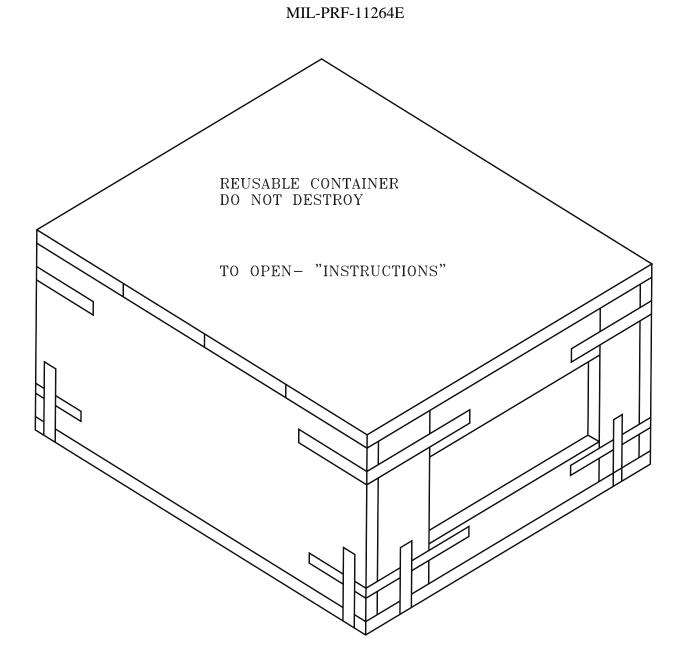
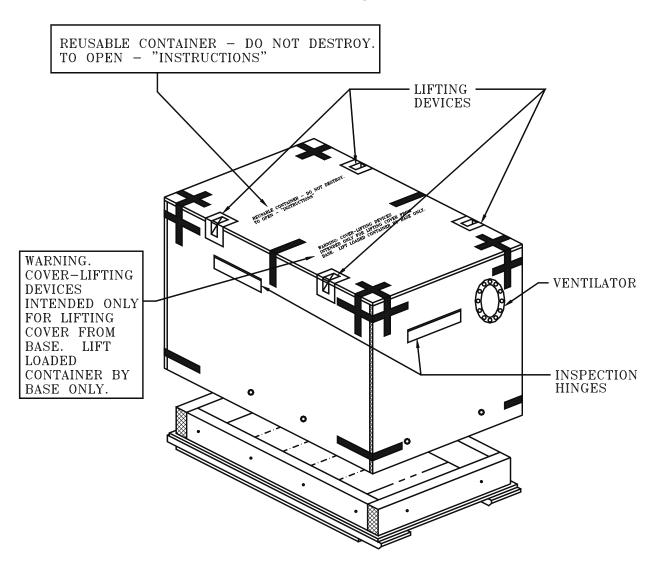


FIGURE 1. Marking for Type I, II, and III containers.



INTERIOR OF CONTAINER SHALL BE MARKED:

REUSABLE CONTAINER - DO NOT DESTROY.

FIGURE 2. Marking for Type IV and V containers.

Custodians:

Army - AT

Navy - MC

Air Force - 69

Preparing activity:

Army - AT

(Project 8145-0057)

Review activities:

Army - SM

Navy - SA

Air Force - 84, 99