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24 February 1977
SUPERSEDING
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8 August 1973

MILITARY SPECIFICATION

RAILWAY CAR, BOX, END AND SIDE DOORS, 56-1/2-INCH GAGE, 70-TON, 8-WHEEL, FOR DOMESTIC SERVICE

This specification is approved for use by the Mobility Equipment Research and Development Command, Department of the Army, and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This specification covers a steel sheathed boxcar with side and end door openings for domestic service.

2. APPLICABLE DOCUMENTS

2.1 Issues of documents. The following documents of the issue in effect on date of invitation for bids or request for proposal form a part of this specification to the extent specified herein:

SPECIFICATIONS

MILITARY

MIL-P-3320	- Painting and Marking: Freight and Maintenance Cars.
MIL-P-3558	- Plates, Identification: Locomotives, Railway Cars, and Work Equipment.

FSC 2220

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: US Army Mobility Equipment Research and Development Command, ATTN: DRDME-DS, Fort Belvoir, VA 22060 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

STANDARD

MILITARY

MIL-STD-129 - Marking for Shipment and Storage.

(Copies of specifications and standard required by contractors in connection with specific procurement functions should be obtained from the procuring activity or as directed by the contracting officer.)

2.2 Other publications. The following documents form a part of this specification to the extent specified herein. Unless otherwise indicated, the issue in effect on date of invitation for bids or request for proposal shall apply.

NATIONAL BUREAU OF STANDARDS (NBS)

Handbook H28 - Screw-Thread Standards for Federal Services.

(Application for copies should be addressed to the Superintendent of Documents, Government Printing Office, Washington, DC 20402.)

AMERICAN WELDING SOCIETY, INC. (AWS)

Standard Qualification Procedures.

(Application for copies should be addressed to the American Welding Society, Inc., 2501 N.W. 7th Street, Miami, FL 33125.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

A36 - Structural Steel.
A53 - Welded and Seamless Steel Pipe.

(Application for copies should be addressed to the American Society for Testing and Materials, 1916 Race Street, Philadelphia, PA 19103.)

ASSOCIATION OF AMERICAN RAILROADS (AAR)

Specifications for Design, Fabrication and Construction of Freight Cars:

Single Car Testing Device - Code of Test.
Supplement to Manual of Standards and Recommended Practices.
Equipment Diagram, AAR Plates B and B1 for Unlimited Interchange Service.

Specification No. 2518 Installation of Freight Car Brake Equipment.
Specification for Testing Special Devices to Control Stability of Freight Cars Specification D-65.
Interchange Rules.
United States Safety Appliances for All Classes of Cars and Locomotives.
Manual of Standards and Recommended Practices:

Mechanical Divisions:

Section A - Specifications for Material:

M-114 - Helical Springs, Heat Treated Steel.
M-116 - Steel, Structural, Shapes, Plates and Cars.
M-125 - Machine Bolts and Nuts.
M-201 - Steel Castings.
M-404 - Unions and Pipe Fittings 300-Lb. Pressure.
M-601 - Hose, Air-Brake and Train Air-Signal.
M-922 - Self-Locking Nuts for Self-Locking Cap Screws.

Section E - Brakes and Brake Equipment.

(Application for copies should be addressed to the Association of ıerican Railroads, 59 East Van Buren Street, Chicago, IL 60605.)

FEDERAL RAILROAD ADMINISTRATION (FRA)

United States Safety Application for All Classes of Cars and Locomotives.

(Application for copies should be addressed to the Federal Railroad Admin-ıtration, 2100 Second Street, SW, Washington, DC 20590.)

3. REQUIREMENTS

3.1 Description. The boxcar shall be 56-1/2-inch gage, 70-ton capacity, ıth end and side door openings and shall be mounted on two 4-wheeled trucks. ıe underframe shall be of welded construction. The superstructure shall ə riveted or welded, or a combination of riveted and welded construction. ırs shall be constructed in accordance with AAR specifications.

3.1.1 Drawings. The contractor is responsible for preparing his own ıgineering drawings. No deviation from the prescribed dimensions is permissible ithout prior approval of the contracting officer.

3.2 First article.

3.2.1 First-produced cars. The contractor shall furnish a car for examination and test within the time frame specified, to prove that his production methods and choice of design detail will produce cars that comply with the requirements of this specification. Examination and tests shall be as specified in Section 4 and shall be subject to surveillance and approval by the Government (see 6.3).

3.3 Materials. Materials shall conform to applicable AAR and commercial specifications currently used by the railroad industry for this type of equipment unless otherwise specified herein.

3.3.1 Threaded parts. Threaded parts shall conform to Handbook H28. The American National fine thread series shall be used for threaded parts less than 1/4-inch diameter. The Unified or American National coarse thread series shall be used for threaded parts 1/4-inch diameter and larger; however, the American National fine thread series may be employed for these sizes when applicable. Airbrake pipe threads shall conform to the American National pipe thread series.

3.3.2 Steel. Structural steel shall conform to ASTM A36, A242. Casting shall conform to AAR M-201, Grades B and C.

3.3.3 Pipe and fittings. Pipe shall be steel conforming to ASTM A53. Pipe fittings shall conform to AAR M-404.

3.3.4 Bolts, nuts, and capscrews. Bolts and nuts shall conform to AAR M-125. Self-locking nuts and capscrews shall conform to AAR M-922.

3.3.5 Substitution of materials. Materials not conforming to the specifications referenced herein shall not be substituted: (1) unless such substitutions are specifically approved by the contracting officer; (2) when it is clearly demonstrated that an improvement in operating characteristics, a saving in weight, conservation of critical or strategic materials, or a reduction in cost without sacrifice of reliability can be accomplished thereby; and (3) that such substitutions will not preclude the subsequent use of specified materials in effecting repairs or replacements. Request for approval of such substitutions shall be accompanied by completely detailed supporting data which clearly illustrate the use of the proposed substitute material.

3.4 Interchangeability. Jigs, templates, gages, and fixtures shall be used to insure interchageability of like components and parts with respect to assembly, performance and quality. All parts having the same part number shall be functionally and dimensionally interchangeable.

3.5 Tolerances and fits. Tolerances and fits shall conform to appropriate AAR Manuals applicable to railway cars unless otherwise specified herein.

3.6 Dimensions and weight. Dimensions and weight of the car shall be as follows:

Height of car above rails	Maximum limits of clearance diagram
Wheel diameter	36 in.
Truck centers	46 ft. (nominal)
Truck wheel base	5 ft. 6 in.
Truck center plate height	25-3/4 in.
Height of floor from top of rail	3 ft. 9-1/2 in. (nominal)
Inside length	60 ft. (minimum)
Inside width	9 ft. 5 in. (minimum)
Inside height	9 ft. (minimum)

3.6.1 Clearance. Clearance dimensions shall not exceed those shown on AAR Plates B and B1.

3.6.2 Curvature. The car shall be capable of negotiating a 46-degree curve (125-foot radius) when uncoupled.

3.7 Design and construction. Design and construction shall be in accordance with the AAR Specifications for Design, Fabrication and Construction of Freight Cars and AAR Supplement to the Manual of Standards and Recommended Practices. Cars shall be designed to withstand lift truck axle loads of 25,000 pounds. A full set of drawings and design calculations shall be submitted to Secretary, Mechanical Division, AAR, for approval of untried cars as required by AAR. When specified (see 6.2 and 6.5), structural analysis of the car in accordance with the specifications stated above shall be submitted by the car builder. Unless otherwise specified herein, all welding shall be in accordance with the latest applicable codes of the American Welding Society. Car shall consist of the following components:

(a) Underframe, trucks, and brake system.
(b) Couplers.
(c) Superstructure.

3.7.1 Underframe. The underframe shall be of welded construction in accordance with AAR Manual of Standards and Recommended Practices and Supplement thereto. Steel shall conform to ASTM A36 minimum or AAR M-116.

3.7.1.1 Center sill. The center sill shall be fabricated in accordance with Supplement to AAR Manual of Standards and Recommended Practices and applicable interchange rules.

3.7.1.2 Body bolsters. Body bolsters shall be in accordance with AAR approved design. Bolsters shall be equipped with combination jacking pads and lifting lugs at the side sill connections and shall be reinforced at the side sill.

3.7.1.3 Crossbearers. A minimum of five per car shall be applied. Top and bottom cover plates shall extend from side sill to side sill.

3.7.1.4 Crossties. A minimum of four per car shall be applied.

3.7.1.5 Side sills. Side sills shall be continuous from end sill to end sill. Side sill to end sill gusset plates shall be provided to reinforce corner of car. Door post gusset plates shall be provided.

3.7.1.6 Floor stringers. Floor stringers shall be equally spaced between the center sill and side sills and shall extend between bolsters and from bolsters to end sills.

3.7.1.7 End sills. End sills shall be fitted to side sills for welding. The end sill shall be fitted and welded around center sill.

3.7.2 Trucks. Trucks shall be designed for a 70 ton minimum capacity car and shall be an AAR approved design. Trucks shall have built-in snubbing devices in accordance with AAR specification D-65, Manual of Standards and Recommended Practices, Snubbing device shall be an AAR approved single-acting hydraulic snubber device.

3.7.2.1 Wheels. Wheels shall be 36 inch diameter, one-wear, Class "BR", in accordance with AAR Manual of Standards and Recommended Practices. Wheels shall be mounted in accordance with AAR requirements.

3.7.2.2 Axles. Axles shall be in accordance with AAR requirements. Ends of axles shall be drilled and tapped for roller bearing retaining caps.

3.7.2.3 Roller bearings. Roller bearings shall be AAR approved, applicable to interchange freight cars. Grease fittings shall be AAR approved pressure type.

3.7.2.3.1 Locking plate. Each roller bearing assembly shall include a locking plate in accordance with AAR Manual of Standards and Recommended Practices.

3.7.2.4 Side bearings. Each car shall be equipped with AAR approved double roller-type side bearings adjusted to AAR specifications.

3.7.2.5 Side frames. Side frames shall be AAR approved.

3.7.2.6 Bolsters. Bolsters shall be AAR approved and dynamically tested to AAR requirements.

3.7.2.7 Springs. Springs shall conform to AAR M-114. The spring travel shall be compatible with hydraulic snubbing device used. The solid spring group capacity shall conform to AAR requirements.

3.8 Airbrakes. Airbrakes shall be furnished and shall consist of ABD freight equipment. Airbrake installation shall be in accordance with AAR Manual of Standards and Recommended Practices, Section E and Specification No. 2518 adopted by AAR, as applicable. Brake cylinders shall be mounted on brake beams. Brake shoes shall be high friction composition type. The car brake piping system shall withstand an air pressure of 90 psi with a maximum pressure drop of 2 psi per minute. Brake valves and breathers shall be protected from damaging effect of road splash. Cars shall pass single car test code of test as specified in AAR leaflet 5039-4, Supplement 1, or latest revision.

3.8.1 Braking force. Net airbrake and handbrake force, as determined by a static brake test shall conform to AAR requirements.

3.8.2 Airbrake hose. Airbrake hose shall conform to AAR M-601.

3.8.3 Handbrake. Handbrake shall be furnished. Installation, construction, and arrangement of the handbrake shall be approved by FRA and AAR. Handbrake location shall not reduce inside dimensions specified.

3.8.4 Slack adjuster. The slack adjuster shall be automatic and shall have a range of adjustment which will permit brake shoes to clear wheel tread surfaces with all shoes worn to limit or with all shoes new and full thickness. Slack adjusters shall be AAR approved.

3.8.5 Badge plate. A metal badge plate, cast, etched, or stamped, showing brake rigging and dimensions as specified in AAR Manual of Standards and Recommended Practices, Section E, shall be attached in an accessible location near the equipment.

3.9 Couplers. Couplers shall be AAR approved and shall be the end-of-car cushioning type. Cushioning shall have 15 inch travel. Couplers shall be rotary bottom operated with coupler operating levers at diagonal corners.

3.10 Superstructure. Except as specified herein, the car superstructure shall be the steel sheathed type conforming to AAR Specifications for Design, Fabrication, and Construction of Freight Cars. The superstructure shall be unlined. All joints in the superstructure shall be weathertight after assembly.

3.10.1 Sides. Side construction shall be of steel sheathing with a copper content. Steel sheathing shall be riveted or welded to side framing. Side framing shall be outside stake design.

3.10.2 Ends. End construction shall conform to AAR Specifications for Design, Fabrication, and Construction of Freight Cars except as modified by 3.10.4(c).

3.10.3 Roof. The car roof shall be pressed steel sectional type in accordance with AAR and constructed of copper-bearing galvanized steel sheets. All joints shall be weathertight. The inner surface of the roof shall not be painted or coated with lining material.

3.10.4 Door openings. Door openings shall be provided on each side of the car and on each end. All doors and appurtenances shall conform to AAR requirements. When raised door sills are used they shall not be higher than the container mounting surface. Side doors shall be diagonally opposite. Door openings shall be as follows:

(a) Side doors. Clear door openings shall be not less than 27-feet wide and not less than 8-feet 6-inches high from top of mounting surfaces. Doors shall be designed to be opened or closed by not more than two men. Any hardware used in door movement, such as rollers or sleeve bearings shall be equipped with grease fittings or permanently lubricated components. Provisions shall be made for padlocking the side doors internally.

(b) Inspection doors. An inspection door of not less than 2-feet 4-inches wide and not less than 6-feet 8-inches high shall be provided in each end. Steps or platform shall be provided for access to and entrance of inspection door. Provisions shall be made for padlocking the inspection doors externally.

(c) End doors. Doors shall be provided on each end of the car. Clear openings shall be not less than 9-feet wide and not less than 8-feet 6-inches high from top of mounting surfaces. Platform or steps shall be provided on which at least one man can safely stand to open either end door. Provisions shall be made for padlocking the end doors internally. End doors shall be equipped with a positive closing device(s). The closing device shall be capable of automatically closing the end doors if the doors are accidently opened during transit. The closing device shall be constructed to allow the end doors to open at least 180 degrees for loading and unloading cargo. End doors shall be equipped with an interior positive locking device.

3.10.5 Flooring. Flooring shall be all metal with a minimum yield strength of 25,000 psi. Floorings shall be secured to the underframe. Flooring shall extend to all sills without any openings or gaps and welded to sills. Recessed padeyes (rings) shall be located in the floor and shall not project above the car floor (Figure 1). There shall be 124 padeyes furnished as specified on Figure 1.

3.10.5.1 Tiedown structure. Tiedown structure consisting of raised container mounting surfaces, tiedown rings, and holes shall be furnished as specified in Figure 1. Tiedown structure shall be secured to the underframe.

3.11 Safety appliances. Safety appliances shall conform to United States Safety Appliances for All Classes of Cars and Locomotives and FRA where applicable.

3.12 Routing card board. An AAR approved routing card board shall be applied to each side of the car number.

3.13 Placard holders. A metal placard board shall be applied to each side of the car and to each end of the car.

3.14 Defect cardholder. AAR type defect cardholder shall be applied to each car.

3.15 Identification plates. An identification plate conforming to MIL-P-3558, Type II, shall be attached to the car underframe in a visible location.

3.16 Painting and marking. Painting and marking shall conform to MIL-P-3320. Color of paint shall be aluminum or gray over zinc chromate primer. Reporting marks shall be DODX in lieu of USAX as specified in MIL-P-3320. Additional markings shall be in accordance with AAR specifications. Car numbers conforming to MIL-P-3320 shall be applied and shall be provided by the contracting officer. Operating and securing instructions for doors shall be applied thereon.

3.17 Lubrication. Roller bearings shall be grease lubricated in conformance to AAR requirements and applied in quantities approved by the bearing manufacturer. Truck centerplates shall be lubricated in accordance with AAR recommended practices.

3.18 Automatic car identification (ACI) plate. ACI label mounted on plate shall be applied to each side of the car in accordance with AAR requirements.

3.19 Workmanship. Workmanship for fabrication and construction shall be in accordance with AAR Specifications for Design, Fabrication, and Construction of Freight Cars.

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified in the contract, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein, unless disapproved by the Government. The Government reserves the right to perform any of the inspections set forth in the specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.1.1 Acceptability criteria. Cars which conform to all requirements in Sections 3 and 5 of this specification and pass all applicable examinations and tests in Section 4 of this specification and meet requirements of the AAR Rules of Interchange will be considered acceptable by the Government.

4.1.2 Component and material inspection. The contractor is responsible for insuring that components and materials used are manufactured, examined, and tested in accordance with referenced specifications and standards or for providing evidence that components have been previously approved by AAR.

4.2 Classification of inspections. The inspection requirements specified herein are classified as follows:

(a) First-produced car inspection (see 4.3).
(b) Quality conformance inspection (see 4.4).
(c) Inspection of packaging (see 4.6).

4.3 First-produced car inspection. The first-produced car which shall have been produced from production tooling shall be examined and tested to determine conformance to the requirements of this specification.

4.3.1 Examination. The first-produced car shall be examined as specified in 4.5.1. Presence of one or more defects shall be cause for rejection.

4.3.2 Tests. The first-produced car shall be tested as specified in 4.5.2. Failure of any test shall be cause for rejection.

4.4 Quality conformance inspection.

4.4.1 Examination. Each car shall be examined as specified in 4.5.1. Presence of one or more defects shall be cause for rejection.

4.4.2 Tests. Each car shall be tested as specified in 4.5.2 through 4.5.2.6. Failure of any test shall be cause for rejection.

4.5 Inspection procedure.

4.5.1 Examination. Each car shall be examined for the following defects:

101. Material not as specified.
102. Parts and components not interchangeable.
103. Threaded parts not as specified.
104. Car dimensions exceed dimensions shown on AAR Plate B and B1.
105. Dimensions not as specified.
106. Placard holders not furnished or applied as specified.
107. Safety appliances not as specified.
108. Lubrication not as specified.
109. Identification plate not as specified.
110. Painting and marking not as specified.
111. Certification of construction and design approval not in accordance with AAR Specifications.
112. Workmanship not as specified.
113. Tolerances and fits are not as specified.
114. Brake equipment not as specified.
115. Defect cardholder not furnished or applied as specified.

4.5.2 Tests.

4.5.2.1 Test conditions. Prior to tests, the car shall be lubricated in accordance with AAR requirements. Any tests required by AAR shall be in accordance with AAR specifications, and as specified herein.

4.5.2.2 Airbrake. The entire airbrake system shall be tested to insure correct functioning of all components. The car shall be tested with a single car testing device in accordance with AAR code for type of brake equipment. All pipe joints shall be tested for leaks at an air pressure of 90 psi. The brake cylinder piston travel shall be as specified in Air Brake Specification No. 2518 and shall be tested for interference and correct travel. Nonconformance to 3.8 or AAR requirements shall constitute failure of this test.

4.5.2.3 Braking force. Test in accordance with AAR requirements. Determine brake shoe pressure at shoe. Nonconformance to 3.8.1 shall constitute failure of this test.

4.5.2.4 Handbrake. The specified braking force shall result from application of 220 pounds maximum at the handbrake. The brake shoe pressure shall be determined at each wheel. Nonconformance to 3.8.1 shall constitute failure of this test.

4.5.2.5 Water test. The entire exterior surface of a completed car shall be sprayed with water, impinging on the car from various heights and positions. All doors shall be closed. The entire interior of the car shall be inspected for water leaks. Any leaks found shall be completely repaired and the car retested for leaks. Nonconformance to this test shall constitute failure.

4.5.2.6 Curvature. The car, when uncoupled, shall be motivated through a 125-foot radius curve. At maximum swing, the brake rigging and all other components shall be inspected to determine that clearances have been provided and that the brake systems function as specified. Nonconformance to this test and 3.6.2 shall constitute failure of this test.

4.5.2.7 Stability test. The car shall be stable when tested in accordance with AAR specifications for testing special devices to control stability of freight cars. Loading characteristics shall be in accordance with Figure 2. Nonconformance to AAR requirements shall constitute failure of this test.

4.5.2.8 Tiedown structure. The tiedown structure, Figure 1, shall be tested in accordance with Test Method No. 1. A certificate of compliance (see 6.7), with supporting data, will be acceptable in lieu of test.

TEST METHOD NO. 1

A static load force shall be applied to a minimum of 10 percent, selected at random, of each type bolted tiedown and a minimum of 10 percent, selected at random, of the tiedown padeyes (rings).

(a) Bolted tiedowns. The bolted tiedowns shall be of three types. Each type shall be subjected to static load forces indicated and in the direction specified.

Vertical load. At points indicated on Figure 1 as "Z" holes, a static vertical upward load force of 15,000 pounds minimum shall be applied at each hole being tested.

Longitudinal load.

(1) At each set of three holes shown on Figure 1 as "S" holes to be tested, a static longitudinal load force of 60,000 pounds minimum shall be applied. Load force shall be applied to the three holes combined.

(2) At each set of two holes shown on Figure 1 as "T" holes a static longitudinal load force of 35,000 pounds minimum shall be applied at each set tested. Load force shall be applied to the two holes combined.

Transverse load. At each set of two holes shown on Figure 1 as "W", "X", and "Y" holes to be tested, a static transverse load force of 30,000 pounds minimum shall be applied. Load force shall be applied to the two holes combined.

Nonconformance to load requirements, weld failure, elongation of boltholes, or permanent deformation of tiedown structure shall constitute failure of this test.

(b) Tiedown, padeyes (rings). A static load force of 12,000 pounds minimum shall be applied vertically to each padeye being tested.

Nonconformance to load requirements, weld failure, deformation of floor area, or deformation of tiedown padeyes shall constitute failure of this test.

4.6 Inspection of packaging. Preservation, packing, and marking shall be inspected to determine conformance to Section 5 of this specification.

5. PACKAGING

5.1 Boxcar. Each boxcar shall be prepared for delivery in accordance with AAR Requirements for Interchange Service.

5.2 Marking. Marking for shipment shall be in accordance with MIL-STD-129. Additional marking shall be as required by applicable AAR Rules and Regulations.

6. NOTES

6.1 Intended use. The boxcar is intended to transport sensitive commodities requiring protection from the elements and vandalism within the continental limits of the United States.

6.2 Ordering data. Procurement documents should specify the following:

(a) Title, number, and date of this specification.
(b) Time frame required for submission of first-produced car (see 3.2).
(c) When AAR structural analysis is required (see 3.7).
(d) Car numbers and other special marking required (see 3.16).

6.3 First-produced cars. Any changes or deviations of production cars from the approved first-produced car during production will be subject to the approval of the contracting officer. Approval of the first-produced car will not relieve the contractor of his obligation to furnish cars conforming to this specification.

6.4 Data requirements. The contracting officer should include requirements for such data as technical publications, drawings, instructional materials, illustrated parts lists, and contractor's maintenance and operation manual to be furnished as considered necessary with each car.

6.5 Drawings. Drawings shall be made available to the contracting officer prior to submission of first-produced car.

6.6 Car numbers. Contracting officer should arrange to furnish car numbers to the contractor to be applied to each car (see 3.16).

6.7 Certificate of compliance. When a certificate of compliance is submitted in lieu of a test, engineering data and computations as required for an engineering analysis shall be furnished. The certificate shall be signed by a duly authorized agent to the contractor.

Custodian:
Army - ME

Preparing activity:
Army - ME

Project 2220-A172

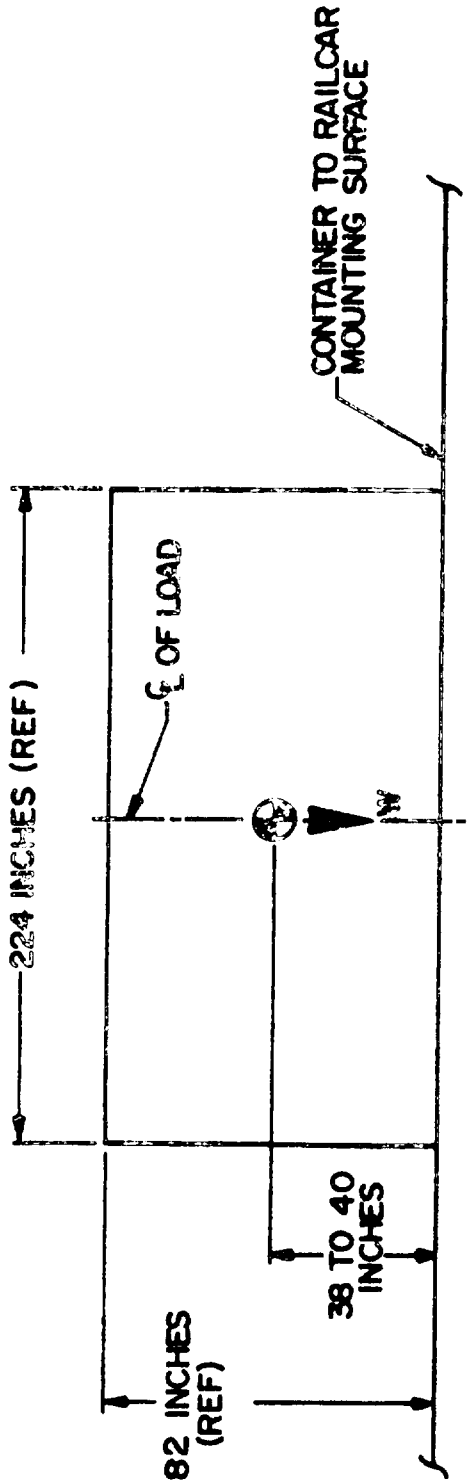
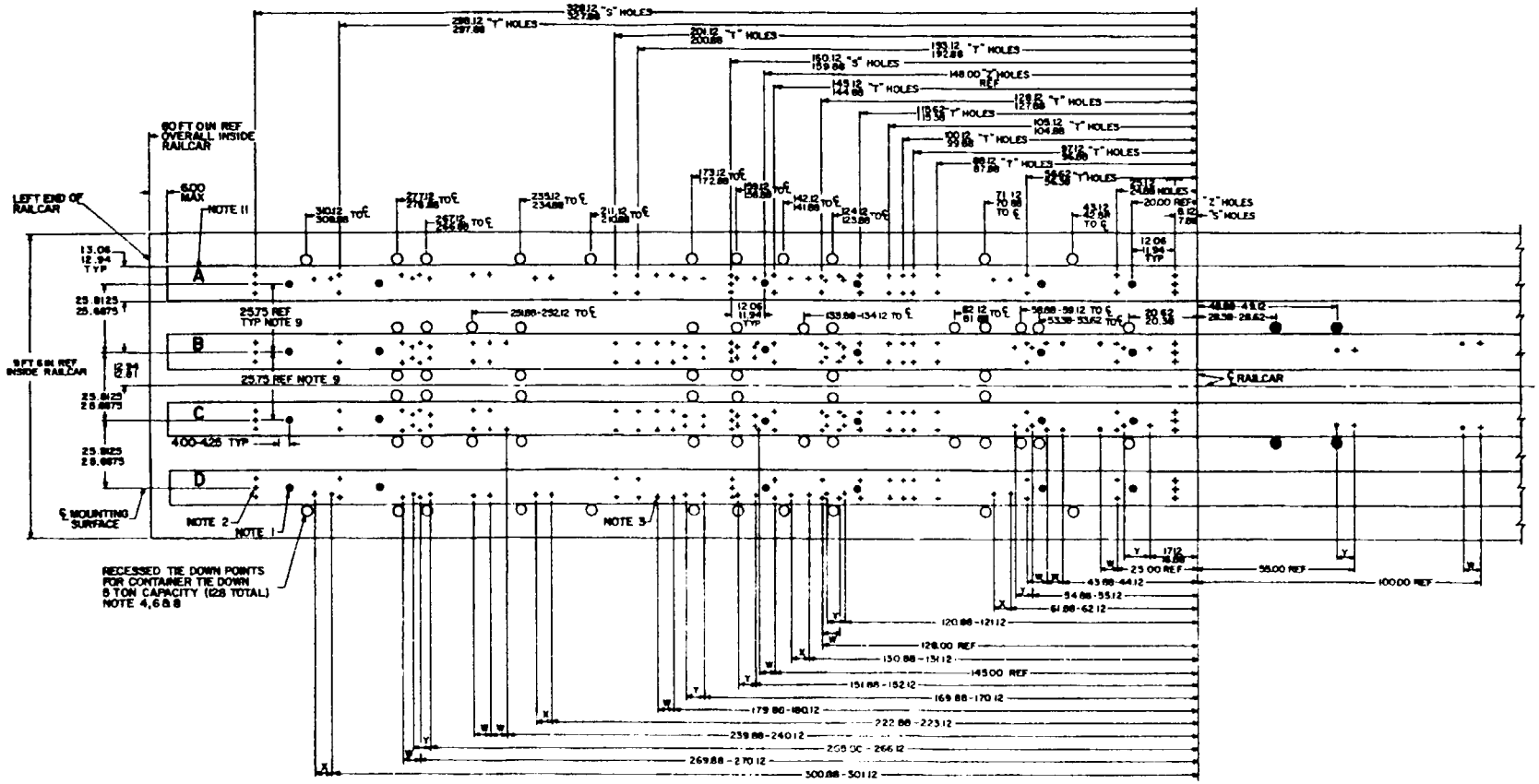


FIGURE 2. LOADING CHARACTERISTICS

X-2593

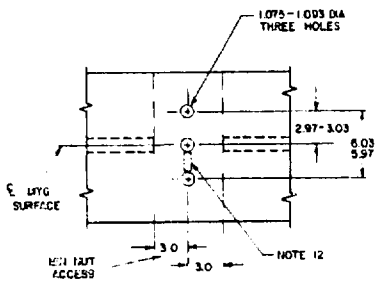


NOTE:
SEE FIGURE 1b FOR NOTES AND ENLARGED DETAILS.

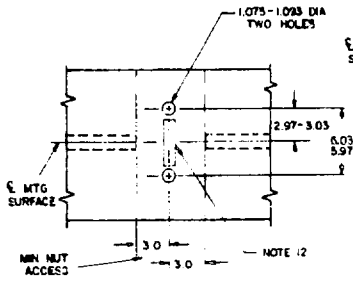
HALF PLAN VIEW OF RAILCAR INTERIOR

FIGURE 1a.
RAILCAR MOUNTING ARRANGEMENT

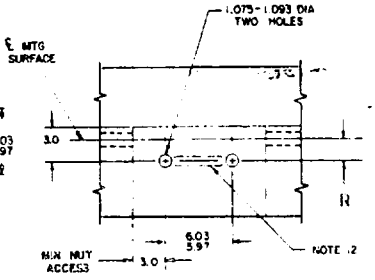
X-2591A

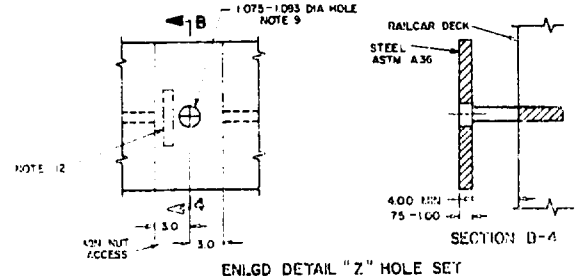


ENLGD DETAIL "S" HOLE SET
TYPICAL 24 PLACES



ENLGD DETAIL "T" HOLE SET
TYPICAL 72 PLACES





ENLGD DETAIL "Z" HOLE SET
TYPICAL 40 PLACES

HOLE SET	R	TYPICAL
W	3.25 3.00	60 PLACES
X	1.80 1.62	16 PLACES
Y	1.50 1.25	72 PLACES

ENLGD DETAIL "W", "X" & "Y" HOLE SETS

NOTES

1. VERTICAL (UPWARD) LOAD CAPACITY AT POINTS ⊕ SHALL BE 15,000 LBS MIN
2. LONGITUDINAL LOAD CAPACITY AT EACH SET OF THREE HOLES SHALL BE 60,000 LBS MIN
3. TRANSVERSE LOAD CAPACITY AT EACH SET OF TWO HOLES SHALL BE 30,000 MIN
4. PAD EYES SHALL NOT PROJECT ABOVE THE RAILCAR DECK WHEN NOT IN USE
5. GUSSETS AND OR STIFFENERS MAY BE ADDED AS REQUIRED PROVIDING THEY DO NOT INTERFERE WITH NUT ACCESS OR ROLLER GUIDE FUNCTION
6. HOLES AND RECESSED TIE DOWN POINTS ARE LOCATED SYMMETRICALLY ABOUT THE TRANSVERSE ℄ OF THE RAILCAR EXCEPT THOSE INDICATED Ⓒ WHICH ARE LOCATED ONLY IN THE POSITION SHOWN.
7. MAXIMUM DOOR SILL HEIGHT SHALL BE THE SAME ELEVATION AS CONTAINER MOUNTING SURFACE.
8. HOLES AND RECESSED TIE DOWN POINTS ARE LOCATED SYMMETRICALLY ABOUT THE LONGITUDINAL ℄ OF THE RAILCAR
9. LOCATE HOLES IN CENTER TWO MOUNTING SURFACES FIRST, WITHIN .03 IN OF LONGITUDINAL ℄ OF ONE MOUNTING SURFACE. HOLES IN THE TWO OUTBOARD MOUNTING SURFACES SHALL BE LOCATED FROM THE HOLES IN THE ADJACENT MOUNTING SURFACE HOLES SHALL BE LOCATED LONGITUDINALLY AS SHOWN
10. MOUNTING SURFACES MAY BE MADE FROM MORE THAN ONE PIECE, JOINTS SHALL NOT OCCUR AT HOLES DOUBLERS OR BACKING PLATES MAY BE USED AT JOINTS PROVIDING THERE IS NO INTERFERENCE WITH HOLES OR NUTS AT ASSY ALL WELDS ON TOP SURFACE AND TOP EDGES SHALL BE GROUND SMOOTH
11. METAL STAMP WITH 100 HIGH CHARACTERS THE LETTERS AS SHOWN AT LEFT END OF RAILCAR ONLY.
12. METAL STAMP WITH 50 HIGH CHARACTERS THE APPLICABLE LETTERS & SET NUMBERS IN THE LOCATION SHOWN IN THE ENLARGED DETAILS THE FIRST LETTER INDICATES THE MOUNTING SURFACE, THE SECOND LETTER INDICATES THE HOLE SET, AND THE NUMBER IS THE SEQUENTIAL NUMBER, STARTING WITH NUMBER 1 ON EACH MOUNTING SURFACE, FROM THE LEFT END & PROCEEDING THE FULL LENGTH OF THE RAILCAR

FIGURE 1b.
RAILCAR MOUNTING ARRANGEMENT

X-2592A

STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

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DOCUMENT IDENTIFIER AND TITLE MIL-R-52760A(ME) Railway Car, Box, End and Side Doors, 56-1/2-Inch Gage, 70-Ton, 8-Wheel, for Domestic Service

NAME OF ORGANIZATION AND ADDRESS

CONTRACT NUMBER

MATERIAL PROCURED UNDER A

☐ DIRECT GOVERNMENT CONTRACT ☐ SUBCONTRACT

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