

MIL-B-13207D(ME)
12 August 1976
SUPERSEDING
MIL-B-13207C(ME)
9 July 1970

MILITARY SPECIFICATION
BODY, VAN, VEHICLE-MOUNTED,
GENERAL SPECIFICATION FOR

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 various sizes of intermodal container van bodies intended for the installation of a variety of operating equipment. The van bodies are modified refrigerated ISO (International Organization for Standardization) containers which feature interior heating and air conditioning and utility electrical systems. The van bodies are capable of international intermodal transport by land and sea, in addition to wheeled vehicle mounted transport. Optional truck and semitrailer mounting provides travel capability between operation sites. When advantageous, a single driver may transport two van bodies, the first mounted on the straight transporter truck and the second mounted on the towed dolly converter and semitrailer.

1.2 Classification. The van bodies shall be of the following sizes, as specified (see 6.2):

Modified Commercial ISO Reefer Container Van Body:

Size 10 - ISO 1D, 10-foot van body - MIL-B-13207/1.
Size 20 - ISO 1C, 20-foot van body - MIL-B-13207/2.
Size 30 - ISO 1B, 30-foot van body - MIL-B-13207/3.
Size 40 - ISO 1A, 40-foot van body - MIL-B-13207/4.

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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

FEDERAL

- | | |
|-----------|---|
| L-F-475 | - Floor Covering Vinyl, Surface (Tile and Roll), with Backing. |
| W-C-375 | - Circuit Breaker, Molded Case; Branch-Circuit and Service. |
| W-C-596 | - Connector, Plug, Electrical; Connector, Receptacle, Electrical. |
| W-P-115 | - Panel, Power Distribution. |
| TT-P-1757 | - Primer Coating, Zinc Chromate, Low-Moisture-Sensitivity. |

MILITARY

- | | |
|-------------|---|
| MIL-V-173 | - Varnish, Moisture-and-Fungus-Resistant (for Treatment of Communications, Electronic, and Associated Equipment). |
| MIL-P-514 | - Plates, Identification, Instruction and Marking, Blank. |
| MIL-T-704 | - Treatment and Painting of Materiel. |
| MIL-C-3432 | - Cable and Wire, Electrical (Power and Control; Semi-Flexible, Flexible and Extra Flexible, 300 and 600 Volts). |
| MIL-W-5086 | - Wire, Electric, Polyvinyl Chloride Insulated, Copper or Copper Alloy. |
| MIL-A-8421 | - Air Transportability Requirements, General Specification for, |
| MIL-C-10799 | - Cloth, Coated, Cotton, Vinyl Coated, Fire and Mildew Resistant. |
| MIL-F-21840 | - Fastener Tapes, Hook and Pile, Synthetic. |

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MIL-S-40626
MIL-E-46096

- Sign Kit, Vehicle Class.
- Enamel, Lusterless, Quick Drying, Styrenated Alkyd Type, Solar Heat Reflecting.

MIL-A-52767

- Air Conditioner: Vertical and Horizontal, Compact.

MIL-C-52786
MIL-R-52813

- Cover, Reel, Cotton Duck,
- Reels, Hose and Cable.

STANDARDS

FEDERAL

FED. STD. No. 595

- Colors.

MILITARY

MIL-STD-105

- Sampling Procedures and Tables for Inspection by Attributes.

MIL-STD-129

- Marking for Shipment and Storage.

MIL-STD-130

- Identification Marking of US Military Property.

MIL-STD-209

- Slings and Tiedown Provisions for Lifting and Tying Down Military Equipment.

MIL-STD-210

- Climatic Extremes for Military Equipment.

MIL-STD-461

- Electromagnetic Interference Characteristics Requirements for Equipment.

MIL-STD-642

- Identification Marking of Combat and Tactical Transport Vehicles.

MS75021

- Connector, Receptacle, Electrical - 12 Contact, Intervehicular, 28 Volt, Waterproof.

DRAWINGS

TACOM

11601641

- Cable Assy, Auxiliary.

11601643

- Cable Assy.

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(Copies of specifications, standards, and drawings 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.

ASSOCIATION OF AMERICAN RAILROADS (AAR)

Rules Governing the Loading of Commodities on Open Top Cars.

(Application for copies should be addressed to the Association of American Railroads, 1920 L Street, NW, Washington, DC 20036.)

AMERICAN BUREAU OF SHIPPING (ABS)

Guide for Certification of Cargo Containers.

(Application for copies should be addressed to the American Bureau of Shipping, 45 Broad Street, New York, NY 10004.)

ASSOCIATION OF HOME APPLIANCE MANUFACTURERS (AHAM)

DH-1 - Dehumidifiers, Electric.

(Application for copies should be addressed to the Association of Home Appliance Manufacturers, 20 North Wacker Drive, Chicago, IL 60606.)

AMERICAN IRON AND STEEL INSTITUTE (AISI)

Steel Products Manual.

(Application for copies should be addressed to the American Iron and Steel Institute, 150 East 42nd Street, New York, NY 10017.)

AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI)

ISO Recommendation No. 668 - Dimensions and Ratings of Freight Containers.

ISO Recommendation No. 1496 - Specifications and Testing of Series 1 Freight Containers.

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- National Electrical Code, C1.
A119.2 - Mobile Vehicle Standards.
C73.11 - Attachment Plugs and Receptacles.
MHS - Specifications for Cargo Containers.
Z26.1 - Safety Glazing Materials for Glazing Motor
Vehicles Operating on Land Highways.
Z35.1 - Industrial Accident Prevention Signs,
Specifications for.

(Application for copies should be addressed to the American National Standards Institute, Inc., 1430 Broadway, New York, NY 10018.)

AMERICAN PLYWOOD ASSOCIATION (APA)

- US Product Standard PS 1.
Plywood Design Specification Manual X215.

(Application for copies should be addressed to the American Plywood Association, 1119 A Street, Tacoma, WA 98401.)

AMERICAN SOCIETY OF MECHANICAL ENGINEERS (ASME)

- Boiler and Pressure Vessel Code, Welding Qualifications.

(Application for copies should be addressed to the American Society of Mechanical Engineers, 345 East 47th Street, New York, NY 10017.)

AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- D 2863 - Flammability of Plastics Using the Oxygen Index Method,
Method of Test for.

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

AMERICAN WELDING SOCIETY (AWS)

- Standard Qualification Procedure.
Welding Handbook.

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

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COUNTY OF LOS ANGELES - AIR POLLUTION CONTROL DISTRICT

Rule 66 - Organic Solvents.

(Application for copies should be addressed to the County of Los Angeles - Air Pollution Control District, 434 S. San Pedro Street, Los Angeles, CA 90013.)

DEPARTMENT OF LABOR (DOL)

- 29CFR1910 - Occupational Safety and Health Administration Standards (OSHA).
- 29CFR1926 - Construction Safety Standards.

(Application for copies should be addressed to a local DOL Office or the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.)

DEPARTMENT OF TRANSPORTATION (DOT)

- 49CFR420 - Transport International Routiers (TIR) Carnets.
- 49CFR567 & 568 - Certification.
- 49CFR571 - DOT Federal Motor Vehicle Safety Standards (FMVSS).
- 49CFR325, 390, & 393 - DOT Federal Motor Carrier Safety Regulations (FMCSR).

(Application for copies should be addressed to a local DOT Office or the Superintendent of Documents, U.S. Government Printing Office Washington, DC 20402.)

ENVIRONMENTAL PROTECTION AGENCY (EPA)

- 40CFR85 - Control of Air Pollution from New Motor Vehicles and New Motor Vehicle Engines.

(Application for copies should be addressed to a local EPA Office or the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402.)

FORGING INDUSTRY ASSOCIATION (FIA)

The Forging Industry Handbook.

(Application for copies should be addressed to the Forging Industry Association, Dept R, 1121 Illuminating Building, Cleveland, OH 44113.)

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FRICTION MATERIALS STANDARDS INSTITUTE, INC. (FMS)

Automotive Data Book.

(Application for copies may be obtained from commercial brake lining contractors or should be addressed to the Friction Materials Standards Institute, Inc., East 210, Route 4, Paramus, NJ 07652.)

INDUSTRIAL FASTENERS INSTITUTE (IFI)

IFI Standards.

OMFS Recommendations (Optimum Metric Fastener System).

(Application for copies should be addressed to Industrial Fasteners Institute, 1517 Terminal Tower, Cleveland, OH 44113.)

INDUSTRIAL PRESS

Machinery's Handbook.

(Application for copies should be addressed to the Industrial Press, 148 Lafayette Street, New York, NY 14305.)

LLOYD'S REGISTER OF SHIPPING

Freight Container Certification Scheme.

(Application for copies should be addressed to the Lloyd's Register of Shipping, 71 Fenchurch Street, London E.C.3, England.)

NATIONAL ASSOCIATION OF METAL NAME PLATE MANUFACTURERS (NAME)

Metal Name Plate Industry Standards and Practices.

(Application for copies should be addressed to the National Association of Metal Name Plate Manufacturers, Inc., 1000 Vermont Avenue, NW, Washington, DC 20005.)

NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION (NEMA)

ISC - Industrial Controls and Systems.

KSI - Distribution Box.

(Application for copies should be addressed to the National Electrical Manufacturers Association, 815 15th Street, Washington, DC 20005.)

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NATIONAL MOTOR FREIGHT TRAFFIC ASSOCIATION, INC.,--AGENT

National Motor Freight Classification.

(Application for copies should be addressed to the American Trucking Associations, Inc., ATTN: Tariff Order Section, 1616 P Street, NW, Washington, DC 20036.)

REGULAR COMMON CARRIER CONFERENCE (RCCC)

RCCC Recommended Practices Manual.

(Application for copies should be addressed to the Regular Common Carrier Conference, 1616 P Street, NW, Washington, DC 20036.)

SOCIETY OF AUTOMOTIVE ENGINEERS (SAE)

SAE Handbook.

SAE SP-346 - Design and Modification of Industrial Vehicles for Operation at Low Temperatures.

(Application for copies should be addressed to the Society of Automotive Engineers, Inc., 400 Commonwealth Drive, Warrendale, PA 15096.)

STATE OF CALIFORNIA DEPARTMENT OF MOTOR VEHICLES

California Vehicle Code.

(Application for copies should be addressed to the State of California, Department of Motor Vehicles, 2570 24th Street, Sacramento, CA 95804.)

TIRE AND RIM ASSOCIATION (TRA)

TRA Yearbook.

(Application for copies should be addressed to the Tire and Rim Association, Inc., 3200 West Market Street, Akron, OH 44313.)

TRUCK-TRAILER MANUFACTURERS ASSOCIATION (TTMA)

TTMA Recommended Practices.

TTMA Technical Bulletins.

(Application for copies should be addressed to the Truck-Trailer Manufacturers Association, Inc., 2430 Pennsylvania Avenue, NW, Washington, DC 20037.)

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UNIFORM CLASSIFICATION COMMITTEE, AGENT

Uniform Freight Classification.

(Application for copies should be addressed to the Uniform Classification Committee, ATTN: Tariff Order Section, 222 South Riverside Plaza, Chicago, IL 60606.)

UNITED STATES POSTAL SERVICE (USPS).

SPECIFICATIONS

USPS-F-779 - USPS Specification for Motor Vehicle Repair Facility.

DRAWINGS

MDL-200975 - Mobile Vehicle Repair Facility.

(Copies of United States Postal Service Specifications and Drawings may be obtained by application to the Director, Procurement Division, Administrative Department, United States Postal Service, Washington, DC 20260.)

(Technical society and technical association specifications and standards are generally available for reference from libraries. They are also distributed among technical groups and using Federal agencies.)

3. REQUIREMENTS

3.1 Description. The van bodies shall be as specified herein and on the applicable specification sheet (see 1.2). The complete vehicle-mounted van body (hereinafter called "van body") shall include the: (1) basic van body structure, (2) interior environmental control system, (3) utility electrical and lighting system, (4) accessories and components and, (5) the applicable transport vehicle. The van body, separately covering the basic van body, contractor furnished environmental control system, utility electrical and lighting system and the applicable transport vehicle, shall be the latest commercial production models of the contractor and his sub-contractors and shall have been marketed for a period of not less than 1 year prior to opening of the technical proposal or bid, except for product improvements which have been incorporated on commercial units. The van bodies shall be constructed to function, without malfunction, damage, or permanent deformation, with installed operation, equipment and machinery

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such as printing presses, process photographic cameras, laboratories, cryogenic plant sets, driver training devices, repair shop sets, office units, and similar applications. The van bodies shall provide controlled interior environment for correct function of both the equipment and personnel, when stationary at an operating site and shall provide continued protection for the equipment installed when the van bodies are being transported. Unless otherwise specified, the van bodies shall be mounted on a transport vehicle. As specified (see 6.2), the van bodies, in the manner and quantities specified, shall be vehicle mounted as follows and in the applicable specification sheets:

- (a) ISO sizes-----see 3.10
- (b) Container, semitrailer mounted-----see 3.11.
 - (1) Semitrailer without dolly converter-----Table IV, a thru n.
 - (2) Full trailer with dolly converter-----Table IV, a thru o.
- (c) Container, transport truck mounted-----see 3.12.

When specified (see 6.2), van bodies shall be unmounted.

3.2 First article (preproduction model). The contractor shall furnish one van body for examination and testing within the time frame specified to prove prior to starting production that his production methods and choice of design detail will produce van bodies that comply with the requirements of this specification. Examination and tests shall be those specified in Section 4 and shall be subject to surveillance and approval by the Government (see 6.3). When specified (see 6.2), the Government will conduct any or all of the preproduction examinations and tests, as specified (see 6.2).

3.3 Initial production. When specified (see 6.2), the contractor shall furnish to the Government one or more van bodies for inspection as specified in 4.4.

3.4 Material. Material shall be as specified herein. All material shall be new and unused. Material not specified shall be selected by the contractor as being compatible with the intended use in accordance with the engineering standards of the truck body and freight container industry and as set forth in the publications of the American Society

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for Testing and Materials, Society of Automotive Engineers including SAE Handbook, Truck-Trailer Manufacturers Association, International Organization for Standardization, American National Standards Institute, and in Machinery's Handbook. Unless otherwise specified herein, rubber products furnished shall not exceed 8 calendar quarters in age from date of cure of the rubber to date of acceptance of the van bodies by the Government. Threaded parts shall be in accordance with IFI Standards and SAE Standards. Maximum practical use shall be made of interchangeable hardware and fastening devices and a minimum number of types and sizes of bolts, capscrews, nuts, washers, and similar common (standard) parts in accordance with SAE J370 and J371.

3.4.1 Contact of dissimilar metals. Contact, galvanic and electrolytic action between dissimilar metals, as defined in MIL-T-704, shall be prevented by the application of zinc chromate primer conforming to TT-P-1757 to each of the metal surfaces or by insulation of one surface from the other surface by application of an elastomer gasket, electrical tape, or other effective means, preventing any direct contact. The separation of the surfaces shall be not less than 2 mils. Asphaltic-type compounds shall not be used nor shall tape be used of the type that bunches between the metal surfaces during hole drilling operations.

3.4.2 Noise absorption material. When specified (see 6.2), and when required by the construction methods selected by the contractor to meet the noise level limit, the van body interior shall be lined with acoustic absorption materials. The material selected for ceiling, walls, front end, and larger rear 2/3 door (excluding personnel and other doors) shall have a noise reduction coefficient (NRC) value of at least 0.75.

3.4.3 Corrosion. Ferrous components and parts of the basic van body, if furnished, shall be of corrosion-resistant steel or protected from corrosion by application marine type of plating.

3.5 Environmental conditions.

3.5.1 Operational temperatures. The van bodies shall not be damaged during operation and transport in any ambient air temperature between minus 40° F and plus 120° F.

3.5.2 Precipitation. The van bodies shall not leak water into the interior of the van bodies when exposed to rain ranging from a drizzle to a heavy rain of 1/4 gallon per minute per square foot of wetted surface impinging on the van body with a 30 mph wind and when transported on a TOFC railroad car during rain conditions. During and after the precipitation, the equipment shall operate as specified herein.

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3.5.3 Storage. When in outside storage, the van bodies shall withstand climatic extremes as specified in MIL-STD-210 without deterioration that may cause failure of the van bodies or of any component.

3.6 Safety. The safety characteristics of the van bodies shall meet the following minimum requirements:

- (a) Conform to DOT Federal Motor Vehicle Safety Standards (FMVSS), 49CFR567 and 571.
- (b) Conform to DOT Federal Motor Carrier Safety Regulations (FMCSR), 49CFR325, 390, and 393.
- (c) Conform to the California Vehicle Code.
- (d) Conform to DOL OSHA requirements, 29CFR1926, based on an 8-hour shift.
- (e) Incorporate human factors engineering characteristics for use and operation by personnel ranging from the small man, clothed, through the large man, arctic clothed, per SAE J833 and J925.
- (f) Provide all walk, step, and handhold components per SAE J185.
- (g) Result in furnishing material and components having a correct safety factor.
- (h) Provide correct guarding, enclosing, and insulating features for exposed components and systems, which are inherently hazardous or have high temperatures, high pressures, or high electrical voltage.
- (i) Eliminate nonfunctional sharp edges, projecting points, and excessive lengths of fasteners.

3.7 Ease of maintenance. All major assemblies and installed attachments shall be accessible for maintenance, repair, and replacement without the removal of other major assemblies and installed attachments. Covers or plates which must be removed for component adjustment, repair, replacement, or maintenance shall be equipped with removable fasteners. The configuration of the van bodies shall provide maximum accessibility for removal of components. Where incorrect installation of an item could cause malfunction of that item or of the system in which it is installed, an unsymmetrical mounting means shall be provided or the mating parts shall be dowled or matchmarked. Ease of maintenance provisions shall incorporate features insuring operating tool and lubricant component clearances and shall facilitate maintenance and servicing operations. Ease of maintenance considerations shall also be incorporated to facilitate repair and refabrication of the van body to original weather tightness and insulation requirements when vehicle transport and intermodal transport damage occurs.

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3.8 Mobility characteristics. The vehicle-mounted van bodies shall conform to the mobility characteristics specified herein without malfunction, permanent deformation, or damage when (1) containing a simulated operating equipment load of not less than specified herein, (2) serviced and adjusted as specified in 3.16 and, (3) mounted as specified herein on the intended vehicle, including prime mover, if applicable. The van bodies shall be capable of travel as specified herein under any environmental condition as specified in 3.5.

3.8.1 Highway travel. The vehicle-mounted van bodies shall travel over smooth, hard-surfaced, primary highways at sustained speeds up to 60 mph minimum.

3.8.2 Secondary road travel. The vehicle-mounted van bodies shall travel over gravel-surfaced secondary roads at sustained speeds up to 40 mph minimum.

3.8.3 Off-road travel. The vehicle-mounted van bodies shall travel over unimproved roads, open fields, rolling hills, and rough, off-road terrain at speeds up to 20 mph minimum. The van bodies shall negotiate grades up to 30 percent, side slopes up to 10 percent and shall travel through mud, sand, and snow to the intended operating sites. Without prior preparation, the van bodies shall ford hard-bottom creek crossings up to 20-inches deep without damage or adverse effects due to water immersion.

3.8.4 Chatter course. The vehicle-mounted van bodies shall travel, without damage or permanent deformation, over a chatter course that will produce upward or downward accelerations of the magnitude of between 3 to 6 G's to a rear wheel center of the vehicle when tested in accordance with 4.6.2.4 (d).

3.8.5 Diagonal V-ditch course. The vehicle-mounted van bodies shall travel, without damage or permanent deformation, over V-ditches to produce not less than 60 reversal torsional frame stresses when tested in accordance with 4.6.2.4 (e).

3.8.6 Mud course. The vehicle-mounted van bodies shall negotiate a mud course, providing not less than 12 inches depth, and shall withstand immobilization and tow-out operations.

3.8.7 Braking. The minimum braking performance of the vehicle-mounted van bodies shall be in compliance with DOT FMVSS, DOT FMCSR, and the California Vehicle Code.

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3.8.8 Semitrailer mobility. ISO van bodies installed on container semitrailers shall, in addition, withstand pivot turns about the rear suspension, comply with DOT FMCSR off-tracking, provide clearance for jackknife turns not less than 90 degrees from the truck-tractor, and be compatible with commercial truck-tractors. The semitrailer brake system shall also comply with TTMA RP No. 12 and RP No. 44.

3.8.9 Truck mobility. ISO van bodies installed on container transport trucks shall, in addition, comply with 3.15.2, transporter performance.

3.9 Shipping modes.

3.9.1 Air transport. As required by the specification sheet, the applicable van bodies shall be transportable by air in the C-130, C-133, and C-141 aircraft of the dimensions shown in Figures 1, 2, and 3, respectively, and in the larger C-5 aircraft. The van body shall conform to MIL-A-8421, except that testing shall not be required. Compliance of the van bodies with ISO or ANSI air transport shall not be required.

3.9.2 Rail transport. The van bodies shall be rail transportable as a vehicle-mounted van body when loaded on a flatcar in accordance with the Association of American Railroad's "Rules Governing the Loading of Commodities on Open-Top Cars". In addition, the van bodies shall be transportable by rail as an ISO Series 1 freight container when loaded on any container-transporting railroad car. Loading and unloading by commercial container-handling methods and shall not cause damage or permanent deformation of the van bodies.

3.9.3 Marine transport. The van bodies, both as vehicles on board roll-on/roll-off ships, and as ISO freight containers, when disassembled and loaded on top deck of container ships, shall be marine transportable. Loading and unloading by commercial container handling methods shall not cause damage or permanent deformation of the van bodies.

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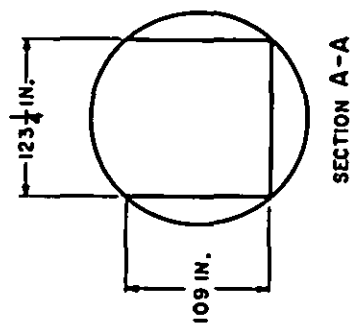
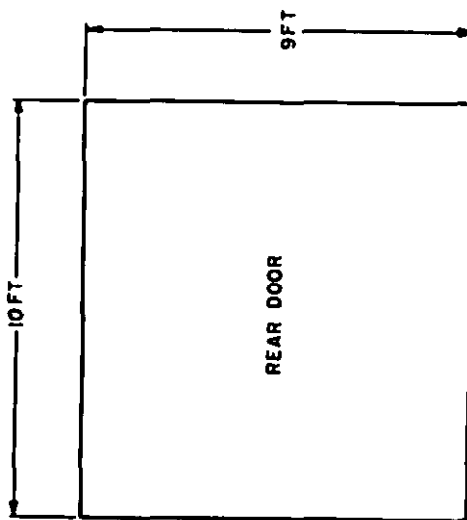
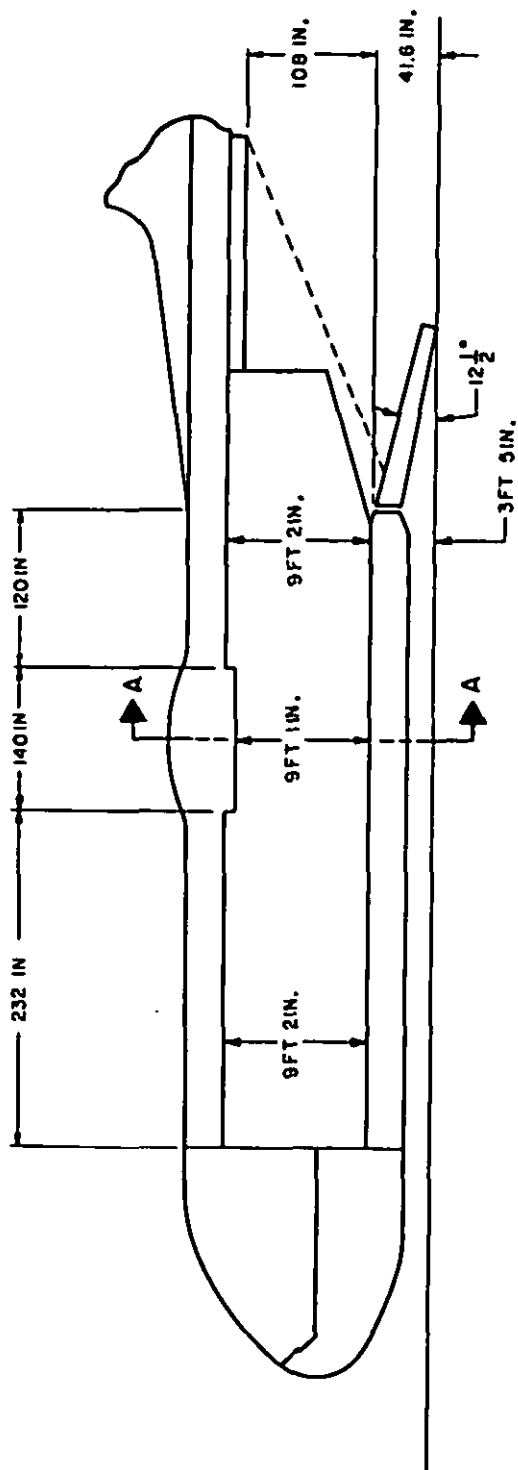


FIGURE 1. CARGO COMPARTMENT PROFILE (C-130) X-195

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EQUIPMENT LOADING PLANNER C-133A

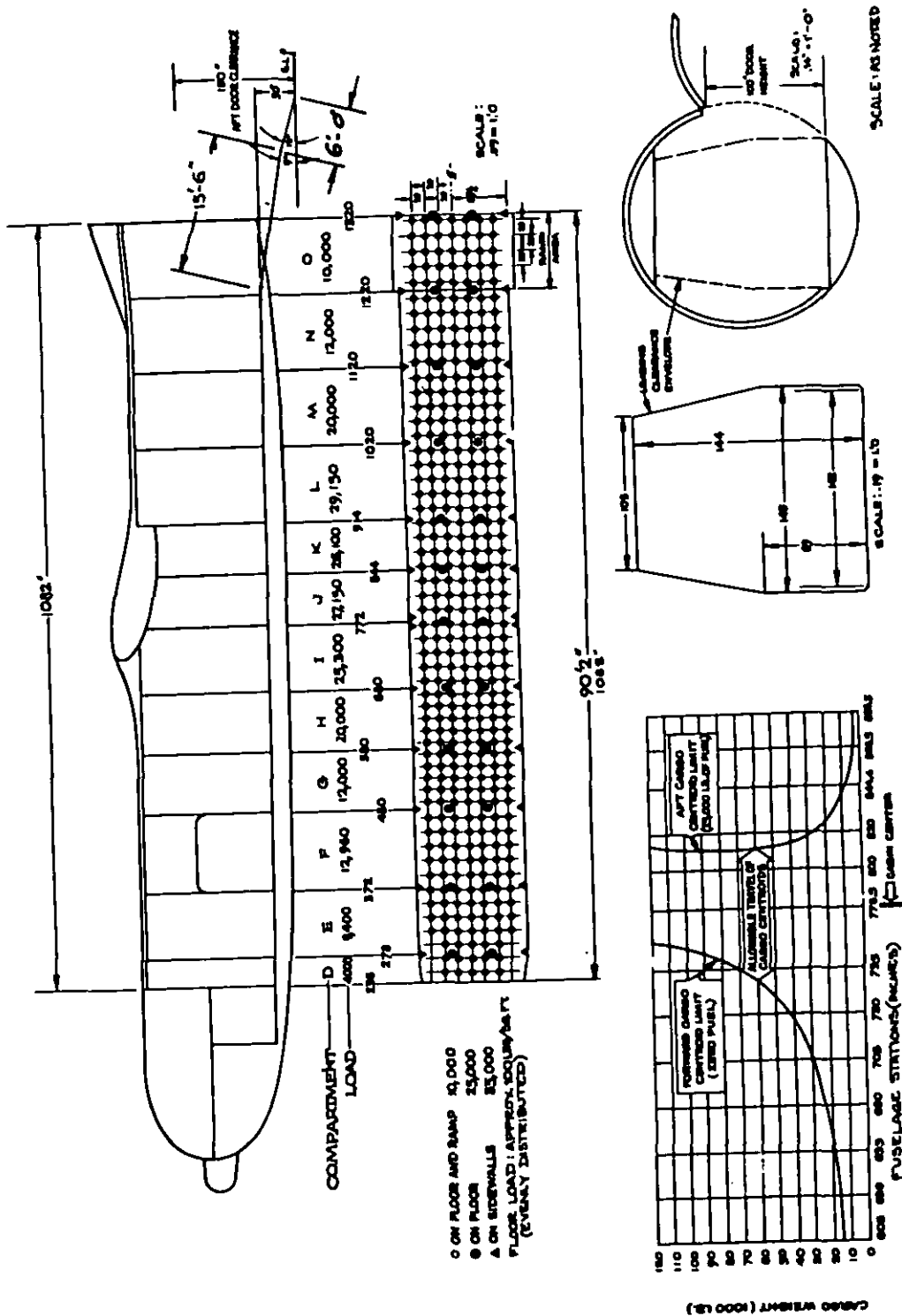
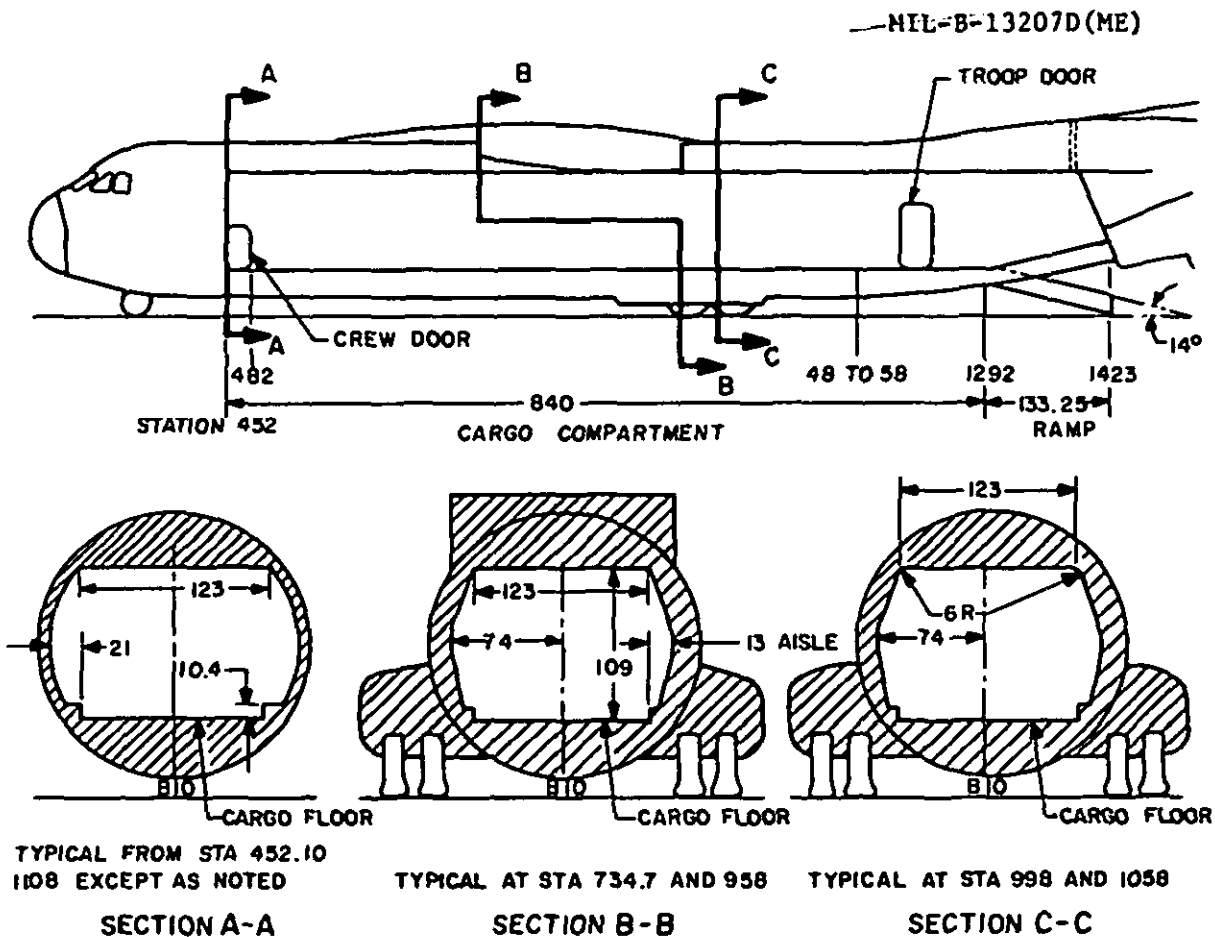


FIGURE 2. Equipment loading planner (C-133A).

X-969A



TYPICAL FROM STA 452.10
1108 EXCEPT AS NOTED

TYPICAL AT STA 734.7 AND 958

TYPICAL AT STA 998 AND 1058

SECTION A-A

SECTION B-B

SECTION C-C

CARGO COMPARTMENT DIMENSIONS AND CONTOURS C-141 AIRCRAFT

MAIN LOADING DOOR:

WIDTH - 123 (APPROXIMATELY)
HEIGHT - 109 (APPROXIMATELY)

NOTES:

1. ALL DIMENSIONS ARE IN INCHES
2. THE HEIGHT AND WIDTH OF THE COMPARTMENT ARE REDUCED 2 INCHES ACROSS THE UPPER OUTSIDE CORNERS OF THE COMPARTMENT AT FUS STA 1198 AND 1238 BY THE TROOP DOOR TRACKS
3. WHEN THE ROLLER CONVEYORS ARE TURNED UPRIGHT, USABLE HEIGHT WILL BE REDUCED 1.5 INCHES

FIGURE 3.

C-141 Cargo envelope.

X-3170

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3.10 ISO size, container van bodies. The van bodies of the ISO size (see 1.2, 3.1, and the applicable specification sheet) shall be modified commercial, refrigerated type, ISO freight containers, constructed identical to the container manufacturer's Series 1, ISO freight container product line, which comply with the following requirement documents:

- (a) ISO Recommendation No. 668.
- (b) ISO Recommendation No. 1496.
- (c) ANSI MH5.
- (d) Transport International Routiers (TIR) Carnets (49CFR420).
- (e) American Bureau of Shipping (ABS), Guide for Certification of Cargo Containers.

The manufacturer of the ISO container van bodies shall have fielded to commercial users, TIR and ABS certified, Series 1 ISO containers for commercial intermodal land and sea service, prior to procurement solicitations for these van bodies (see 6.11).

3.10.1 Weights and dimensions. As applicable to the van body (see 6.2 and the applicable specification sheet), the van body weight and dimensions shall comply with ISO No. 668, ISO No. 1496, ANSI MH5, Table I, and the applicable specification sheet.

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TABLE I. ISO van body dimensions.

Dimension	Requirement
(a) Van Body Exterior with Accessories Installed for Vehicle Road Transport -	
(1) Overall Length	ISO/ANSI plus Max. 30-in. when unmounted, and per specification sheet, when vehicle mounted.
(2) Overall Height	ISO/ANSI (Ref. 96-in.) plus Max. 66-in. vehicle mounting height (Ref. 162-inch.), Max. $\frac{1}{2}$.
(3) Overall Width	ISO/ANSI (Ref. 96-in.), Max., plus Max. 2-in. Vehicle mounting width (Ref. 98-in.), Max. $\frac{2}{2}$.
(b) Van Body Exterior (basic van body container) for Intermodal Transport -	
(1) Overall Length	ISO/ANSI, Max. $\frac{1}{2}$.
(2) Overall Height	ISO/ANSI, Max. $\frac{2}{2}$.
(3) Overall Width	ISO/ANSI, Max. $\frac{2}{2}$.
(c) Van Body Interior -	
(1) Length	ISO/ANSI, minus 40-in., Min.
(2) Height	82-in., Min. $\frac{1}{2}$.
(3) Width	86-in., Min. $\frac{2}{2}$.

Notes:

$\frac{1}{2}$ When specified (see 6.2), the overall exterior van body height shall conform to the approved ISO height limit options and the inside heights shall provide a corresponding increase; however, the vehicle-mounted overall height shall remain limited to 162 inches (13 ft. 6 in.), assuming truck tractor 5th wheel height per SAE J701.

$\frac{2}{2}$ When specified (see 6.2), the overall exterior van body width shall conform to the proposed or approved ISO width limit option of 2.59 meters (102 inches) and the inside width shall provide a corresponding increase.

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3.10.2 ISO van body specifications. The ISO size van body shall comply with the specifications listed in Table II and the applicable specification sheet.

TABLE II. Body specifications.

Feature	Requirements
(a) Van Body Reefer Ratings -	Per TTMA RP No. 38 for container mfg'r's production model of the modified van body; Heat transmission rate, Max. 25-BTU/H ° F, for each 10-foot increment of body OAL (length); Actual modified van body air leakage rate per hour (CFH) Max. 65% of gross interior van body volume, prior to installation of equipment.
(b) Framing -	Per ISO - ANSI; AISI high-strength low alloy (HSLA) steel members having corrosion resistant copper additive; Aluminum alloy extrusion members; Plastic galvanic action separators; Framing members and construction to prevent a direct metal-to-metal thermal bridge between the inside and outside of van body; Framing and ISO corner fittings comply with ISO minimum lifting forces.
(c) Exterior Panel -	Smooth skin type, waterproof, airtight, and stress-wrinkle free; Panel material either fiberglass reinforced plastic (FRP) with plywood core or aluminum sheeting intended for containers and semitrailers; Provide FRP plywood per APA Plywood Design Specification Manual X215 and U.S. Product Standard PS1; Core of APA Group 1, Exterior Type; Panels Min. 1/2-in. thick on front, sides and roof panel having laminate of Min. 22-oz/sq yd material or woven roving (W.R.) or combination of both; Ultra-violet-inhibitor gel coat on exterior of panel having Min. 0.015-in thickness; Exposed edges of plywood treated or dipped to repel moisture;

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TABLE II. Body specifications (Continued).

Feature	Requirements
(d) Insulation -	<p>Aluminum sheeting min. 0.05-in. thick, smooth or horizontal rib semitrailer type; Inside surface of the skin correctly degreased and coated with primer or adhesive to insure foam insulation adhesion; Seamless, 1-piece roof sheet with adhesive bow fastening; Roof perimeter fastening, sealed to prevent moisture entering van body; Withstand exterior roof load, min. 660 lb./sq. ft. over any 2-sq. ft. area at any one time and min. 40 lb./sq. ft. snow load over the whole roof.</p>
(e) Interior Panel -	<p>Closed cell, rigid foam, such as polyurethane foam; Fill and bond space, without voids, between exterior and interior panels; Nominal thicknesses min. 4-in. roof, min. 3-in. sides and front, and min. 2.7-in. under floor; Insulation rated "Nonburning" per ASTM D 1692 or D 2863 having an equivalent oxygen index; Foam to adhere to van body surfaces with an adhesive force greater than the cohesive strength of the insulation; After foam-in-place, max. 5/8-in. of bow and warp of exterior and interior panels when measured with a min. 4-ft. long metal straight edge.</p> <p>Smooth, flat refrigerator type FRP panels; Panels having laminate of min. 18 oz. per sq. yd. material or woven roving (W.R.) or a combination of both; Front and sides min. 5/16-in. thick and min. 1/8-in thick FRP sheet on ceiling;</p>

MIL-B-13207D (ME)

TABLE II. Body specifications (Continued)

Feature	Requirements
(f) Floor -	<p>All panel joints and edges sealed to prevent entry of moisture into the insulation using silicone RTV sealant;</p> <p>Panels fastened with large head plastic drive rivets and TIR fasteners at corners;</p> <p>Front end and side wall post location indicators furnished on floor and ceiling to provide equipment installer with actual mount reference for operating equipment fasteners.</p> <p>Per TTMA RP No. 39 for forklift trucks having min. 12,000 lb. axle load;</p> <p>Crossmembers evenly spaced at max. 12-in. centers;</p> <p>Interior floor covered with flat floor covering per L-F-475, Type II, Grade A, installed on subfloor with waterproof adhesive per floor covering mfr;</p> <p>Color of interior floor covering to complement wall color in 3.20.</p>
(g) Windows --	<p>Unless otherwise specified (see 6.2), 5-ea. windows of fixed, double glazed type;</p> <p>Glazing per DOT FMVSS and ANSI Z26.1;</p> <p>Edged with flexible elastomer channels, providing for pane replacement;</p> <p>High altitude breather and desiccant material between double panes;</p> <p>Removable expanded metal guards to protect outside of windows;</p> <p>Interior molding of lightweight metal or elastomer around inner perimeter of each window between window and interior panels.</p>

MIL-B-13207D(ME)

TABLR II. Body specifications (Continued).

Feature	Requirements
(1) Size and Location -	<p>Large size, 3-ea., min. 24-in. wide by min. 18-in. high; Located 2-ea. on both sides at rear approx. 20% of van body length from the rear and 1-ea. on road side approx. 50% of van body length from rear; Small size, 2-ea., min. 18-in. square; Located 1-ea. in curbside door and 1-ea. in small rear personnel door; All windows at height above floor for personnel, per SAE J833, standing inside of van, to see outside.</p>
(2) Window Curtains -	<p>Unless otherwise specified (see 6.2), lightproof curtains at each window; Function to prevent leakage of lighting from inside under blackout (BO) conditions and prevent leakage of daylight from outside under photographic production conditions; Curtains of lightweight vinyl coated cloth per MIL-C-10799, Type I, Class 1, black color; Double hemmed around curtain perimeter having double stitching and sealed; Curtains sealed to wall and doors with hook and pile fastener tape per MIL-F-21840, Type II, min. 2-in. width size; Hook tape fastened to van body sides and doors with both waterproof adhesive and mechanical fasteners; Inside edge of tape clamped by window frame molding; Hook tape secured to withstand min. 3 times the specified shear strength of the tape;</p>

MIL-B-13207D (ME)

TABLE II. Body specifications (Continued).

Feature	Requirements
(h) Doors -	<p>File tape sewn around perimeter of blackout curtains to withstand min. 3-times the shear strength; All curtains interchangeable with all windows of the same size; Curtains rolled up and stowed in individual plastic tubes located at the rear of the van body, when not in use.</p> <p>Unless otherwise specified (see 6.2), 3 sets of van body doors, including a curbside personnel door, a curbside loading door, and double rear doors; Door hardware of noncorrosive marine container type; Air seal flexible gaskets of silicone elastomer type with abrasion protection and installation not subject to damage by personnel foot traffic; Personnel doors equipped with hold-open catches and door bumpers; Anti-drip rain protection over each personnel door.</p>
(1) Curbside Personnel Door-	<p>Size min. 30-in. wide by min. 69-in high; Door centered approx. 80% of the interior length from rear of van body; Door hung to open outward and hinged on forward exterior edge; Hinge of full height piano type having min. 1/4-in. stainless steel hinge pin; Roller-on-ramp latching mechanism featuring upper and lower securing; Inside and recessed or flushed outside door handles; Door lockable from outside by a padlock having a min. 3/8-in. dia. shackle.</p>

MIL-B-13207D(ME)

TABLE II. Body specifications (Continued).

Feature	Requirements
(2) Double, Rear End Doors -	<p>2-ea. full width of rear of van body;</p> <p>Doors of the 1/3 - 2/3 types having the smaller 1/3-door on the curbside for personnel and the 2/3 door on the roadside to serve as a wall;</p> <p>Door panels of either FRP plywood or plymetal - FRP plywood per US PS1 and APA Group 1, min. 3/4-in. thick and min. 24-oz. per sq. yd. fiberglass composite;</p> <p>Edges of plywood treated or dipped to repel moisture;</p> <p>Plymetal min. 1-in. thick, metal faced plywood composite laminate having min. 0.03-in. bonded exterior and interior aluminum sheeting;</p> <p>Larger 2/3 rear door furnished with reinforcement for securing operating equipment, withstand up to 500 lbs. of equipment;</p> <p>Rear doors of the recessed type hung on the corner posts by heavy stainless steel intermodal container hinges; min. 4-ea. hinges per door;</p> <p>Large roadside door secured closed with min. 2-ea. cam type upper and lower container latching assemblies;</p> <p>Small 1/3 curbside door latching mechanism interchangeable with curbside personnel door.</p>
(3) Door Curtains -	<p>2-ea. blackout (BO) door curtain systems furnished for rear and curbside personnel door;</p> <p>System function to prevent light leakage through doorways whenever personnel enter or exit through the doors;</p>

MIL-B-13207D (ME)

TABLE II. Body specifications (Continued).

Feature	Requirements
(4) Roll-up Rear Door Option -	<p>Blackout light switches of the automatic type;</p> <p>Each BO curtain shall encompass doorway width and extend from floor to ceiling, compatible with an SAE J833, man arctic clothed;</p> <p>Curtains of lightweight vinyl-coated cloth per MIL-C-10799, Type I, Class 1, color black;</p> <p>Curtains hung from overhead hangers with rollers in ceiling mounted track;</p> <p>Chain weight sewn in bottom double wrap seam.</p> <p>When and as specified (see 6.2), van body equipped with full width, insulated semitrailer-type roll-up door in lieu of the double rear doors in (h) (2) and in other specified location(s);</p> <p>Doors weather sealed to restrict windblown rain and snow entering interior of van body;</p> <p>Door panels of foam-filled fiberglass or FRP plywood-foam sandwich same as container construction in (c) exterior panel;</p> <p>Interlocking panel joints with low profile hardened steel hinges spaced across door;</p> <p>Bottom panel equipped with metal reinforcing member and flexible plastic combined bumper and weather seal;</p> <p>Rollers of heavy-duty nylon or case hardened steel, with sealed-for-life ball bearings;</p>

MIL-B-13207D(ME)

TABLE II. Body specifications (Continued).

Feature	Requirements
(1) Boarding Ladders -	<p>Track of industry standard 2-in. size; Antifriction bearing mounted counterbalanced system protected from environment, provide ease of rolling door up to open; twin aircraft quality stainless steel roll-up cables, one cable on each side of the door; Tension adjustment tailored to door weight and height; Handgrips provided for opening and closing; Security door lock to clamp door to bottom door sill with interference fit insuring sealing; Lock prevent door vibration relative to sill and prevent lock loosening during transport; Lock equipped with inside and outside door handles and with provisions for exterior securing with a min. 3/8-in. shackle padlock; During tests, roll-up doors may be externally sealed air-tight for determination of air leakage and thermal transmission rates.</p> <p>Per DOT FMCSR, DOL OSHA, and SAE J185; 2-ea. aluminum vehicle boarding type, 1-ea. for rear personnel door and 1-ea. for curbside personnel door; Each ladder equipped with 1-removable handrail installed away from the door hinges and not interfering with the opening swing of the doors; Ladder-mounts of the semi-permanent type preventing ladder instability under heavy traffic; Both ladders and handrails stowed and secured on the front, rear, or underneath during vehicle-mounted road travel and relocated inside van body during transport as an unmounted ISO container.</p>

MIL-B-13207D (ME)

TABLE II. Body specifications (Continued).

Feature	Requirements
(j) Van Body Levels -	Min. 4-ea. vial bubble levels recessed on outside corners of van body; 1-ea. front and 1-ea. rear for leveling longitudinal axis; 1-ea. front and 1-ea. rear for leveling transverse axis; Visibility of levels to permit personnel operating the leveling jacks to accurately level the body for operation; Levels waterproof as installed and recess mounted to prevent damage.
(k) Accessories -	
(1) Interior Mounts -	When and as specified (see 6.2), furnish interior commercial load brace wall tracks vertically mounted; Industry standardized "Type E" provided, unless "Type F" are required; Each track spaced on 16-in. on-centers from the rear to the front and from floor to ceiling of side walls; Delete tracks at window and door openings; Each track secured to provide a mount for operating equipment weight load of min. 200-lb. having a center of force at 12-in. out from the walls and 24-in. below the ceilings.
(2) Pop-out Side Assemblies -	When and as specified (see 6.2), provide pop-out sides of the van body, expanding on both roadside and curbside; Min. size and floor load as specified; TTMA thermal and air leakage ratings applicable only to fixed side basic van

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TABLE II. Body specifications (Continued).

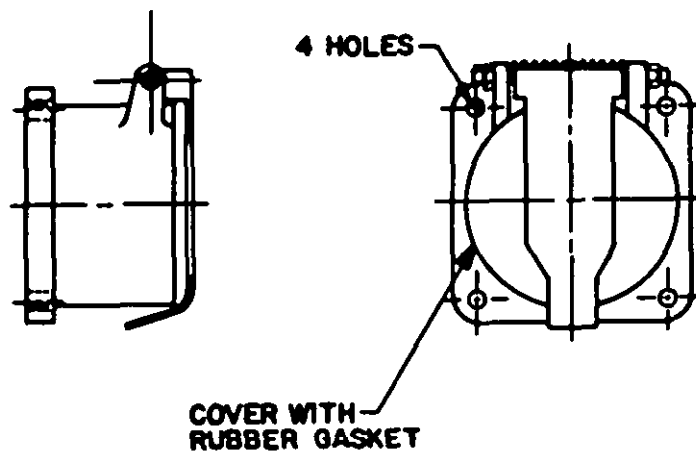
Feature	Requirements
(3) Operating Equipment -	<p>body prior to pop-out modification; Pop-out construction similar to specification USPS-F-779 and drawings MDL-200975; Pop-out of rigid roof and outer wall having twin, panel accordian fold sides and bottom hinged fold-down floor; floor panels level with fixed van body floor; During pop-out actuation, extending the rigid roof-wall member outward automatically unfolds forward and rearward side walls and, subsequently lowering of floor into place results in locking expanded pop-out into position.</p>
(1) Van Body Utility Electrical System -	<p>When and as specified (see 6.2), operating equipment, of the kind and type specified, installed by the van body contractor in operating condition; Operating equipment installation comply with ANSI A119.2.</p> <p>Electrical components per NEMA Standards, and UL listings; Installation per NEC ANSI C1; System 3-phase, 4-wire, 120-volt line-to-neutral and 208 volt line-to-line (120/208V) type; Provide utility power for lighting and operating equipment and machinery; When and as specified (see 6.2), electrical system components furnished unmounted.</p>

MIL-B-13207D (ME)

TABLE II. Body specifications (Continued).

Feature	Requirements
(1) Entrance Power Cable and Panel -	<p>Recessed panel assembly located on rear curbside of van body exterior; Panel consists of main power supply receptacle, exterior utility duplex outlet, telephone terminals, ground lug, and vehicle dome lamp 12-volt, negative ground receptacle per SAE J563;</p> <p>Equip dome lamp receptacle with captive chained, weatherproof, dummy plug;</p> <p>Unless otherwise specified (see 6.2), power receptacle and cables furnished as follows;</p> <p>Main entrance power supply receptacle of the 600-volt, min. 100-amp rating, 4-pole, polarized male type with waterproof cover shown in Figure 4;</p> <p>Furnish power cable per TACOM Drawing 1160163 (see Figure 5) except min. 50-ft. length required; Stow power cable on cable reel; Furnish short auxiliary power cable per TACOM Drawing 11601641 (see Figure 6) to serve as a connector to engine-generator sets;</p> <p>Cable of heavy-duty 4-conductor, oil and heat resistant type;</p> <p>Power cables and panel assembly rated weatherproof per NEMA Standards.</p>

MIL-B-13207D(ME)



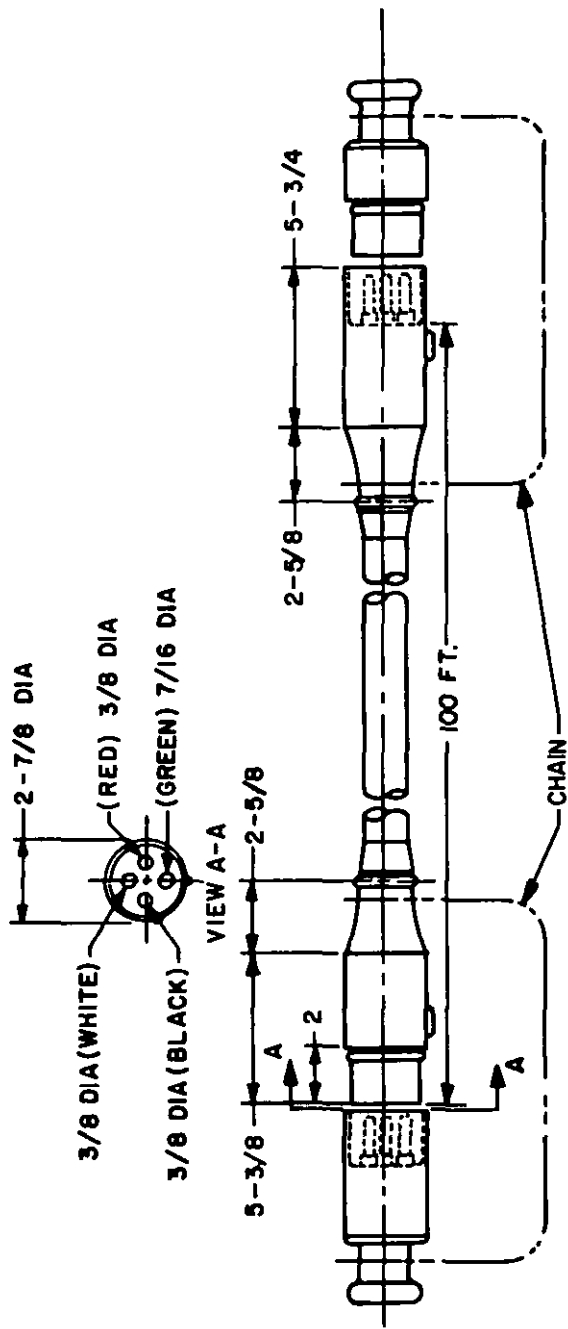
NOTES:

1. RATING: 600 VOLTS, 100 AMPERES.
2. CONNECTING AND DISCONNECTING FORCE: 40-100 POUNDS.
3. ALL ALUMINUM, OR CADMIUM OR ZINC PLATE ALL STEEL PARTS.

FIGURE 4. Connector cover, electrical.

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ONLY THE ITEM LISTED ON THIS DRAWING AND IDENTIFIED BY JOY MANUFACTURING CO. NEW PHILADELPHIA, OHIO PART NO. RC 1736-5 HAS BEEN TESTED AND APPROVED BY A.T.A.C. FOR USE IN THE ELECTRICAL SYSTEM.

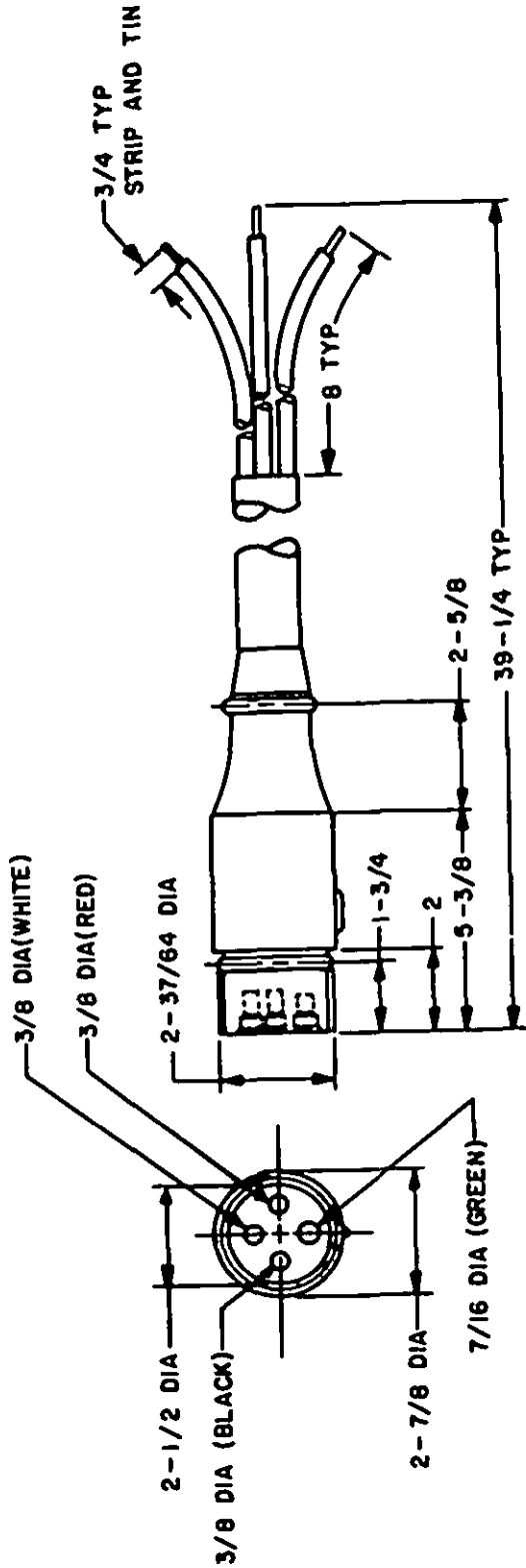
A SUBSTITUTE ITEM SHALL NOT BE USED WITHOUT PRIOR TESTING AND APPROVAL BY THE R & E DIRECTORATE ENG.DIV.A.T.A.C. RATING 100 AMP, 600 VOLTS ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE SPECIFIED

FURNISHED BY THE WHITE MOTOR COMPANY
CONTRACT NO. DA 20-113-AMC-05690 (T)

REFERENCE: SOURCE CONTROL DRAWING ORDNANCE PART NO. 11601643

FIGURE 5. Cable assembly.

X-3217



ONLY THE ITEM LISTED ON THIS DRAWING AND IDENTIFIED BY JOY MFG. CO. NEW PHILADELPHIA, OHIO PART NO X8728A HAS BEEN TESTED AND APPROVED BY A.T.A.C. FOR USE IN THE ELECTRICAL SYSTEM. A SUBSTITUTE ITEM SHALL NOT BE USED WITHOUT PRIOR TESTING AND APPROVAL BY THE R & E DIRECTORATE, ENG. DIV. A.T.A.C. RATING 100 AMP, 600 VOLTS

FINISH NOTE: (CABLE ENDS)
HOT TIN DIP IN ACCORDANCE WITH MIL-T-10727, TYPE II

ALL DIMENSIONS ARE IN INCHES

REFERENCE: SOURCE CONTROL DRAWING

ORDNANCE PART NO. 11601641

MIL-B-13207D(MR)

FURNISHED BY THE WHITE MOTOR COMPANY
CONTRACT NO DA-20-113-AMC-05690 (T)

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FIGURE 6. Cable assembly auxiliary.

MIL-B-13207D(ME)

TABLE II. Body specifications (Continued).

Feature	Requirements
(2) Distribution Box -	<p>Fully enclosed NEMA type mounted on elastomer vibration mounts preventing wire and component displacement and fatigue during transport;</p> <p>Power supply switch per NEMA Std. KSl, Type 1;</p> <p>Panel boards per W-P-115 of dead front safety type;</p> <p>Circuit breakers per W-C-375 and of the ground fault circuit interrupter (GFI) type;</p> <p>Box located on rear curbside interior, near entrance power panel on exterior;</p> <p>Panelboard and circuit breakers per Tabulation A as follows:</p>

Tabulation A. Panelboard layout.

Description	Circuit Breaker	
	Min. Amp Rating	Min. Volt Rating
Main Power	100	240
Air Conditioner, Curbside, Each	30	240
Air Conditioner, Roadside, Each	30	240
Ceiling Lights	20	120
Front Wall Outlets	30	240
Front Accessory Outlets	20	120
Curbside Outlets	20	120
Roadside Outlets	20	120
Spare	50	240
Spare	30	240
Spare	20	120

MIL-B-13207D (ME)

TABLE II. Body specifications (Continued).

Feature	Requirements
(3) Wiring -	Wire per MIL-W-5086, type as applicable; All wiring surface mounted within van body interior, however, wiring restricted to being parallel along walls and ceiling or at 90 degrees near the corners; wire and terminals coded to facilitate tracing circuits; Wiring diagram installed at distribution box.
(4) Receptacles -	Receptacles, switches, and outlets marked with voltage and, if applicable, intended use; 240-volt type per W-C-596, Style M2; 120-volt type per ANSI C73.11, UL approved 3-wire; Receptacle plates of nonconductive types; Interior receptacle boxes partially recessed to protrude not more than 2 in. from the walls; Locations per Tabulation B:

Tabulation B. Receptacles.

<u>Type</u>	<u>Wall</u>	<u>Approx. Receptacle Dimensions</u>	
		<u>Vertical</u>	<u>Horizontal</u>
2 ea. Single 240V	Front	Install Adjacent to each Air Conditioner.	
2 ea. Duplex	Front	26 in. below ceiling	4 in. from Curb & Road Corners
2 ea. Duplex	Curb & Road Sides	28 in. below ceiling	80-90% of length from rear
2 ea. Duplex	Curb & Road Sides	28 in. below ceiling	60% of length from rear
2 ea. Duplex	Curb & Road Sides	28 in. below ceiling	25% of length from rear
1 ea. Duplex, Waterproof, GFI Type	Curb Side	Install on Exterior within Power Panel.	

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TABLE II. Body specifications (Continued).

Feature	Requirements
(5) Overhead Lighting Fixtures -	<p>3-ea. overhead lighting fixtures for each 10-foot of linear body length; Commercial fluorescent type with 110-volt ballasts, four rapid start fluorescent, 48-in., 40-watt bulbs of the deluxe warm type, and one piece or egg-crate defuser of the vibration-proof, noncorrosive, snap-out type; Defusers equipped with resilient elastomer spacers preventing rattling during transport; Fixture size, max. 51-in. long, max. 18-in. wide, and max. 5-in. below-ceiling depth; Individual three-way fixture switches providing for OFF, 2-bulb, or 4-bulb operation; Wall-mounted master light switch adjacent to, and rearward of, curb-side personnel door; Wall light switch plate of non-conductive type; Lighting fixtures withstand transport without bulb displacement or damage affecting functional operation; Fluorescent bulbs equipped with safety sleeves per OSHA for hazardous site application; Each lamp equipped with inductive capacitor filter for suppression of radio interference.</p>
(6) System Grounding -	<p>All electrical equipment grounded per DOL OSHA; Frame and ground busses grounded to power panel's ground terminal with min. 6 AWG wire;</p>

MIL-B-13207D(ME)

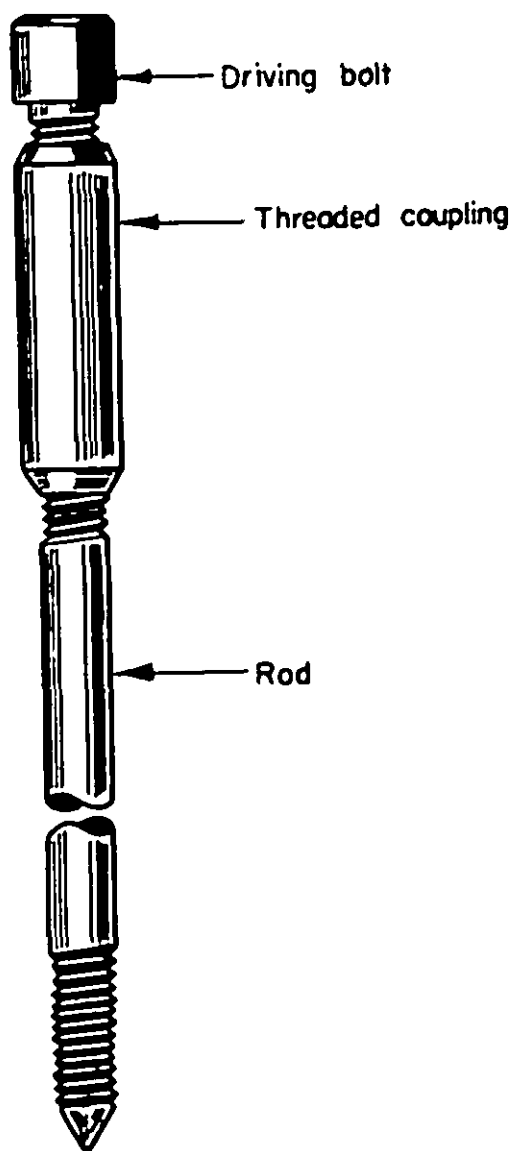


FIGURE 7. Rod assembly , ground.

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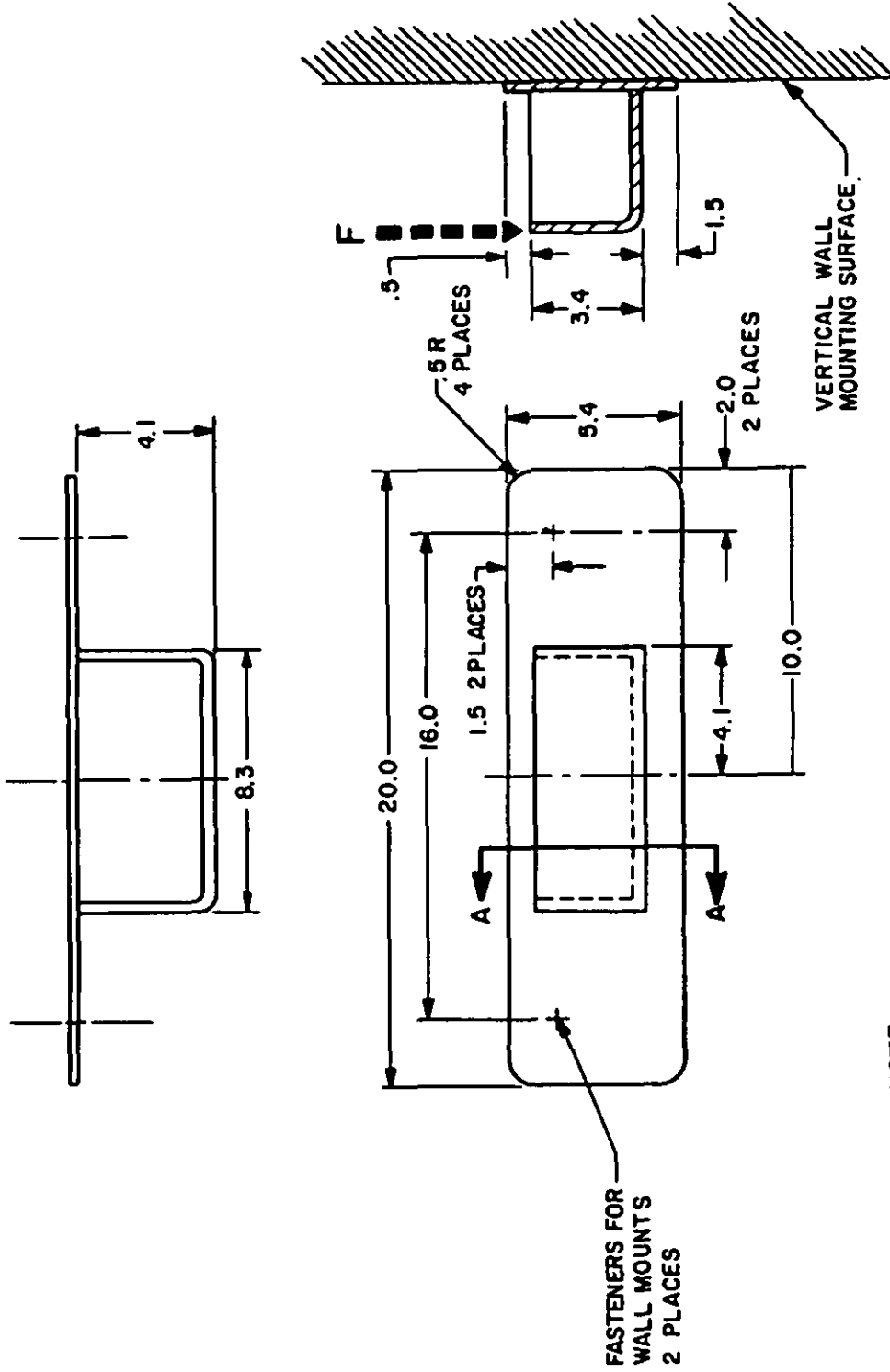
MIL-B-13207D(ME)

TABLE II. Body specifications (Continued).

Feature	Requirements
(m) Telephone Jack System -	<p>Flexible multi-strand min. 6 AWG wire, min. 3-ft. long, having tinned and solder coated ends, furnished between terminal and outside grounding rod; High-strength alloy steel ground rod, screw thread, min. 3-piece-rod type per Figure 7 and NEC C1; Rod equipped with ground clamp; Stowage provisions, within body, provided for transport; NEC or OSHA instructions on metal decal installed near distribution panel, warning user personnel to ground system before connecting electrical power.</p>
(1) Wiring -	<p>Suitable for both 2-wire and 3-wire systems; Nonmetallic boxes with min. 1/2-in. dia. interconnecting plastic tubing to accept wire; Outer box in power panel and inner box adjacent to telephone holder near curbside personnel door; outer box cover of spring loaded waterproof type; inner box cover of inside facia plate type; Electric wire per MIL-W-5086 coded to binding posts; Install 6-ea. binding posts as furnished by the Government (see 3.17), 3-ea. in each box.</p>

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SECTION A-A

(REF. D-10574 -47-2)

NOTE:
ALL DIMENSIONS ARE IN INCHES

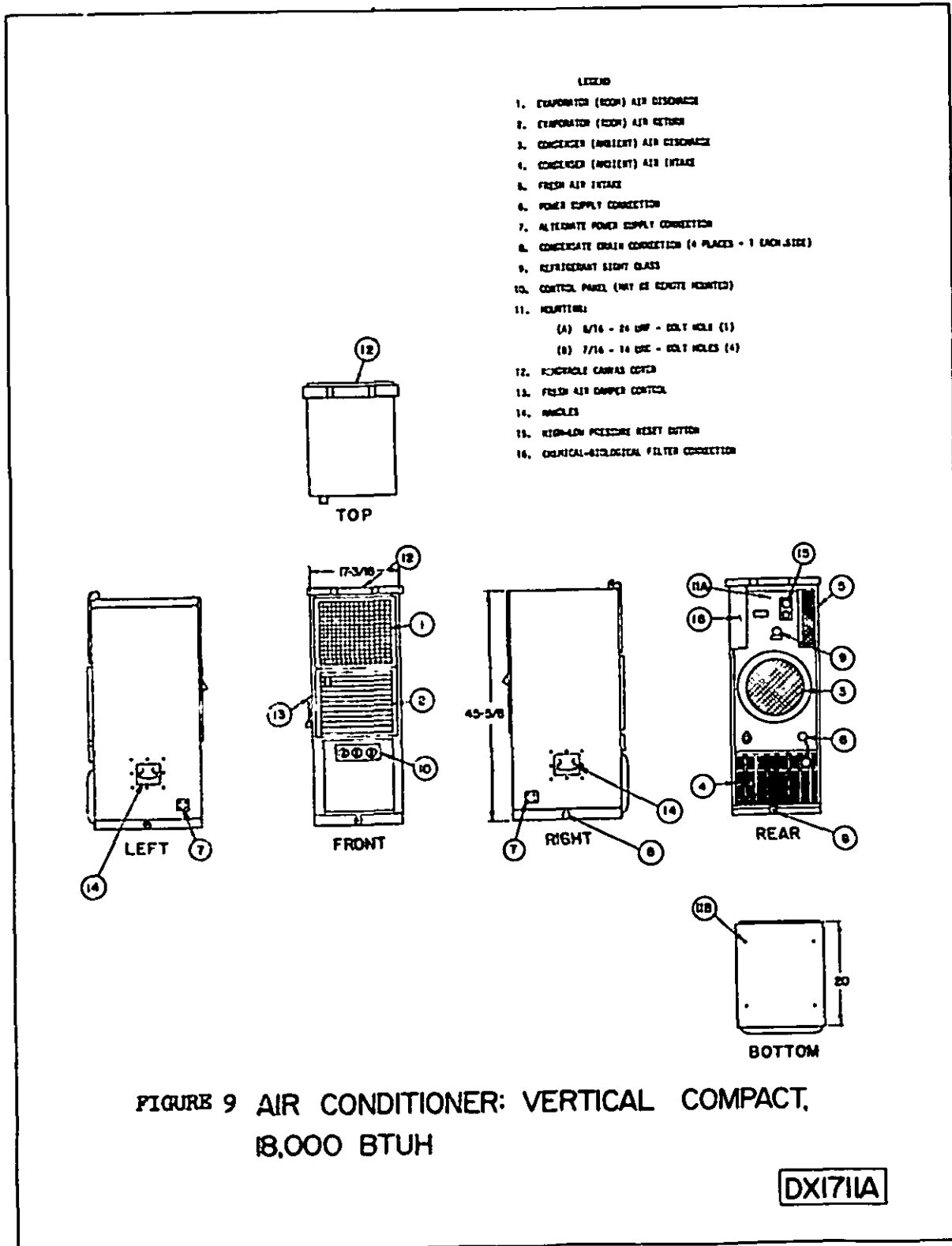
FIGURE 8. Field telephone holder.

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TABLE II. Body specifications (Continued).

Feature	Requirements
(2) Interior Telephone Holder -	<p>Box type with wall mount suitable for Army type field telephone; Holder box fabricated of light weight aluminum or fiberglass reinforced, high impact plastic; Size per Figure 8; When mounted on van body wall, holder box withstand min. 150 lb. downward force, "F", imposed on top of 8.3-in. long outer edge, without permanent deformation.</p>
(n) Vehicle Powered Lighting -	<p>Provide 2-ea. dome lamps with switches in van body interior, one near each personnel door; Dome lamps same as rear vehicular combination lamps except for single filament and clear or frosted lens; Dome lamps flush mounted in standard 4-1/2-in. holes per TTMA RP No. 14; Double terminal connector 12 volt hot and ground in power panel; Van body connector mates with connector and 2-wire harness in 3.11, Table IV, k, for semitrailer and in 3.12, Table V, i, for truck; Negative ground polarity for all components.</p>
(o) Air conditioning and Heating System -	<p>System includes the following: - 2 or 4 each, per specification sheet, combined air conditioner and heater units, dependent on length of van body; Units per Figure 9 and Figure 10; GFE items, contractor installed. - Humidity control unit. - Air filter unit. - Air distribution system. - Exhaust fan system.</p>

MIL-B-13207D(ME)



MIL-B-13207D(ME)

AIR CONDITIONER: VERTICAL COMPACT,
18,000 BTUH

TYPE I - SIZE C

Electrical Requirements and General Application Characteristics

Class 1

Nomenclature	Air conditioner, floor mounted, air cooled, monochlorodifluoromethane refrigerant, electric motor driven, 4 hp, AC, 208 V, 3 phase, 50/60 Hz, 18,000 BTUH cooling and 12,000 BTUH heating.
National Stock No.	4120-00-959-4453
Power source	208 V, 3 phase, 50/60 Hz.
Cooling capacity	18,000 BTUH
Heating capacity	12,000 BTUH
Power consumption	6.0(KW)
Type power connector	MS-3106R-22-22S (Reference)
Model	CE20VAL6-208
Evaporator Air Flow	585 scfm at 0" H ₂ O
Weight	260 lbs
Operating Temp.	
Range:	
Cooling	50° F. to 120° F.
Heating	-50° F. to 80° F.
Control	Units are equipped with a single evaporator and condenser motor, with evaporator fan on one end of shaft and condenser fan on the other end. The 2 speed fan motor is actuated by a toggle switch or automatic pressure actuated switch.
Refrigerant	Monochlorodifluoromethane (R-22)
Compressor	Hermetically sealed
Military Spec.	MIL-A-52767 (Reference)
Drawing (ME)	TA13215E9850 (Reference)
Type	Vertical compact, lightweight self contained.
Condenser Fan	Propeller 2 speed
Evaporator Fan	Centrifugal 2 speed
Wires	4
Design	Supplies cooled or heated air to vans or shelters. Floor or wall mounted.
Evaporator-condenser fan motor	1.42/.18 hp, 3450/1750 RPM

Figure 10. Air conditioner features.

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MIL-B-13207D(ME)

TABLE II. Body specifications (Continued).

Feature	Requirements
(1) Performance -	Function to provide controlled Atmosphere within the van body under all operating conditions and environments specified herein; Prevent stratification of warm and cool air; Prevent stagnant, dead air spots; Eliminate drafts and noise; max. 15° F interior temperature differential within van body for both heating and for cooling.
(2) Air Conditioner and Heating Units -	Unless otherwise specified (see 6.2), multiple Government-furnished units (see 3.17) required in the ISO size van body specification sheets and per Figures 9 and 10; Installed by contractor in the front of the van body per Figure 11; For each unit, at least 6-ea. vibration and shock isolation mounts and acoustical noise reduction sleeves between air outlets of the unit and inlets of the ductwork; Each unit provided with noncorrosive condensate drain pan; plastic tubing furnished to route condensate to ground and not over van body or vehicle chassis;

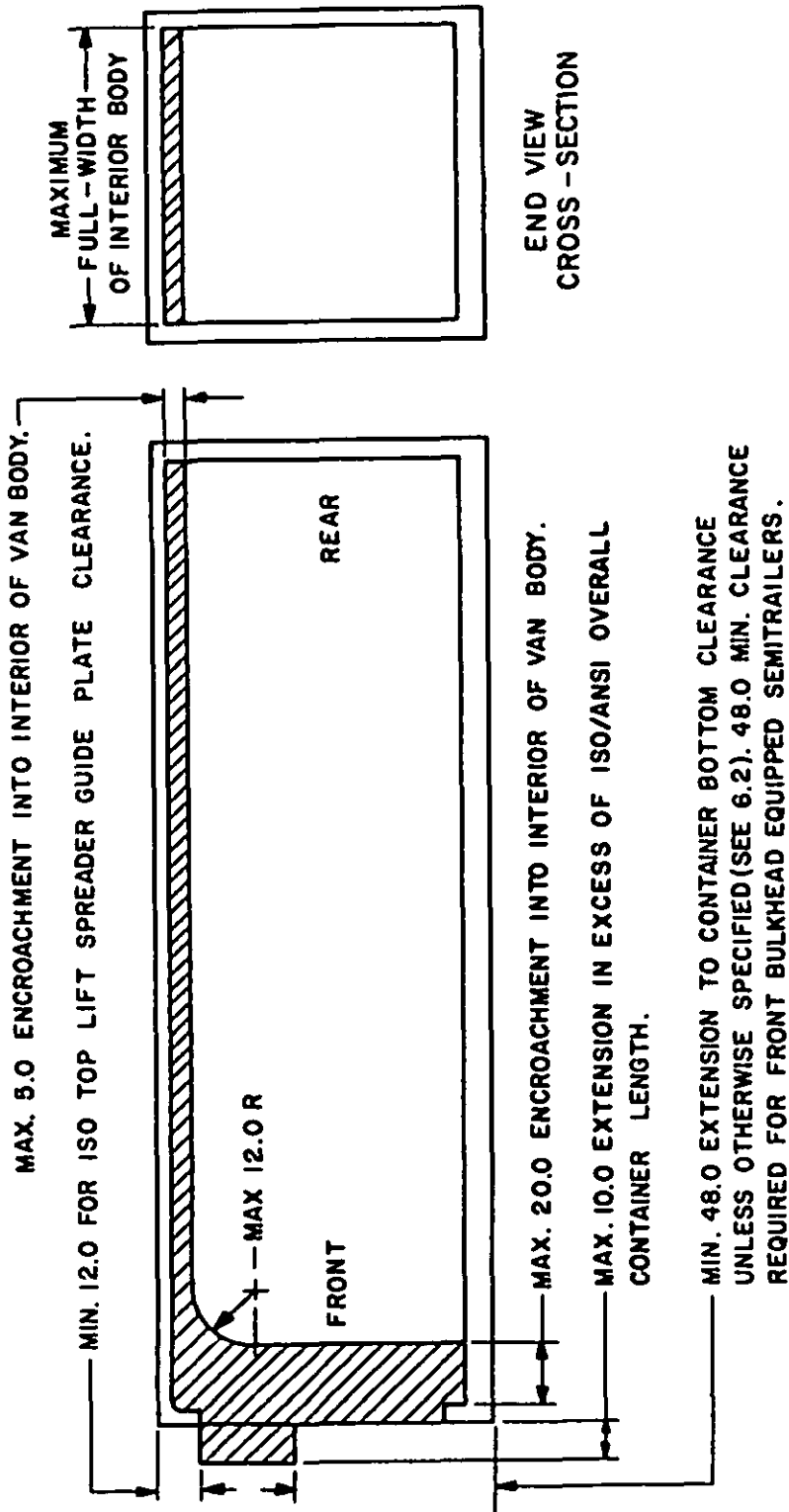
MIL-B-13207D (ME)

TABLE II. Body specifications (Continued).

Feature	Requirement
(3) Ductwork -	<p>All unit controls accessible from within the van body; Control functions labeled; Provisions preventing condenser air exhaust from contaminating outside fresh air intake; Fresh air intakes insect-screened and weatherproof; Unless otherwise specified (see 6.2), van body front end unit permissible extension (see Figure 11) required to be flush with corner posts to vertically clear min. 48-in height DOT FMCSR bulkhead-type semitrailers.</p> <p>Conditioned air distribution system furnished; Total static pressure of conditioned air max. 0.35-in. H₂O at duct inlets at maximum capacity air flow; Return air duct system total pressure drop not to exceed the allowable negative suction pressure of the air conditioner and heater unit manufacturer;</p>

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NOTE:

ALL DIMENSIONS ARE IN INCHES

FIGURE 11. ISO size van body environment control system location limits.

MIL-B-13207D (ME)

TABLE II. Body specifications (Continued).

Feature	Requirements
(4) Humidity Control System -	<p>Except for max. 12-in. radius curves, the ducting system encroachment into the interior of the van body limited per Figure 11;</p> <p>Interior air grills and registers, manual type providing 4-way air direction adjustment;</p> <p>With multiple units, provide adjustable dampers to select single or multiple unit operation without back-feed of air;</p> <p>Provision of use of 100% fresh air source, 100% recirculated air source, and any proportion of each, as selected by operator.</p> <p>Unless otherwise specified (see 6.2), combined humidifier-dehumidifier furnished;</p> <p>Per AHAM Standard DH-1 having UL listing;</p> <p>Provide the following, for each 10 feet of van body length:</p> <ul style="list-style-type: none"> - Humidifier - Add min. 6-gallons of water vapor per day at 75° F and 30% RH. - Dehumidifier - Remove min. 9-pints of liquid water per day at 80° F and 60% RH. <p>Portable type units provided with nonmarring straps for securing during transport.</p>
(5) Air Filter -	<p>When specified (see 6.2), air filter furnished preventing recirculation of dust, smoke, oil, and similar airborne impurities;</p>

MIL-B-13207D(ME)

TABLE II. Body specifications (Continued).

Feature	Requirements
(6) Exhaust Fan -	<p>Mechanical prefilter section with reusable elements; Electrostatic ionizing filter section consisting of high voltage power pack and particle collector plates; System size, min. 125% of commercial system size, based on CFM airflow.</p> <p>When specified (see 6.2), an exhaust fan system furnished to exhaust air outside of the van body; Exterior side wall type equipped with hinged door or louvers having nonbinding linkage, TPE bearings, and weather sealed louver edges; min. 250 CFM exhaust fan rating; Max. 65 dBA sound level at 3-ft. distance.</p>
(p) Lifting and Tiedown Devices -	<p>Furnish 4 ea. for coupling to ISO corner fittings; Provide quick, safe coupler for handling van bodies by cranes and for tiedown to lowbed trailers; ISO bayonet engagement in locked position of manual twist lock type having spring loaded detent or a positive slip lock sleeve; crane end provided with a pear loop having min. 3-in. inside clearance diameter; Sum of working load ratings of 4-devices equals or exceeds ISO rated weight of ISO container size.</p>

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3.11 ISO container semitrailer and dolly. When specified (see 3.1 and 6.2), a commercial container semitrailer or container full trailer (dolly converter and semitrailer) shall be furnished and included as a component of each ISO size van body. The container semitrailer shall be compatible with the intended ISO van body and with any ISO/ANSI freight container of the same size. The container semitrailer shall consist of a semitrailer frame with ISO twist lock for the container and coupling and running gear compatible with the payload. The dolly converter and semitrailer shall each comply with DOT 49CFR567 and 568 certified ratings for the GVWR's and with TTMA RP No. 39. The weight distribution shall be such that no axle is loaded in excess of 20,000 pounds or the GAWR, whichever is the lower value. The semitrailer and dolly shall be as specified herein and in the ISO size van body specification sheets.

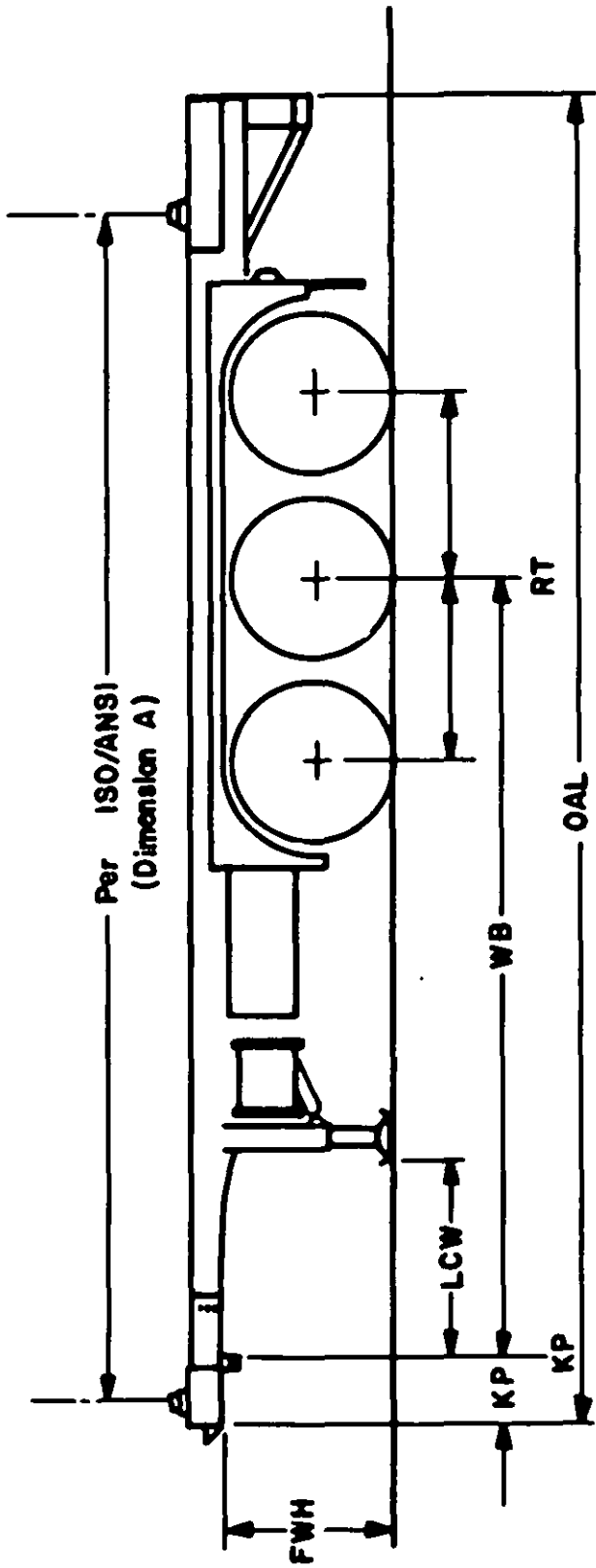
3.11.1 Weights and dimensions. The semitrailer weights and dimensions (see Figure 12) shall be in accordance with Table III.

TABLE III. Semitrailer weights and dimensions.

Characteristic	Requirement
(a) Payload Capacity -	Per ISO size van specification sheet; Min. ISO/ANSI loaded container max. weight per ISO No. 668.
(b) Semitrailer GVWR -	Per DOT 49CFR567 and TTMA RP No. 39; Payload capacity plus semitrailer curb weight less than GVWR.
(c) Front coupler Weight Limit -	Max. 48% of GVWR.
(d) Rear Running Gear Weight Limit -	Max. 68% of GVWR.
(e) Overall Length (OAL) -	Per ISO size van specification sheet.
(f) Overall Width (OAW) -	Max. 98-in. (For optional width van bodies, 102 in. when specified in 3.10.1 Table I; Note 2 and 6.2).
(g) SAE J701 Interchange Coupling Dimensions:	
(1) Support Clearance Radius (LCW) -	Min. 90-in.
(2) Swing Radius (SR) -	Max. 58-in.
(3) Kingpin Setting (KP) -	Range 24-in. to 36-in.
(4) Level Coupler Plate Height (FWH) -	Nominal 52-in.

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LEGEND

- FWH - COUPLER PLATE HEIGHT
- KP - KINGPIN SETTING
- LCW - SUPPORT CLEARANCE RADIUS
- WB - WHEELBASE
- OAL - OVERALL LENGTH
- RT - REAR TRIDEM

FIGURE 12. ISO container semitrailer.

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3.11.2 Semitrailer specifications. The semitrailer specifications shall be in accordance with Table IV.

TABLE IV. Semitrailer specifications.

Feature	Requirements
(a) Legal Requirements -	(1) DOT Certification, 49CFR567 and 568. (2) DOT FMVSS, 49CFR571. (3) DOT FMCSR, 49CFR390 & 393. (4) California Vehicle Code.
(b) Industry Standardization -	(1) Society of Automotive Engineers (SAE), including SAE Handbook. (2) Truck Trailer Mfgs Association (TTMA), including TTMA RP's and TB's. (3) Regular Common Carrier Conference (RCCC), including RCCC RP Manual. (4) Tire & Rim Association (TRA), including TRA Yearbook. (5) Friction Materials Standards Institute (FMSI), including FMS Automotive Data Book. (6) Industrial Fasteners Institute (IFI), including IFI Standards.
(c) Semitrailer Chassis -	Provide strength, flexibility, and rigidity to withstand dynamic, over-the-road and off-road transport as well as equipment and machinery performance when parked at operation sites.
(1) Frame -	Freight container skeleton type w/ ISO bolsters; All welded construction; Steel of AISI HSLA type having min. 50,000 psi guaranteed yield point (YP); Max. stress 50% of YP in any member; continuous longitudinal main frame members.

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TABLE IV. Semitrailer specifications (Continued).

<u>Feature</u>	<u>Requirements</u>
(2) Bolsters -	Front and rear heavy, box beam bolsters with ISO bayonet twist locks at each end; Center of each twist lock dimensionally per Tabulation A, below (insuring compatibility with container corners per ISO No. 668, ISO No. 1496 and ANSI MH5) including diagonals, and all in same plane; Front twist lock engage either bottom or front face of container; Front bolster load restraint per DOT FMCSR and TMA RP No. 47.

TABULATION A

TWISTLOCK CONTAINER BOLSTER INTERFACE DIMENSIONS

<u>Size of Van Body & ISO Designation.</u>	<u>Longitudinal Dim. "A" Limits, in.</u>	<u>Transverse Dim. "B" Limits, in.</u>	<u>Diagonal Difference Max. Dim "K", in.</u>
MIL-B-13207/1, 1D, 3000 mm (10 ft.)	109.36 \pm .25	89.00 \pm 0/-.13	.25
MIL-B-13207/2, 1C, 6000 mm (20 ft.)	230.44 \pm .25	89.00 \pm 0/-.13	.38
MIL-B-13207/3 1B, 9000 mm (30 ft.)	351.13 \pm .25	89.00 \pm 0/-.13	.50
MIL-B-13207/4, 1A, 1200 mm (40 ft.)	471.88 \pm .25	89.00 \pm 0/-.13	.63

NOTE: Ref. ANSI MH5, Chassis Subcommittee,
Document SK 1001, et al.

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TABLE IV. Semitrailer specifications (Continued).

Feature	Requirements
(3) Upper Coupler Assembly -	Per DOT FMCSR 393.70, TTMA RP No. 6 and No. 19, TOFC rated; Kingpin per SAE J700, 2-in. dia., heat treated, alloy steel type; Front coupling ramp, min. 2-in. vertical height split pipe or beveled plate and gussets types; Coupler plate AISI HSLA steel, same as frame; Size min. 88-in. wide at least on underside of bolster and completely cover 36-in. dia, 5th wheel; Coupler plate min. 1/4-in. thick; Plate and kingpin reinforcement of egg-crate type; External SAE J534 lube fittings with lines to lubricate both road and curb sides of plate, when coupled; When specified (see 6.2), heavy duty kingpin per SAE J848, 3.5-in. dia., heat treated, alloy steel type.
(d) Intervehicular Connections -	Front airbrake and electrical connections per RCCC RP-107; Rear connections per SAE J849.
(e) Front Supports (Landing Gear) -	Per TTMA RP No. 4; Twin vertical lift, telescopic, nonrotating type with two speed gearbox and folding handcrank with holder; Leg travel, min. 17-in. providing upper coupler-to-ground at kingpin of at least 46-in. through 58-in; Support legs full skirt type; Both fore and aft longitudinal bracing and transverse bracing; Legs equipped with equalizing mud shoes having a min. 140-sq. in. area for each shoe;

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TABLE IV. Semitrailer specifications (Continued).

Feature	Requirements
(f) Suspension System -	<p>Edges turned up; Support withstand TOFC operation and loaded free-fall drop of at least 4-in. height without permanent deformation; Gearboxes filled with reopectate silicone base grease, intended for cold weather operations per RCCC Advisory AV 7-5.</p> <p>Tandem (2-axle) or Tridem (3-axle) per applicable ISO size van body specification sheet; Air-spring type intended for on-off road use; withstand both dynamic (road travel) and static (equipment operation) imposed loads and vibration; min. 8-in. travel range from compression to rebound each axle; Cushioning bumper stops; Anti-srag components linking road-side and curbside; Heavy duty shock absorbers dampening ride; Suspension installation in correct alinement with kingpin and semi-trailer centerline per both suspension and axle mfr. recommendations; Air spring suspension of trailing member type, having piston or multiple</p>

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TABLE IV. Semitrailer specifications (Continued).

Feature	Requirements
(g) Axles -	<p>bellows per SAE J551, internal bumpers; Air pressure safety regulator valve, air controls, and air-tight plumbing; Ride frequency max. 130-CPM at center of bed; Height control valves, closed center time delay type protected from road splash, debris, and obstacle damage; Time delay limits min. 3-sec. to max. 8-sec; Guarded driver over-ride air control on roadside front for selection of (1) maximum suspension height, (2) normal automatic height, and (3) depleted air height; plumbing of flexible hose and reusable swivel fittings, same as for air braking system.</p> <p>2-ea. or 3-ea. per applicable specification sheet; Per DOT FMVSS and TTMA RP No. 39, GAWR min. 23,000-lb. hub rating; Min. 23,000-lb. brake rating and min. 25,000-lb. beam rating for each axle; Hardened and ground alloy steel spindles; Standardized tapered roller bearings with cups, bearings, and cones in matched sets, all from the same bearing mfg; Lube oil seals per TTMA RP No. 43 with visual cap windows; Axle hubs per SAE J694, 10 stud, 11-1/4-in. BC, with out-board mounted brake drums.</p>

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TABLE IV. Semitrailer specifications (Continued).

Feature	Requirements
(1) Hubodometer -	<p>1-ea, driveless, tamperproof, self-lubricating type for converting wheel revolutions into accurate mileage readings; Visual recording counter having mileage numbers in the upright position; Min. 7-digit type recording a min. 999,999.9-mi.; Corrosion-resistant housing sealed against moisture, oil, grease, dust, and climatic conditions; Hubodometer located on rear most curbside axle hub.</p>
(h) Tires and Wheels -	<p>All components per TRA Yearbook and DOT FMVSS; Single, tire and heavy duty disc wheel assemblies; Rim and wheel disc fabricated by same mfr or as recommended and approved by rim mfr; Wheels with a standard disc offset (dish).</p>
(1) Tires -	<p>Widebase singles, tubeless type, min. size 18-22.5, min. LRJ (18 PR) having road lug tread design; Cold inflation matched to loading per TRA, Max. 90 psi; Metal valve caps w/elastomer seals.</p>
(2) Balancing -	<p>Tires, wheel, hub, and drum or disc, all inherently inbalance and not beyond industry tolerances, to prevent wheel tramp, drumming, or excessive tire wear.</p>

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TABLE IV. Semitrailer specifications (Continued).

Feature	Requirements
(3) Spare Tire -	1 ea. inflated spare tire and wheel assembly, furnished with each vehicle.
(1) Rear Components -	<p>Fenders per SAE J682 and J683; Lightweight types of aluminum or fiberglass reinforced plastic (FRP) material; Outer edges rolled to reduce side road splash and preclude cracking; Bracing to frame to support a min. 200-lb. load on any 1-sq. ft. area at any one time; Splash guards per TTMA RP No. 41 and SAE J683; Anti-sail type of cold weather type reinforced plastic, polyester, or other elastomer having a min. 3000-psi ultimate strength; Guards mounted to trailer brackets by metal clamping straps, fastened with hexbolts and nuts through TTMA/RCCC standard holes; Rear tow hook per SAE J849, reinforced to frame; Rear bumper per DOT FMCSR and TTMA RP No. 10; Horizontal dock bumper, min. 8-in. height, having 4-ea. rubber blocks on bumper face; 2-position, retractable, hinged lower bumper to provide clearance for travel over off-road terrain.</p>
(j) Brake System -	<p>Per DOT FMVSS, DOT FMCSR, and California Vehicle Code; Straight air service and emergency-parking system; withstand high speed, off-road, and mountainous travel and creek bed immersion usage; Provide priority to brake system over any auxiliary air system use.</p>

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TABLE IV. Semitrailer specifications (Continued)

Feature	Requirements
(1) Gladhands -	Per SAE J318 color coded yellow for control (service) on curbside, and red for supply (emergency) on roadside; ID tags and spring loaded automatic gladhand dust covers; Locations 2-ea front per RCCC RP-703 and 2-ea. rear per SAE J849.
(2) Relay Valves -	High speed, anti-lock type; Waterproof components.
(3) Air Reservoirs -	Min. 3-ea. per DOT and SAE J10 and J1070, 1-ea. Ser., 1-ea. Parking Release, and 1-ea. Air Suspension; Sized per DOT and component mfgs; Automatic drain valves on each reservoir; No component lower than bottom of frame rails.
(4) 121 Anti-lock System -	Per DOT and RCCC RP's providing axle-by-axle or brake-by-brake protection; Hermetically sealed and water-immersion-proof electrical components; Manual reset circuit breakers providing system protection; Fuses unacceptable; min. 80% of anti-lock system's electrical cable lengths covered or encased by grounded metal (including frame members) or system filtered to prevent external radio (RFI) and electromagnetic interference (EMI); TTMA RP No. 42 indicators located near each axle; Indicators of preferred armored lamp types, with bulb and red lens, per RCCC RP-108/6;

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TABLE IV. Semitrailer specifications (Continued).

Feature	Requirements
(5) Foundation Brakes -	<p>Provide each lamp with a quick disconnect wire-to-wire terminals; Axle tube holes sealed waterproof by grommets and silicone RTV sealant around sensor wires.</p> <p>Disc type or wedge or S-cam type with removable dust shields; Components protected from damage, located above the bottom of the brake disc or brake drum; Discs, wedges, cams and roller pins, as a minimum, hard chrome plated and silicone high temp compound on bearing surfaces to prevent corrosion malfunction.</p>
(6) Brake Actuators -	<p>Heavy duty spring type having environmental protective covers, boots, and seals; Elastomer coated main springs; Self-adjustors for each wheel, providing correct compensation for lining wear without lock-up or unbalance; Manual means to adjust in case of malfunction.</p>
(7) Plumbing -	<p>All hose type per RCCC RP-305 having stainless steel, wire reinforcement and reusable swivel fittings permitting hose replacement from bulk hose supply; Routing within protection of framing members; Elastomer cushioned clamps and grommets or thru-frame connectors to secure and support hose; Min. 3-in. of slack at relay valves and identify hose function adjacent to each fitting with weatherproof means.</p>

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TABLE IV. Semitrailer specifications (Continued).

Feature	Requirements
(k) Vehicle Electrical System -	Per DOT, California Code, SAE Handbook's Electrical Equipment and Lighting Section; TMA RP No. 9 and RP No. 14, and RCCC RP Manual; Heavy-duty waterproof system providing protection from physical damage, shock, vibration and environment; System 12-volt potential with negative ground per SAE J538.
(1) Front Receptacle -	Per RCCC RP-703 and similar to TMA RP No. 6; Receptacle per TMA RP No. 40/RCCC RP-107 with elastomer, truck-tractor plug support bracket; Waterproof connection box with nut and stud terminals; SAE J553 circuit breakers protecting all live circuits, no fuses; If used, receptacle-to-remote-box cable per SAE J1067, having min. 400 strand ground wire.
(2) Rear Receptacle -	Same as front receptacle and include dolly converter plug support bracket; Location per SAE J849.
(3) Wiring -	Per SAE J163 and J555 and RCCC RP Manual; Wire identification code per SAE J560 or, optionally, SAE J821; Multiple circuits combined into harnesses; Wiring supported at max. 36-in. spacing with elastomer ties and securing mounts to prevent whipping, chafing, and mechanical or fatigue damage;

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TABLE IV. Semitrailer specifications (Continued).

Feature	Requirements
(4) Marker Lamps -	<p>Interior of mechanical splicing devices waterproofed with RTV silicone sealant; RCCC RP-110 wire with RCCC RP-112 terminals; Main junction blocks of nut and stud type having an electrical varnish coating after assembly; wire-to-wire terminals secured to vehicle; Provide 12-volt dome lamp receptacle per SAE J563 on inner side of rear curbside bolster and include captive chained, weatherproof dummy plugs; Furnish harness, with twin SAE J563 plugs, min. 4 ft. long; Provide voltage and disconnect warning decals.</p> <p>Per RCCC RP-108/1 or RP-108/2, flush or low profile preferred types, waterproof and shock resistant; Locations per RCCC RP-702 and TTMA RP No. 9, including reflectors; Reflectors secured to vehicle with metal fastener(s).</p>
(5) Rear Combination Lamps -	<p>Per TTMA RP No. 14 and SAE J759, SAE-IST, flush-mounted elastomer housing w/bulb and snap-on or elastomer gasket lens or sealed unit w/ elastomer ring; Round 4 in. dia. size installed in TTMA standard 4-1/2-in. hole; Double filament configuration with 3-wire pigtail, including ground to frame; Waterproof and shock resistant; Total 4 ea; Outboard 2-ea. Turn & Clearance and inboard 2-ea. Stop & Tail functions.</p>

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TABLE IV. Semitrailer specifications (Continued).

Feature	Requirements
(6) Lamp Bulbs and Lenses -	<p>Hermetically sealed units or fleet service heavy-duty bulbs; Bulbs mounted in vibration-protected sockets w/ceramic or plastic insulators and stainless steel or elastomer bulb tension devices; Lenses of polycarbonate plastic.</p>
(7) Wiring Diagram -	<p>Metal plate, showing wiring furnished, per TTMA Technical Bulletin No. 65 and "Metal Name Plate Industry Standards and Practices" per NAME.</p>
(1) Leveling Jacks -	<p>4-ea. or 6-ea. per ISO size van body specification sheet, located near the corners and, for ISO Size 40, near the middle; Capable of leveling the semitrailer mounted van body on rough terrain, including side slopes up to 5%; Max. 90-lb. tangential force at crank handgrip to raise wheels clear of the ground when loaded to semitrailer's GVWR; Jacks provide min. 15-in. telescopic leg vertical travel; Jacks of heavy-duty type having folding handcrank, 2-speed gear box, enclosed telescopic leg, mud pad min. 140-sq. in. area and min. two braces; Jacks either removable or fold, for off-road transport; Gear box filled with reopectate, silicone base grease, intended for cold weather operations per RCCC Advisory AV 7-5.</p>

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TABLE IV. Semitrailer specifications (Continued).

Feature	Requirements
(m) Reels and Reel Carriers -	Unless otherwise specified (see 6.2), 2-ea. reels and covers installed on 2-position carriers per MIL-R-52813 and MIL-C-52786; for electric cable and water hose, one on curbside and the other on roadside; Withstand transport in the inner, carrying position and be accessible to personnel for unreeling in the outer position.
(n) Tool compartment -	Installed on curbside of semitrailer; Adequately sized to contain extra power cable, the four removable lifting and tiedown mechanisms, semitrailer tools, and tire chains; Compartment access side door type, hinged at bottom of box by piano hinge w/stainless steel pin; Door held closed with min. 2-ea. rubber hood latches w/strikers; Padlock hasp provided; Door held open at 90° horizontal by 2-ea. telescopic or 3-pivot, folding door supports.
(o) Semitrailer Dolly Convertor -	When specified (see 3.1 and 6.2), furnish semitrailer dolly convertor; Provide DOT and TTMA RP No. 39 dolly convertor GVWR for min. 50% of applicable ISO Container Semitrailer GVWR; Compatible to interface between ISO container transporter truck, in 3.12, and ISO container semitrailer, herein, when both are loaded with 2-ea. ISO van bodies or 2-ea. ISO/ANSI containers; All dolly construction and components comply and be interchangeable with

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TABLE IV. Semitrailer specifications (Continued).

Feature	Requirements
(p) Slinging and Tiedowns -	<p>the semitrailer, specified herein, and the truck in 3.12; Tow eye per SAE J847 and SAE J849 of alloy steel with case hardened wear surface; Twin safety chains per SAE J697 with safety chain hooks; Gearbox type adjustable front support leg; Drawbar per DOT FMCSR, hinge type with lockable mechanism, suitable for on-off road use; Fifth wheel coupler, min. 36-in. dia. size; Rated load capacity, min. 50,000-lb. off-road; Hardened steel kingpin jaws of fully encircling type with automatic slack adjustment; Tandem running gear; Brake system and electrical system furnished.</p> <p>Provided on both semitrailer and on dolly convertor; Per MIL-STD-209, SAE J39, and TTMA RP for land and sea applications; Installation per vehicle mfr's recommendations; Conformance to SAE J39 restricted to Type B hook.</p>

3.11.3 Military vehicle electrical system. When specified (see 6.2), the semitrailer shall be equipped with a military compatible 24-volt service

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lighting system to provide towing capability for the military design trucks as well as commercial trucks. In addition to the TTMA 7-contact receptacle, the trailer shall be equipped with a military 24-volt, 12-contact intervehicle receptacle in accordance with MS75021-1, having a spring-loaded, waterproof cover. The military receptacle shall be located near the TTMA receptacle and both shall be labeled with identification plates for 24 volts and 12 volts respectively, negative ground. The military 24 volt wiring shall be routed into a weatherproof stud and nut type junction box, equipped with SAE J553 circuit breakers, protecting live circuits B, E, and J of the military service lamp portion. All unused leads of the cable shall be insulated and sealed watertight. The military 24 volt circuits shall be connected through replaceable resistors, for live circuits, and to the trailer frame, for ground circuits, in accordance with the following tabulation:

Military-Commercial Connections

Function	Mil. Receptacle Terminal	Connection Instructions	Comm. TTMA Wiring Ident
Blackout Marker	A	None.	-
Ser. Left Turn & Stop	B	Connect to -	YEL (3)
Blackout Marker	C	None.	-
Ground	D	Connect to -	WHT (1)
Ser. Tail & Marker	E	Connect to - & Connect to -	BLK (2) BRN (6)
Blackout Stop	F	None.	-
Blackout Marker	H	None.	-
Ser. Right Turn & Stop	J	Connect to -	GRN (5)
Aux. Power (Hot)	K	None.	BLU (7)
Ground	L	Ground to Frame	-
Electric Brake	M	None.	-
Electric Brake	N	None.	-

With the military system installed, the TTMA marker circuits, color coded BLK (2) and BRN (6), shall be electrically isolated from each other, thus preventing 12-volt current cross-over when operated by commercial trucks through the 12-volt TTMA plug. Replaceable diodes may be used, having a minimum amperage of 150 percent of the current demand of the running lamps served. Military circuits, letter coded B and J on the tactical trucks, are passenger car combination stop and turn signal type, using the same lamp filament, and there is no single stop lamp circuit.

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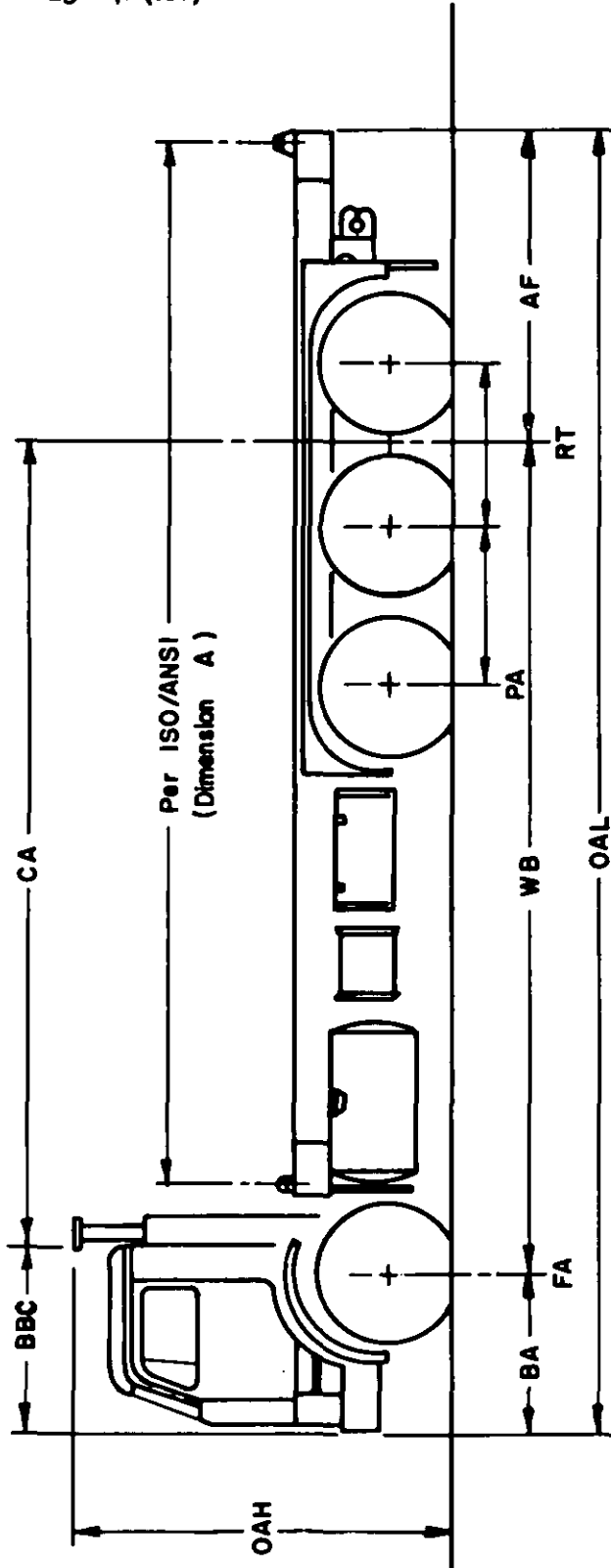
As a result, the trailer's turn signal lamp circuits, YEL (3) and GRN (5), shall function as both turn signal lamps and stop lamps and the trailer's normal stop circuit, RED (4), cannot be energized from the military truck's 24-volt system input.

3.12 ISO container transporter truck. When specified (see 3.1 and 6.2), a commercial container transporter truck shall be furnished and included as a component of each ISO size van body, except Size 40. The container transporter shall be compatible with the intended ISO van body and with any ISO/ANSI freight container of the same size. The transporter shall consist of a skeleton type subframe with ISO twist locks for the container and an 8 x 4, heavy, on-off road, COE truck chassis-cab. The transporter shall have a DOT 49CFR567 and 568 certified rating of not less than 69,000 pounds GVWR and not less than 120,000 pounds GCWR. The weight distribution shall be such that no axle is loaded in excess of 20,000 pounds or the GAWR, whichever is the lower value. The transporter truck curb weight shall not exceed 24,000 pounds. The transporter payload capacity shall be at least 44,800 pounds to enable the transporter for the ISO Size 20 van bodies to transport 100 percent of the ISO/ANSI maximum container weight and to enable the transporter for the ISO Size 30 van bodies to transport at least 80 percent of the ISO/ANSI maximum container weight. No requirement exists for a transporter for the ISO Size 40 van bodies, as a result of both length and weight incompatibility of a 40-foot container with a straight truck. The truck shall be as specified herein and in the ISO size van body specification sheets.

3.12.1 Transporter dimensions. The container transporter truck shall have dimensional limits in accordance with the following and as shown in Figure I4.

(a) Overall Length (OAL)	Per ISO size van body specification sheet.
(b) Overall Width (OAW)	Max. 98-in. (for optional width van bodies 102-in., when specified in 3.10.1, Table I, Note 2, and 6.2).
(c) Overall Height (OAH)	Max. 136-in.
(d) Wheelbase (WB) at C.L. Rear Tandem	Min. 200-in.
(e) Bumper-to-Back of Cab (BBC)	Max. 66-in.
(f) Vehicle Clearance	Max. 5-times WB.
Circle per SAE J695	

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- LEGEND:
- BBC — BUMPER - TO - BACK - OF - CAB
 - CA — CAB - TO - AXLE
 - BA — BUMPER - TO - AXLE
 - WB — WHEELBASE
 - AF — AXLE - TO - END - OF - FRAME
 - FA — FRONT AXLE
 - PA — PUSHER AXLE
 - RT — REAR TANDEM
 - OAL — OVERALL LENGTH
 - OAH — OVERALL HEIGHT

FIGURE 13. ISO container transporter truck.

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3.12.2 Transporter performance. The container transporter truck shall be capable of providing the minimum performance required herein when theoretically calculated in accordance with SAE J688 and J816 and when actually demonstrated in accordance with SAE J950. Minimum performance shall be as follows:

- (a) Have a minimum rated, geared road speed capability of at least 50 mph at GVWR and GCWR.
- (b) Have a minimum sustained cruising road speed capability of at least 44 mph at not more than 90 percent of maximum rated governed engine speed.
- (c) From an initial 20 mph speed, provide acceleration capability to achieve maximum rated geared road speed in not more than 100-seconds time and in not more than 1-mile distance at GVWR on a level road.
- (d) Have speed and torque capability to ascend a sustained minimum 3.0 percent grade at a speed of at least 30-mph at GVWR and at a speed of at least 20-mph at GCWR.
- (e) Have speed and torque capability to ascend a sustained minimum 30 percent grade at GVWR and a minimum 20 percent grade at GCWR.
- (f) Transport one container, as a straight truck, and two containers, as a straight truck with full trailer, over primary highways, and secondary roads and transport as a straight truck only over limited off-road terrain.

3.12.3 Container transporter truck specifications. The specifications of the container transporter truck shall be in accordance with Table V and the applicable ISO size van body specification sheets.

TABLE V. Transporter truck specifications.

Feature	Requirements
(a) Legal Requirements -	<ol style="list-style-type: none"> (1) DOT Certification, 49CFR567 & 568 (2) DOT FMVSS, 49CFR571. (3) DOT FMCSR, 49CFR325, 390 & 393. (4) California Vehicle Code. (5) DOL OSHA Regulations 29CFR1926 for trucks on construction jobs.

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TABLE V. Transporter truck specifications (continued).

Feature	Requirements
(b) Industry Standardization -	<p>(6) EPA Regulations 49CFR85 for Pollution.</p> <p>(7) SAE J551 for RFI w/SAE J552 suppressors, where used.</p> <p>(1) Society of Automotive Engineers (SAE), including SAE Handbook.</p> <p>(2) Regular Common Carrier Conference (RCCC), including RCCC RP Manual.</p> <p>(3) Truck Trailer Mfgs. Association (TMA), including TMA RP's.</p> <p>(4) Tire & Rim Association (TRA), including TRA Yearbook.</p> <p>(5) Friction Materials Standards Institute (FMSI), including FMS Automotive Data Book.</p> <p>(6) Industrial Fasteners Institute (IFI), including IFI Standards.</p>
(c) Diesel Engine -	<p>Heavy-duty truck type, turbocharged;</p> <p>Min. 820 CID for 4-cycle;</p> <p>Min. 720 CID for 2-cycle;</p> <p>Min. 300 Net BHP per SAE J816;</p> <p>Min. 1000 lb. -ft. torque rating per SAE J816;</p> <p>Max. 2200 RPM rated governed speed, set and sealed per engine manufacturer.</p>
(1) Engine Lube System -	<p>Min. 40-qt. total oil capacity;</p> <p>Radial flow path, Size 750 type bypass oil filter in addition to engine mfr's full-flow oil filters;</p> <p>By-pass oil filter lines per RCCC RP-305 having stainless steel wire reinforcement and reusable fittings;</p> <p>Color code lube oil lines yellow, per SAE J223 system, at disconnect points to prevent maintenance errors;</p> <p>Coding by plastic bands, tape, paint, or other means;</p> <p>Oil-to-coolant type heat exchanger.</p>

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TABLE V Transporter truck specifications (Continued).

Feature	Requirements
(2) Fuel System -	<p>Per DOT FMCSR and engine mfr;</p> <p>Side-mounted aluminum fuel tanks;</p> <p>Min. 100-usable gallon total fuel tank capacity, sufficient to provide a minimum 400-mile operating range of rated GVWR traveling at an average of 40 mph;</p> <p>Provide shut-off valve between tanks when multiple tanks are furnished;</p> <p>Min. 4-in. dia. safety cap, captive chained to strainer;</p> <p>Plastic chafe liners between tanks and mounting straps and brackets;</p> <p>Multi-stage primary water-separator-filter, providing separation, coalescing, and filtration, in addition to engine mfrs fuel filters;</p> <p>Fuel lines per RCCC RP-305 having stainless steel wire reinforcement and reusable fittings, permitting hose replacement from bulk supply;</p> <p>Color code fuel lines red, per SAE J223 system, at disconnect points to prevent maintenance errors;</p> <p>Turbocharger matched to engine.</p>
(3) Cooling System -	<p>Per RCCC Advisory AV3-5-1;</p> <p>Matched to engine and drivetrain heat rejection loads when examined in 4.6.1.2;</p> <p>Min. 15.5 gal. total system coolant capacity;</p> <p>Min. 122° F air-to-boil temperature during all operating conditions specified herein;</p> <p>Air pressure operated radiator shutters w/air pressure regulator valve, air filter and lubricator;</p> <p>Shutterstat setting per engine mfr;</p> <p>Shutters fail-safe in open position;</p>

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(4) Air Intake System -	<p>Corrosion resistant shutters and linkages; Radiator, 3-piece bolted type, shock mounted, top tank de-aeration baffles, and sight glass; min. 1200-sq. in. radiator frontal areas; Engine compartment baffles and radiator shroud sealed air-tight, forcing air through shutters and fan only; Thermostatic clutch type fan drive with means to reduce engine start and stop shock; Overflow tank having min. 5% of total coolant volume; Coolant hose per RCCC RP-303 for all coolant hose; Radiator hose straight type with metal sections and elbows for replacement of hose from bulk supply; Hose clamps per SAE J536, Type F, Styles 1, 2, and 4 double wrap, Stainless steel; Color code smaller coolant hose lines Blue, per SAE J223 system, at disconnect points to prevent maintenance errors; Spin-on coolant filter with isolating globe valves and electrical ground wire to frame.</p> <p>Per engine mfr., provide free breathing; Air intake of frontal or snorkle types preventing contamination by exhaust gas, rain, or truck washing; Precleaner w/moisture and dust ejector; Air cleaner heavy-duty multistage dry type with safety element; min. air cleaner capacity at least</p>

MIL-B-13207D (ME)

TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(5) Exhaust System -	<p>130 percent of engine air flow maximum; Air cleaner not in line with any tire; Tubing of noncorrosive aluminum or reinforced plastic w/noncollapsing ribbed rubber sleeves; Min. 5.5-in. tubing size; Hose clamps per SAE J536, Type F, Styles 1, 2, and 4, stainless steel; Snorkle with frame bracing to withstand off-road travel.</p>
(6) Engine Warning System -	<p>Per DOT FMCSR and engine mfr., low back pressure; Heavy wrapper type truck muffler of aluminized or ceramic steel; Piping of aluminized steel, min. 5-in. dia. size w/min. 1-ea. stainless steel flex or double ball joint sections between engine and frame; Vertical stack pipe with frame bracing to withstand off-road travel and restrict transmitting of noise; Stainless steel or aluminum stand-off guard; Cast metal rain cap on stack pipe or stack rain-ring-gutter preventing rain entrance into inside of muffler.</p>
(7) Engine Accessory Drives -	<p>Per RCCC Advisory AV3-5-1; Low oil press, high coolant temp, low coolant level (max. 4-qt. loss) system; Warning lamp and buzzer in cab;</p> <p>Drive belts per SAE J636 and J637 of polyester reinforced, oil resistant type; Multiple belts in matched sets only (when furnished).</p>

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(8) Component Mounts -	Rubber, sprung, and trunnion types to provide noise and vibration isolation and stress relief for radiator, air cleaner, engine, and transmissions.
(9) Cold Start Accessories -	Provide either a glow plug in each cylinder or an ether injection system; Ether system of automatic injection, engine temp. limited type, controlled from driver's area and inoperable with engine running.
(d) Transmissions -	
(1) Powershift Main Trans, Select one of the types as follows:	
	(A) Torque converter with lock-up clutch and full-torque powershift multiple disc clutch min. 8-speed transmission.
	(B) Torque converter with lock-up clutch and full-torque powershift multiple disc clutch min. 5-speed transmission of the close ratio type plus min. 4-speed range auxiliary transmission.
	(C) Full-torque powershift semi-automatic short progressive step min. 16-speed transmission having 2-ea. multiple disc hydraulic clutch packs, max. 25% ratio steps, and air operated ratio selection.
	(D) Infinitely variable ratio, full-torque, dual-path, hydromechanical transmission.
(2) PS Trans Components -	Downshift inhibitor system preventing driver shift control action from overspeeding or damaging engine, transmission, or drive train;

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(3) Aux Transmission -	<p>Exterior transmission fluid lines per RCCC RP-305 having stainless steel wire reinforcement and reusable swivel fittings permitting hose replacement from bulk supply;</p> <p>Color code transmission fluid (oil) lines brown and transmission air lines orange, per SAE J223 system, at disconnect points to prevent maintenance errors;</p> <p>Exterior air control lines per RCCC RP-305 or per SAE J844, Type 3;</p> <p>Fluid-to-coolant heat exchanger providing cooling and heating of main trans fluid;</p> <p>Remote trans fluid filter.</p>
(4) Trans Controls -	<p>Mandatory w/5-speed PS Trans selection (1) (b) above;</p> <p>Optional w/other selections to provide speed and power gearing ranges required herein;</p> <p>Provide underdrive, and overdrive ranges;</p> <p>Means to prevent aux. range shifts by the driver while truck is moving, shift lever interlock to full brake application is acceptable.</p> <p>Per DOT FMVSS;</p> <p>All main trans, aux trans, PTO, and rear pusher axle controls in same location;</p> <p>Full gate type control movements w/ detent positions;</p> <p>Controls activated by air, hydraulic, electrical, and push-pull flexible cable, all per trans and PTO mfr;</p> <p>Push-pull flexible cable marine type per SAE J917 having min. 1/4-in. stainless steel cable, TFE or low friction lining, and waterproof housing;</p>

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(5) Power-Take-Off (PTO) -	<p>PS main trans control of automatic with ranges or driver selection shift types; Back-up and OSHA alarm switches per SAE J1076, Type C on main trans control; PTO control w/positive neutral lock; Panel mounted flashing indicator lamp, illuminated when PTO is engaged; PTO flasher same as and interchangeable with turn signal flasher; Provide identification near controls and nonglare lighting for night operation.</p> <p>When specified (see 6.2), SAE J705 and J772, having an intermittent service rating of min. 150 percent of the PTO operated component maximum requirements; Heavy-duty type, having antifriction bearings, single speed, and hot-shift hydraulic clutch pack operation; Provide means to prevent driver from overspeeding both the PTO and its driven components.</p>
(6) Drive shafts and U-Joints -	<p>Balanced assemblies; Nonbinding slip splines; Main and interaxle U-joints of same make and model; Maintenance free lube reservoirs in crosses; Provide driveshaft protection in a manner similar to FMCSR 393.89, to prevent damage to transmission and truck in event of breakage.</p>
(e) Truck Axles -	<p>Dead front axle, dead pusher axle, and 2-ea. live tandem axles; Oil lube wheel bearings and seals; Oil seals per TTMA RP No. 43 (when available);</p>

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(1) Front Axle -	Hubs per SAE J694, 10-stud, 11-1/4-in. BC for disc wheels. Min. 20,000-lb. GAWR at hubs; Heat-treated alloy steel, beam or tubular types.
(2) Pusher Axle -	Min. 20,000-lb. GAWR at hubs; Drop type providing driveshaft clearance; Pusher tires, wheels, hub assemblies, and foundation brakes interchangeable with like components of rear tandem.
(3) Rear Tandem Axles -	Min. 22,000-lb. GAWR (beam and brake ratings) at hubs, each axle; Total tandem min. 44,000-lb. capacity and min. 120,000-lb. GCWR capacity; Tandem equipped with pressure lube system including oil filter, if available; For off-road, provide means for all 4 hubs of both axles to equally transmit tractive force to the ground, through any or a combination of the following: (A) 3-ea. lock-up traction differentials in the tandem, consisting of 1-ea. interaxle and 2-ea. interwheel traction type differentials; Driver controlled type with warning lamp; Automatic type having silent drive. (B) 3-ea. anti-spin-out control networks in the tandem consisting of 1-ea. interaxle and 2-ea. interwheel electro-pneumatic or

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(4) Wheel and Tire Assemblies -	<p>electro-hydraulic systems having the anti-skid brake wheel sensors automatically controlling wheel spin-out tendency through the traction differentials or the emergency-parking spring brake chambers.</p>
<p>All components comply w/TRA Yearbook and DOT FMVSS for highway speeds; Tire and wheel assemblies inherently in-balance; Tires at least 100 level quality tubeless type; SAE J694 type, 10-hole heavy duty, on-off road disc wheels having industry standard off-set; Wide-base type rim and disc made by the same mfr. or fabrication approved by rim mfr.; Metal valve caps.</p>	<p>(A) Wide-base singles all around, unless otherwise specified; 9-ea. tire and wheel assemblies for front, pusher, tandem, and a spare; Tires Size 18-22.5, min. LR-H (16 PR) having front highway rib tread and rear traction road-lug tread; Wheel rims Size 22.5-14.00.</p> <p>(B) When specified (see 6.2), single fronts and dual tridem rears; - 2-ea. wide-base single fronts, same as (A) above; 12-ea. interchangeable tire and wheel assemblies for pusher and tandem;</p>

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(5) Wheel Splash Protection -	<p>Tridem tires min. Size 11.00-22 or min. 12-22.5, min LR-G (14 PR) having traction road-lug tread; Wheel rims size min. 22-8.0 or 22.5-8.25.</p> <p>Per SAE J682 and J683 and California Vehicle Code; Rubber fenderettes on front fenders; Lightweight FRP or aluminum rear tridem fenders to withstand min. 300-lb. load on any 1-sq. ft. area at any one time, may be 2-piece type on each side; Anti-sail splash guards at rear of front axle and at rear of last axle; Bolt mounting patterns of splash guards per TTMA RP No. 41.</p>
(f) Suspension -	<p>On-off-road heavy truck types to withstand both dynamic travel loads and static machinery operation loads; Provide stabilized ride for high CG containers without hazardous handling; Suspension protect both truck and container as well as empty truck from damaging shock and vibration.</p>
(1) Front -	<p>Provide soft ride when empty and have capacity exceeding actual loading at GVWR; Semi-elliptic leaf springs w/, if available, front axle locating members and overload aux. suspension; with front suspension having a 16,000-lb. rating and an overload aux. suspension, furnished effective shock absorbers.</p>

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(2) Pusher -	<p>Air pusher suspension type w/air-lift system; Trailing member type having air springs compression and rebound bumpers and stops, dampening shock absorbers, lateral and anti-sway members; Air from brake system with air pressure protection valve, isolated reservoir, w/automatic drain valve and plumbing all-hose type per SAE J844, Type 3, or RCCC RP-305; min. 20,000-lb. capacity rating; In-cab box type driver control panel having modulating load regulator, lift-load air control, and pressure gage, illuminated for night operation; Exhaust all air outside of cab and furnish quick-release valve near air bags; Provide pressure-gage-to-pusher-load chart for truck; min. 4-in. axle center lift from loaded position; min. 13-in. ground clearance excluding tire and wheel assemblies, when pusher at maximum lift.</p>
(3) Rear Tandem -	<p>On-off-road equalizing type; Flexibly sprung trunnion-mounted walking beams; min. 8-in. front-to-rear and diagonal walk axle articulation; Installation and adjustment correct per both axle and suspension mfgs; min. 44,000-lb. tandem capacity rating.</p>

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(g) Power Steering System -	<p>Per SAE J695 Ackermann type having hydraulic power assist; max. 31:1 overall system ratio; max. 6-turns from lock-to-lock; max. 12-lb. steering wheel rim pull; PS pump min. 9-GPM w/flow control and 1700- to 2100 psi relief valve range; max. 2800-rpm pump speed; min. 8-qt. hydraulic reservoir of the remote mount type having anti-foaming features; PS oil filter, remote mount or integral with hydraulic reservoir; Color code hydraulic oil lines yellow and blue stripe, per SAE J223 system, at disconnect points to prevent maintenance errors.</p>
(h) Brake System -	<p>Per DOT and California Vehicle Code; Straight air service and emergency-parking; Provide air pressure priority to brake system over any air pressure use by auxiliary systems.</p>
(1) Alcohol Evaporator -	<p>Nonbreakable transparent container type with check valves and installation per unit mfr; No alcohol evaporator impregnated air exhausted inside of cab.</p>
(2) Air Compressor -	<p>Min. 13.9 CFM, water cooled, engine lubricated, gear driven type; Cleaned air compressor intake, plumbed from within max. 6-in. from engine air cleaner housing, check valve to prevent bleed back;</p>

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(3) Drier or Aftercooler -	<p>When not available, separate dry type air cleaner intake having at least the same cleanliness and service life as the engine air cleaner; Nominal 120 psi at governor cut-off and 150 psi safety valve settings.</p> <p>Desiccant, finned, or centrifugal type; Automatic spitter valve w/electric heater; Heater actuated by cab heater switch; Installation per unit mfr. for proper cooling and no paint coverage, unless authorized by unit mfr; location between compressor and first reservoir.</p>
(4) Reservoirs -	<p>Per SAE J10 and J1070; All protected by check valves or brake protection valves; Automatic drain valves w/electric heaters; Heaters actuated by cab heater switch operation.</p>
(5) Brake valves -	<p>Dual circuit high volume foot application valve; Spring brake valve provide modulated rear tandem spring brake control in fail-safe mode through foot application valve; Front axle valve of high speed relay type, featuring automatic, 2-stage, limiting feature; Pusher axle provide pressure protected isolated system w/own reservoir having high-speed relay valve; Rear tandem valves of high-speed anti-lock relay and spring brake relay;</p>

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(6) Low Pressure Warning -	Parking and release in-cab valves per SAE J680 and RCCC RP-401; Hand control on steering column to apply brakes; Tractor protection valve w/in-cab controls per SAE J680 and RCCC RP-401.
(7) Stop Lamp Switch -	Buzzer and indicator light furnished on first reservoir and wig-wag flag on last reservoir. Heavy-duty double diaphragm double circuit truck-tractor type w/stud and nut terminals.
(8) Air Lines -	All-hose type having reusable fittings permitting hose replacement from bulk hose supply; Compressor discharge line of TFE lined hose or copper and TFE hose having min. 24-in. hose length; Cab lines per SAE J844, Type 3, or same as chassis; Chassis lines per RCCC RP-305 having stainless steel wire reinforcement and swivel fittings; Color code chassis air lines Orange, per SAE J223 system, at disconnect points to prevent maintenance errors; All intervehicle air lines equipped with gladhands, captive chained dust covers, and identification tags; Gladhands per SAE J318, color coded yellow for control (service) on curbside and red for supply on roadside; At the rear, provide trailer-towing lines per SAE J849 for towing the full trailer mounted van body in 3.11;

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(9) Anti-Lock System -	<p>At the front, provide auxillary disabled truck tow lines to provide safe braking when the transporter truck is towed by another truck by towbar; Furnish both supply (charging truck reservoirs) and control (actuating both pusher axle and one or both tandem axle(s)), as a minimum; Provide gladhands with manual shut-off valves and secure in an accessible yet protected location rearward of the front bumper and between the frame rails of the chassis; Check valve all lines to prevent feedback, loss of pressure, and erratic brake operation.</p> <p>Per DOT FMVSS, as legally required, and RCCC RP's; Actuate brakes in normal and maximum retarding conditions to prevent brake unbalance; Hermetically sealed and waterproof electrical components; Manual reset circuit breakers, no fuses; min. 80 percent of anti-lock electrical wire lengths encased by grounded metal, including frame, or system filtered to prevent external RFI and EMI; Axle sensor lead wire holes sealed waterproof by grommets and silicone RTV sealant around wires; Monitors per TTMA RP No. 42 located near each anti-lock equipped axle; Monitor lamps per RCCC RP-108/6, preferred type, w/bulb and amber front and red rear lens;</p>

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
	Axle sensors may be employed to prevent spin-out of drive axles when under power-on conditions on slippery surfaces.
(10) Foundation Brake Assemblies -	Disc, wedge, or S-cam type matched to axle hub rating; All brakes provided with automatic, self-adjusting features; Corrosion resistant components; For drum brakes, out-board mounted rear drums; Severe duty linings, listed in the FMS Automotive Data Book.
(11) Emergency-Parking -	Function both as an emergency and as a parking brake per DOT regulations and California Vehicle Code; Min. 4-wheels held on last 2, rear axles; Heavy-duty spring chambers w/ elastomer coated main springs, double diaphragms, and protective cover and breathers; Driver and automatic application and release per SAE J680; Means for manual release during towing and storage.
(1) Electrical System -	Per DOT, California Vehicle Code, SAE Handbook, and RCCC RP Manual; Heavy duty waterproof type w/ vibration resistant components; Standard 12-volt system voltage w/ 12- or 24-volt starting; Negative ground system per SAE J538; Wiring diagram in cab per SAE J821.
(1) Batteries -	Per SAE J537 and J930 and RCCC RP-106 and RP-109; min. 4-ea. 12-volt, min. 150-minute reserve capacity;

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(2) Emergency Starting Connector -	Size, min. 30 CIM-425 of SAE J930 or Size, min. 30-460 of SAE J537; Batteries comply with engine mfr's. min. total CCA for 0° F temp engine starting per RCCC RP-109; Installation and cables per SAE J930 RCCC RP-102 through RP-105 and RP-117; Lightweight battery box having no- sag cover.
(3) Alternator -	Per SAE CIM Recommended Practice w/ min. 10-ft intervehicular starting cable w/2-ea. plugs; Receptacle near battery box; Cable stowage space provided in outside tool compartment. Per SAE J180, double-lug mount, heavy-duty, CIM type w/self-regulation, reverse polarity protection, and fungus proofing; min. 90-amp. rating; Max. 6000-alternator RPM at governed engine RPM; Installation per RCCC RP-101, having a single through-bolt inserted in an integral cast or fabricated engine mount bracket.
(4) Starter -	Extra-heavy-duty type, w/SAE J542 mounting, matched to engine; Positive-engagement drive w/over- running clutch; Multi-step actuation including driver pushbutton switch, transneutral start switch, engine-running starter inhibitor switch, auxiliary relay, starter solenoid, and starter; Key switch to result in shutting off all electrical components (engine stopped)

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
	with the possible exception of the voltmeter and lighting.
(5) Circuit Breakers -	Per SAE J533 protecting all circuits, no fuses; Manual reset type for turn signals; quick-blow manual reset type for engine warning and shut-down system and for brake anti-lock system.
(6) Turn Signal and Hazard Warning Flasher -	Per SAE J590 and J945 w/SAE J856 sealed beam unit type, 3-way, connector compatibility; Heavy-duty electromechanical or solid-state types, only; Operation audible and visible to driver.
(7) Wiring -	Per SAE J555 and J163 and RCCC RP-110 through RP-114; Nut and stud or screw component terminals on chassis portion; Chassis junction boxes at multiple disconnect points; Provide 12-volt dome lamp receptacle per SAE J563 on inner side of rear curbside bolster and include captive chained, weather-proof dummy plugs; Furnish min. 4 ft. long van body dome lamp harness with twin SAE J563 plugs; Provide voltage and disconnect warning decals.
(8) Trailer Receptacle -	Per TTMA RP No. 40 located on rear, near pintle, per SAE J849 for full trailers; Wire from cab junction box to rear receptacle per SAE J1067.

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(9) Lighting -	<p>Heavy truck, weatherproof type having shock, vibration, and external damage protection; Heavy truck lighting switches; Heavy-duty fleet service bulbs or filaments per RCCC Advisory AV1-2-1 or equal; Polycarbonate or glass lenses in all lamps; Interrupting type running lamp switch providing "momentary off", normal "on", and, for military use, permanently "off" positions.</p>
(A) Headlamps -	<p>Quad headlamps or dual headlamps plus matched pair of auxiliary lamps located in protected location; Aux. lamps, min. PAR 46 sealed beam size; Quad headlamps of Trade Nos. 4040 and 4101 sealed beam units; Dual headlamps of Trade No. 6016 sealed beam units.</p>
(B) Running, Signal, and Backup Lamps -	<p>Cab running lamps, 5-ea. on top; Container bolster running lamps, min. 9-ea. per RCCC RP-108/1, flush mount type; Combination lamps per TTMA RP No. 14, flush mounted noncorrosive housing w/double filaments; 2-ea. front turn and parking; 2-ea. front side turn and side markers per SAE J914; 2-ea. rear turn and clearance and 2-ea. rear stop and tail; 2-ea. rear back-up lamps (single filament type), flush mount type, in standard TTMA holes.</p>

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(C) Reflectors -	Per DOT plus 2-ea. on front of cab facing forward; All reflectors secured by metal fasteners.
(j) Chassis-Cab -	On-off-road construction type with full-tilt cab.
(1) Frame -	Per SAE J691; Material of heat-treated alloy steel; min. 110,000-psi yield point for main frame rails; min. 28.0-in. cu. reinforced rail section modulus; min. 3.0-million in. lb. RBM per rail; Bolted construction using IFI/SAE Grades 8 and C, bolt and nut fasteners; Frame forward under cab of straight frame type; Additional crossmembers at pusher axle mounts per pusher suspension mfr.
(2) Front Towing Attachment -	Per RCCC RP-602, on-off-highway type, GCWR min. rating; 1-ea. centrally mounted, preventing frame parallelograming.
(3) Rear, Towing Pintle -	Per SAE J849 reinforced for full trailer towing of loaded semitrailers and dolly converter in 3.11; Pintle of air operated, no-slack type; Pintle location per SAE J849, except max. 60-in. rearward of tandem trunnion center and SAE 5-in. forward from rear of truck is not critical.
(4) Front Bumper -	Heavy-duty full width type having boxed-in ends in front of the tires unless set-back front axle furnished; Windshield access steps and handholds per SAE J185.

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(5) Rear Bumper -	<p>To the maximum practical extent, provide a rear 2-position retractable hinged bumper as follows:</p> <ul style="list-style-type: none"> (a) When lowered, comply with DOT FMCSR and TTMA RP No. 10; (b) When retracted, provide clearance for travel over off-road terrain. (c) When retracted and while towing full trailer, provide articulation of the dolly converter towbar through min. 140° horizontal arc about the rear pintle.
(k) Cab -	<p>COE lightweight tilt cab type; Material aluminum or FRP and aluminum; min. 70 degree tilt angle or two stage, min. 55 degree and min. 70 degree tilt; Tilt system electrohydraulic or air-hydraulic power types w/manual hydraulic emergency pump; Safety tilt cab locking system; Shock and vibration reduction mounts; Cab min. 81-in. width by min. 54-in. height interior size; Insulation and deadener furnished in cowl, engine tunnel, roof, rear and quarter panels, doors, and floor to comply with DOT FMCSR, SAE J336, and cab thermal, cold weather protection option.</p>
(1) Steps and Grab Rail System -	<p>Per RCCC RP-406 and SAE J185 on both curb and road sides, similar to Figure 14.</p>
(2) Cab Glazing -	<p>All glazing of flat safety glass, except curved glass is acceptable for windshield only;</p>

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
	Rear window required; Glass of tinted type, except in rear window and RH door visibility window; Dual, windshield sun visors per DOT.
(3) Windshield Wipers and Washers -	Air-operated wipers and washers; 2-ea. air motors each having min. 200-lb.-in. torque rating at max. 100-psi. and self-parking features; In-line wiper motor lubricator; Extra heavy truck type arms and blades; min. 1.0-oz arm pressure at blade per inch of arm length; Air washer w/twin nonclog and non-freeze nozzles; min. 2-qt. washer reservoir inside cab, accessible for filling; Nondumping when cab is tilted; Washer solution per RCCC RP-402; Air purge of washer lines after use.
(4) Rear View Mirrors -	2-ea. West Coast types; Swing lock or ratcheting head mounting; Brush guard loops protecting heads; Aluminum or stainless steel, except head caps may be of plastic; Mirror heads of combination type having flat and convex mirrors in the same housing; min. 50-sq. in. flat reflective area and min. 20-sq. in. convex reflective area.

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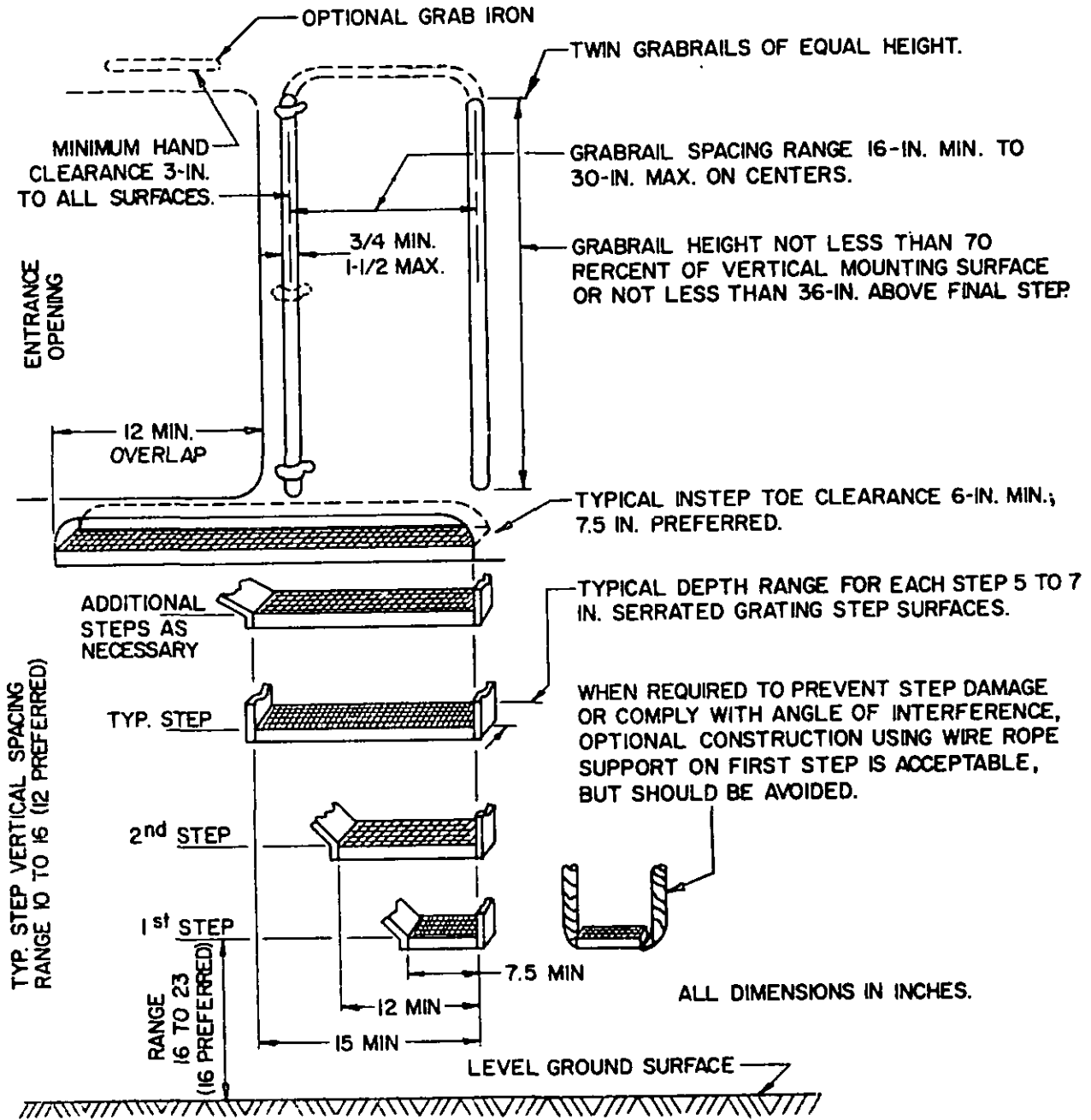


FIGURE 14. VERTICAL LADDER AND GRABRAIL SYSTEM.

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(5) Horns -	Electric horn for congested areas and air horns for country.
(6) Dome Lamp -	Dome lamp w/control switch on instrument panel.
(7) Seating -	Driver's seat floor-mounted line-haul, air suspension type having 4-way (up and down, fore and aft) adjustment, back cushion adjustment, and fore and aft isolator; Upholstery min. 40-oz. per 54-in. width; Passenger's seat companion to driver's seat; DOT seatbelts with retractors and sleeves.
(8) Fresh Air Vents -	Min. 2-ea., screened, 2-way type.
(9) Heater and Defroster -	Fresh air type system; Min. 40,000 Btu/hr min. 150° F coolant, heater rating; Defroster per SAE J382; Heater and defroster blower switch multi-speed type per SAE J235 having capacity to handle both cab heater and air brake reservoir heaters or include heavy-duty relay w/circuit breaker protection; Auxiliary fan, 2-speed, min. 200 CFM type, mounted on top of instrument panel, adjustable for directing on windshield, door windows, and rear window.
(10) Instruments and Controls -	Per SAE J680 and RCCC RP-401, RP-115, and RP-116; Pyrometer w/warning quadrant on face; Both pressure and temperature gages

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(11) Emergency Equipment Stowage -	<p>for main PS trans as selected by trans mfr.;</p> <p>High trans temp warning lamp;</p> <p>Emergency engine stop control and, when available, in-cab compression release;</p> <p>DOT fail-safe accelerator control w/ SAE J490 ball ends;</p> <p>Hand throttle control;</p> <p>Provide all flexible control cables, routed outside of the cab, of the waterproof marine type per SAE J917;</p> <p>Control cables of stainless steel, low-friction teflon lined having push-pull rating and min. bend radii per cable mfr.;</p> <p>Provide 2-ea. truck keys with each vehicle, utilizing the same key for starter lock and both cab doors;</p> <p>All keys interchangeable with all trucks procured at one time.</p>
(1) Accessories -	<p>Provisions for equipment stowage by user per RCCC RP-403.</p> <p>Engine valve-train brake or engine-transmission hydraulic retarder w/driver control(s);</p> <p>Engine valve train brake of the driver modulated type;</p> <p>Hydraulic retarders equipped with fluid-to-engine-coolant heat exchanger per retarder mfr.;</p> <p>High temp warning lamp on instrument panel;</p> <p>Magnetic drain plugs and devices in sumps of engine, transmissions, and axle carriers;</p> <p>Back-up alarm per OSHA and SAE J944 for construction job sites;</p>

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(m) Cold Weather Heater System -	Electrical type, automatically operated in reverse; Momentary, driver override switch furnished for quiet-zone backing.
(1) For Both Systems -	When and as specified (see 6.2), furnish cold weather heater system for arctic operation as follows: Winterized radiator winterfront cover w/zipper openings; Manual intake air diverter valve for choice of outside air or warmed engine compartment air; Engine air starter per RCCC RP-601 with muffler and min. 2-ea. 12 volt batteries (see 3.12.3, (1) (1) above); Engine winterization component and method per engine mfr's published recommendations and to include prestart lube oil pressure system, when available; Insulated engine oil pan, main transmission sump, and battery box; All oil and fuel filters located in engine compartment, except by-pass oil filter; Fuel tanks and fuel lines insulated and fuel tank vents piped with flexible hose to engine compartment for frost protection; Electric speedometer and tachometer; Windshield and door seals extruded of silicone elastomer as a minimum; Vehicle winterized similar to SAE SP-346; Heated west coast rear view mirror heads with instrument panel switch and green indicator lamp.

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(2) Self-Contained System -	Min. 50,000 Btu, total, fuel burning vehicle heater, providing heating and circulation, automatically, of engine coolant w/thermostat control to maintain engine and components heated to operating temperature.
(3) Utility Line System -	Electrical heaters for 120-volt, ac, operation; Provide heat for engine coolant, main transmission, and batteries, all w/ thermostat controls per each unit mfg recommendations; Trickle battery charger, permanently installed; Installation and safety per National Electrical Code, ANSI C1, and DOT FMCSR, having power source feed plug w/neon indicator lamp on right front curbside of vehicle; Warning means or method to inform driver to disconnect the operating system before starting and driving the truck.
(n) ISO Container Subframe -	Skeleton type w/front and rear bolsters; Frame to mate the truck chassis-cab to the ISO van bodies and to any Series 1, ISO freight container 1C (20-ft.) or 1B (30-ft.), within the GVWR of the truck as specified in the ISO size specification sheet; Front and rear container bolsters equipped with 4-ea., safety-type twist locks; Center of each twist lock dimensionally per Tabulation A, below insuring compatibility with container corners per ISO No. 668, ISO No. 1496, and ANSI MH5;

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
	Front bolster per DOT FMCSR and TMA RP No. 47; All subframe structural members of AISI HSLA steel having min. 50,000 psi guaranteed yield point; Withstand on-off road travel and static van body machinery operation without racking, bending out of alignment, damage, or permanent deformation.

TABULATION A

TWISTLOCK CONTAINER BOLSTER INTERFACE DIMENSIONS

Size of Van Body & ISO Designation	Longitudinal Dim. "A" Limits, in.	Transverse Dim. "B" Limits in.	Diagonal Difference Max. Dim. "K", in.
MIL-B-13207/1 1D, 3000 mm (10 ft.)	109.36 \pm .25	89.00 +0/- .13	.25
MIL-B-13207/2 1C, 6000 mm (20 ft.)	230.44 \pm .25	89.00 +0/- .13	.38
MIL-B-13207/3 1B, 9000 mm (30 ft.)	351.13 \pm .25	89.00 +0/- .13	.50
MIL-B-13207/4 1A, 12000 mm (40 ft.)	NA	NA	NA

NOTE: Ref. ANSI MH5, Chassis Subcommittee, Document SK 1001, et al.

(1) Mounting -

Subframe mounted to truck frame rails;
Min. 8-ea. U-bolt or twin studs,
Min. 4-ea. per frame rail;
Min. 9/16-in. size U-bolt or twin studs;

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(2) Leveling Jacks -	<p>Min. 1/2-in. thick tie plates; Frame rail channels internally braced at each mounting point with either cross member or blocks; Blocks provided with keeper straps or grooves to prevent shifting; Shearbolts provided on each side; Hardwood or rubber breaker strip between truck's top flange and bottom of subframe; Min. 1-in. breaker strip thickness, Min. width same as frame rail; Forward ends tapered to prevent stress risers.</p> <p>4-ea. located on container subframe bolsters; Capable of leveling truck-mounted van body on rough terrain, including any combination of side slope up to 5 percent; Max. 90-lb. tangential hand force at crank handgrip to raise either curbside or roadside rear wheels off of the ground when loaded to trucks' GVWR; Min. 15-in. vertical travel of telescopic legs; Jacks of heavy-duty type having folding handcrank, 2-speed gear box, enclosed telescopic leg, mud pad min. 140-sq. in. area and min. 2-ea. braces; Jacks either fold or removable for off-road transport; Gearbox lubricated with reopectate silicone base grease per RCCC Advisory AV 7-5 for cold weather operations.</p>

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TABLE V. Transporter truck specifications (Continued).

Feature	Requirements
(3) Reels and Reel Carriers -	Unless otherwise specified (see 6.2), 2-ea. reels and covers installed on 2-position reel carriers per MIL-R-52813 and MIL-C-52786 for storage and use of electrical cable and water hose; Withstand transport in the inner carrying position and be accessible to personnel for unreeling in the outer position.
(4) Tool Compartment -	Installed on curbside of transporter truck; Adequately sized to contain extra power cables, the four removable lifting and tiedown mechanisms, slave cable, truck tools, and tire chains; Compartment access of side door type, hinged at bottom of box by piano hinge w/stainless steel pin; Door held closed w/Min. 2-ea. rubber hood latches w/strikers; Padlock hasp provided; Door held open at 90 degree horizontal by 2-ea., telescopic or 3-pivot, folding door supports.
(o) Slings and Tiedowns -	Per MIL-STD-209 and SAE J39 for land and sea applications; Per truck mfg'r's recommendations; Conformance to SAE J39 restricted to Type B Hook.

3.13 Fungus and moisture resistance. The electrical circuitry of all electrical systems, including all components and connections except as specified below, shall be protected from the effects of moisture and fungus growth by an overall treatment with commercial electrical varnish:

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- (a) Components or circuit elements which are inherently fungus and moisture resistant or which are hermetically sealed need not be treated.
- (b) Components or circuit elements whose functions will be adversely affected by the varnish coating shall not be treated.

When used, the varnish shall be applied by spray, brush, or a combination of both to give a minimum dry-film thickness of 1 mil to component or element surfaces previously cleaned and prepared so that the surfaces are free from all foreign matter which would interfere with the adherence or function of the varnish.

3.13.1 Special varnish. When specified (see 6.2), varnish shall conform to MIL-V-173, Composition I or II, as applicable, having 1 percent copper 8-quinolinolate (by weight) based on the nonvolatile content of the varnish. Composition II shall be used only in the case when local air pollution regulations governing the application of the varnish, precludes the use of Composition I. When Composition II is used, the contractor shall provide evidence to the Government that the use of Composition II is required and shall certify that Composition II material complies with Rule 66, Air Pollution Control District, County of Los Angeles, CA.

3.14 Electromagnetic interference. The electromagnetic interference (EMI) emission characteristics of the van body utility line electrical system shall conform to MIL-STD-461, Class IIIC, when the contractor installs electrically operated equipment other than the heater and air conditioner unit, the humidifier, the air filter and lights and body wiring specified herein. The container transporter truck EMI shall comply with the legal requirements, as specified in 3.12,(a).

3.15 Lubrication. Lubrication means shall be provided for all moving parts that require lubrication. The types of lubricants shall be in accordance with and selected from SAE J754 and, whenever practical, shall interchange or be replaced by military lubricants (see 6.4). All initial fills of lubricants shall be limited to the types approved by the component manufacturers. Lubrication intervals shall be in accordance with SAE J752 as recommended by the component manufacturer. Manual fluid level indicators shall be in accordance with SAE J48 and J614. Grease lube fittings shall conform to SAE J534 and shall be of the threaded types. A lubrication chart(s) shall be furnished on each major end item of the van body and shall include the interchangeable military lubricants as well as the commercial SAE J754 lubricant designations.

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3.16 Servicing and adjusting. The contractor shall service and adjust each van body for operational use including at least the following:

- (a) Basic van body:
 - Adjustment and alinement of mechanical components.
 - Adjustment of heating and air conditioning system.
 - Electrical system continuity checks.
 - Lubrication of components.
- (b) Semitrailer, when specified or furnished:
 - Adjustment of suspension.
 - Adjustment of brake system.
 - Electrical system continuity checks; voltage drop checks.
 - Torque of wheel lug nuts.
 - Inflation of tires.
 - Lubrication of components.
- (c) Truck, when specified or furnished:
 - Alinement of front end assembly.
 - Adjustment of engine, transmission, and power train.
 - Adjustment of brake system.
 - Electrical system continuity checks; voltage drop checks.
 - Torque of wheel lug nuts.
 - Inflation of tires.
 - Servicing of cooling system with RCCC RP-302 antifreeze and water solution 50-50 percent by volume.
 - Lubrication with products approved by truck and component manufacturer for severe service.

3.17 Government-furnished property. Unless otherwise specified (see 6.2), the following property, in the quantities indicated, will be furnished by the Government (see 6.5):

<u>Item No.</u>	<u>Description</u>	<u>NSN Identification</u>	<u>Quantity per van body</u>
(1)	Air conditioner, vertical, compact MIL-A-52767, Type I, Size 6, Class 1.	4120-00-959-4453	Per ISO size Specification Sheet.
(2)	Binding posts (telephone).	5940-00-272-1477	6 ea.

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3.18 Data plates. Data plates shall be applied to the end items of the van bodies on metal plates in accordance with the "Metal Name Plate Industry Standards and Practices", as published by the National Association of Metal Name Plate Manufacturers, Inc., (NAME). Identification and shipping data plates shall be of material in accordance with MIL-P-514, Composition C of Type I, Grade A, Class 1. The plates shall be secured to each end item in accordance with the NAME Standards and Practices.

3.18.1 Identification plates. The van bodies shall be identified in accordance with ISO/ANSI, DOT, the manufacturers, and MIL-STD-130 on MIL-P-514, Type I, Style 1 plates. The date of the delivery shall be that of the complete van body, including vehicle as applicable, and shall not be prior to date of Government acceptance.

3.18.2 Shipping data plates. The van bodies shall have shipping data applied to MIL-P-514, Type III plates. These plates shall show the silhouette of the end items, in transport position, indicating the center of gravity and the location and capacity of the lifting and the tiedown attachments. The plates shall be attached in a conspicuous protected location on the curbside.

3.18.3 Instruction plates. Each van body shall be equipped with instruction plates, decals, or diagrams, including warnings and cautions, describing any special or important procedures to be followed in assembling, operating, or servicing. The safety, warning, caution, and notice plates shall be in accordance with ANSI Z35.1 and compatible with the space available.

3.18.4 Wiring diagram plates. Utility and vehicular electrical wiring diagram plates or decals shall be located near the distribution box in the van body, on the semitrailer, following TMA, and in the cab of the truck, following SAE.

3.18.5 Operating and mounting instructions. Operating and mounting instruction plates or decals shall be furnished and shall be permanently affixed in a readable location near the applicable components. Instructions shall be clear and concise and shall contain sufficient information to enable operation without damage to the components or injury to personnel.

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3.18.6 Semitrailer safety brake marking. A decal inscribed with the legend "CAUTION - Towing vehicle air lines must be connected and air control valve opened or each chamber spring manually caged before trailer parking brakes will release. Except during an emergency, DO NOT transport or park semitrailers with the spring brakes caged" shall be affixed on the front of the semitrailer in the vicinity of the gladhands. Legend shall incorporate minimum 1/2-inch-high lettering. Lettering and color shall be as specified in 3.18.3 for ANSI requirements.

3.18.7 Transporter truck sound level requirement. The transporter truck shall be furnished with noise reduction means including acoustical package and thermal package optional equipment, when available. The noise reduction means shall reduce the mean work cycle sound level in the cab with driver present, to not greater than 85 dbA, as measured in accordance with the SAE Recommended Practice, work cycle procedure, or J919. If the sound level exceeds 85 dbA, a warning plate as specified in 3.18.3 shall be affixed to the instrument panel and shall be worded as follows:

"WARNING"
"EAR PROTECTION REQUIRED
WHEN THE TRUCK IS OPERATING"

The plate coloring shall be the yellow and black, ANSI requirements.

3.19 Vehicle marking. The registration numbers and other markings of the van bodies shall be in accordance with MIL-STD-642. The GVWR shall be marked on each side of the forward van body in a manner to be discernible. The prescribed tire pressures shall be marked on the side of the van body vehicle or subframe near the tires. Unless otherwise specified (see 6.2), all marking shall be black on van bodies painted forest green.

3.20 Treatment and painting. The van bodies including all components and parts shall be cleaned, treated, and painted in accordance with MIL-T-704, Type A. The interior color shall be light green, matching Color No. 24525 or 24533 of FED. STD. No. 595. Unless otherwise specified (see 6.2), the exterior color shall be forest green. The exterior surface of the roof shall be painted with solar heat reflective enamel conforming to MIL-E-46096. After painting, the portions of the van body fenders exposed to road wheel splash shall be undercoated using a commercial, sandless, undercoating material. Wheels, axles, suspension,

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and moving components shall be kept free of undercoating. For the van bodies, including vehicle chassis, the multiple coat application requirement of MIL-T-704 may be reduced to a single coat having a minimum 10-mil dry thickness, when the van bodies are painted with a color impregnated, rust preventative coating of thixotropic, solvent cutback, wax-based compounds having self-healing features. Inaccessible areas of the van body, semitrailer, and truck shall be treated with anti-rust coating material in accordance with TTMA Technical Bulletin No. 56.

3.21 Vehicle weight classification. The contractor shall complete and submit the Government-furnished vehicle weight classification forms (see 6.9), one form covering each empty and loaded vehicle. The Government will inform the contractor of the resulting vehicle weight classification numbers. A variable vehicle classification kit in accordance with MIL-S-40626 shall be furnished on each vehicle with the vehicle class displayed for actual loaded condition, if available, or for GVWR in a location approved by the contracting officer.

3.22 Workmanship. All workmanship of each van body shall be in accordance with engineering, manufacturing, and production standards of the vehicle industry, truck body industry and ISO reefer container industry, as applicable. The vehicles and van bodies shall be free from workmanship deficiencies that could impare the operation or serviceability. All parts, components and assemblies, including bearings, seals, machinery, stampings, welded parts, castings, forgings, and machined work, shall be clean and free from sand, dirt, fins, pits, sprues, scales, flux, and other harmful extraneous material. External surfaces shall be free of burrs, sharp edges, and corners, except when sharp edges and corners are functional.

3.22.1 Fabrication.

3.22.1.1 Aluminum and steel fabrication. Aluminum and steel shall provide original quality surface finish and shall be free from kinks and sharp bends. Aluminum and steel having eroded surface is not acceptable. The forming of the material shall be done by methods that will not cause damage to the metal. Shearing, punching, and chipping shall be done uniformly, neatly, and accurately. Corners shall be square and true, and all sharp edges and burrs shall be removed. The burned surfaces of flame-cut material shall be free of burrs, slag, and sharp edges. Precautions shall be taken to avoid overheating of metal. Heated metal shall be allowed to cool slowly, except where heat treatment is required. All bends shall be made with precise, unyielding dies or jig fixtures to insure uniformity of size and shape.

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3.22.1.2 Fiberglass fabrication. Fiberglass reinforced plastic (FRP) and FRP coated plywood bodies shall be smooth surfaced and free from bubbles, glazing cracks, and discontinuities and shall have a uniform FRP thickness. All edges and openings of FRP coated plywood shall be completely sealed to prevent water intrusion between the laminates. The FRP shall be free of parting agents which impair paint adhesion. Welding, bonding, connections, and fabrication of the FRP shall be in accordance with the recommended methods of the manufacturer of the material for this application.

3.22.2 Welders and welding.

3.22.2.1 Welders. Before assigning any welder to manual welding work covered by this specification, the contractor shall provide the contracting officer with certification that the welder has passed qualification tests as prescribed by any of the following listed codes for the type of welding operation to be performed and that such qualification is effective as defined by the particular code:

AWS D1.1, Structural Welding Code, Section 5, Qualification.
ASME Boiler and Pressure Vessel Code, Section IX, Welding Qualifications.
Equal welder qualification program, subject to Government approval.

3.22.2.2 Metal welding. Welding shall be in accordance with the AWS and ASME codes, the Amercian Welding Society's Welding Handbook, and as specified herein. Welds shall provide the maximum notch toughness and fatigue strength with a minimum of residual stresses. All welds made on high stress members shall be made from core or heavy-coated electrodes, gas shielded, or submerged arc. Electroslag and electrogas processes, when available, shall be included for use on heavy sections, 1 inch or more in thickness. Fillet welds shall be provided, when necessary, to reduce stress concentrations. The surfaces to be welded shall be free from scale, paint, grease, and other foreign matter. When multiple layers of weld metal are required, each layer, or each layer after the third pass with multipass welding process, shall be thoroughly cleaned before depositing another layer. All welded parts and assemblies shall be free from cracks and other imperfections that may reduce the effectiveness of the part or assembly. After welding, all

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weldments shall be free from slag (except mill scale), flux, weld spatter, and other factors which affect the quality of the weld. Except for vertical welding of the electroslag process, the work shall be positioned for flat welding whenever practicable. No undercuts or overlays will be permitted on any weldment. Where different metals are welded to each other, filler metal having strength of the lower strength material shall be used. When the same metals, or metals having similar properties are used, the deposited filler metal shall develop the full design strength of the particular weld joint or weldment. Mechanical properties of all welds shall be such that welds will transmit stress without failure or permanent deformation when subjected to any test specified in this specification. Weld joints exceeding 50,000 psi shall be inspected for soundness.

3.22.2.3 Aluminum welding. Aluminum welding shall be accomplished by the gas-metal-arc or the gas-tungsten-arc method or any other method that will provide equivalent mechanical properties of the filler metal to base metal combinations. When machines are available, all aluminum welds shall be made by automatic machines. All welds shall be made at a uniform rate of speed. Complete and uniform penetration and fusion of the metals shall be obtained on all welds. Aluminum welds may be ground, filed, wire brushed or chipped; hammered welds shall not be acceptable. Preheating for welding is permissible, providing the temperature does not exceed 400° F for a total time of 30 minutes. Aluminum weld processes requiring the use of welding flux shall not be used.

3.22.3 Brazing. Brazing of the aluminum and aluminum alloys shall be performed in accordance with the ASME code and other nationally recognized and accepted recommended procedures and standards of the aluminum manufacturing industry.

3.22.4 Bolted connections. Boltholes shall be accurately punched or drilled and shall have burrs removed. Integral or separate washers or lockwashers shall be provided. Self-locking nuts are acceptable in lieu of standard nuts and lockwashers. All capscrews, bolts, and nuts shall be tight and correctly torqued.

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3.22.4.1 Critical bolted connections. Critical load-carrying bolted connections shall, in addition, be as specified herein. Boltholes shall be reamed as required. All critical junctures and joints shall be fastened with high-strength bolts with washers and nuts, hex or 12-point type. Bolts shall conform to IFI Standards 103 and 111, minimum Grade 8. Washers shall be of the flat hardened steel type, sized to spread the clamping loads such that brinelling or embedding in the component members shall be prevented. Mating nuts shall be of the prevailing torque type in accordance with IFI Standards 100, 101, 107, and 108, minimum Class C. Fasteners shall be lubricated prior to wrenching. To insure constant and correct torque performance, fastener installation accuracy shall be achieved by the turn-of-the-fastener method.

3.22.5 Riveted connections. Riveted connections shall be in accordance with SAE J492. Rivet holes shall be accurately punched or drilled and shall have the burrs removed. Rivets shall completely fill the holes. Rivet heads shall be full, neatly made, concentric with the rivet holes, and in full contact with the surface of the member.

3.22.6 Castings. Castings shall be sound and free from patching, misplaced coring, warping, or other defects which might render the casting unsound for its intended use.

3.22.7 Forgings. Forged components shall be in accordance with the Forging Industry Association Handbook.

3.22.8 Machine work. All machined parts shall be manufactured to gage through the use of correct jigs and fixtures and shall permit interchangeability of these parts.

3.22.9 Cleanliness of hydraulic and pneumatic systems. The hydraulic and pneumatic systems shall be purged to remove any foreign material after the appropriate assembly phase is completed. The sequence of purging shall be first through the lines and then second through both the lines and the components.

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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 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, as applicable.

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

- (a) Preproduction inspection (see 4.3).
- (b) Initial production inspection (see 4.4).
- (c) Quality conformance inspection (see 4.5).
- (d) Inspection comparison (see 4.7).
- (e) Inspection of packaging (see 4.8).

4.3 Preproduction inspection. Evidence of a defect under Item 101 in 4.6:1 shall require further testing as specified in 4.6.2 to meet ISO/ANSI container requirements, prior to further preproduction inspection continuation.

4.3.1 Examination. The preproduction van body shall be examined as specified in 4.6.1. Presence of one or more defects shall be cause for rejection.

4.3.2 Tests. The preproduction van body shall be tested as specified in 4.6.2.1 through 4.6.2.11. Failure of any test shall be cause for rejection.

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4.4 Initial production inspection. When specified (see 3.3), an initial production van body(s) will be selected at random by the Government from the van bodies being produced from production tooling and will be examined as specified in 4.6.1 and tested as specified in 4.6.2.1 through 4.6.2.10 to determine conformance to the requirements of this specification. The inspection will be performed by the Government at a site selected by the Government. Acceptance of an initial production van body shall not exclude the remaining van bodies from the quality conformance inspection and acceptance provisions specified in Section 4. In addition to any test specified as part of the preproduction test, the Government reserves the right to conduct any or all other tests, including referenced tests, contained in this specification as part of the preproduction test, and failure of such additional tests shall have the same effect as failure of those tests specified as preproduction tests.

4.4.1 Inspection failure. Failure of an initial production van body to meet any requirement specified herein during and as a result of the examination and tests specified in 4.4 shall be cause for rejection of the initial production van body and shall be cause for refusal by the Government to continue acceptance of production van bodies until evidence has been provided by the contractor that corrective action has been taken to eliminate the deficiencies. Correction of such deficiencies shall be accomplished by the contractor at no cost to the Government on van bodies previously accepted and produced under the contract. Any deficiencies found as a result of the initial production testing will be considered prima facie evidence that all van bodies accepted prior to the completion of initial production testing are similarly deficient unless evidence to the contrary is furnished by the contractor and such evidence is acceptable to the contracting officer.

4.5 Quality conformance inspection.

4.5.1 Sampling. Sampling for examination and tests shall be in accordance with MIL-STD-105.

4.5.2 Examination. Samples selected in accordance with 4.5.1 shall be examined for major and minor characteristics for possible defects as specified in 4.6.1. AQL shall be 1.0 percent defective for major defects and 2.5 percent defective for minor defects.

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4.5.3 Test. Each sample van body that has been selected in accordance with 4.5.1 shall be tested as specified in 4.6.3. Failure of any test shall be cause for rejection.

4.6 Inspection procedure.

4.6.1 Examination. The sample van body shall be examined as specified in 4.5.2 for the following characteristics for possible defects. In order to examine the specific characteristics of the van body (108), the semitrailer and dolly (109), and the transporter truck (110), the contractor shall reproduce as applicable, Table I through Table V, which shall include details of the contract and of the specification sheets. The reproduced data shall serve as a work sheet check list. For purposes of checking, the left-hand margin of each reproduced sheet shall have three vertical columns, headed "OK" (accept), "NO" (reject), and "Remark No. _____" (further discussion).

Major

101. Except as specified in this specification, any ISO size van body construction, load carrying member, or component not identical to or interchangeable with the contractor's commercial ISO/ANSI Series 1, freight container; any prior freight container test report incompatible with the ISO or ANSI requirements; or comparison of the contractor's freight container and its tests with the van body not as specified herein (see 3.10 and 4.6.2).
102. Material not as specified (see 3.4 through 3.4.3).
103. Dissimilar metals in contact (see 3.4.1).
104. Ferrous components not protected for marine environment (see 3.4.3).
105. Safety, DOT, and human factors engineering characteristics missing, inadequate, or not as specified (see 3.6).
106. Ease of maintenance not as specified (see 3.7).
107. Shipping mobility not as specified (see 3.9 through 3.9.3 and the applicable specification sheets).
108. Van body not as specified (see 3.1, 3.10, and Tables I and II).

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- 109. Semitrailer or dolly converter not as specified (see 3.1, 3.11, and Tables III and IV).
- 110. Transporter truck not as specified (see 3.1, 3.12, and Table V).
- 111. Fungus and moisture resistance not as specified (see 3.13).
- 112. Electromagnetic interference not as specified or not as approved on the preproduction model (see 3.14).
- 113. Lubrication, lubricants, and fittings not as specified (see 3.15).
- 114. Servicing or adjustment not as specified (see 3.16).
- 115. Leaks in air, hydraulic, fuel, or freon lines.
- 116. Seals do not prevent entrance of foreign material or leakage of fluid or grease.
- 117. Assembly incorrect or not complete.
- 118. Parts or components missing or do not function.

Minor

- 201. Marking and plates missing, incomplete, or not as specified (see 3.18 through 3.18.7).
- 202. Vehicle marking not as specified (see 3.19).
- 203. Cleaning, treatment, and painting not as specified (see 3.20).
- 204. Vehicle classification kit and numbers not as specified (see 3.21).
- 205. Workmanship not as specified (see 3.22 through 3.22.9).

4.6.1.1 Certification. When a vehicle mounted van body is required (see 3.1 and 3.11 or 3.12), the contractor shall be responsible for insuring that components and materials used in the van body vehicle are manufactured, examined, and tested in accordance with the requirements and references specified herein. As a minimum, the contractor and his component subcontractors shall be required to satisfy the criteria for the following:

(a) In effect at actual time of manufacture:

- (1) DOT FMVSS
- (2) DOT FMCSR
- (3) California Vehicle Code
- (4) DOL OSHA Regulations
- (5) EPA Regulations
- (6) Air Pollution Requirements of the State of California

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- (7) Exterior Noise Level
- (8) Interior Noise Level
- (9) Radio Suppression

(b) In effect at time of solicitation for bid:

- (1) Industry Standardization Document Compliance.
- (2) Comply with the performance requirements specified.
- (3) Meet the physical specifications specified.

4.6.1.2 Cooling system data. When a transporter truck mounted van body is required (see 3.1 and 3.12), the contractor shall supply certified test data or detailed calculations for transporter truck at GVWR of 69,000 pounds and at the GCWR of 120,000 pounds to prove that sufficient cooling system is furnished to maintain a radiator top tank temperature not greater than 212° F at an ambient temperature of 120° F. The engine oil, converter and transmission fluid (during lock-up operation), and power steering system hydraulic oil shall be not greater than 250° F, and the converter outlet temperature shall not exceed 300° F during converter operation as required to start and climb the specified maximum grades not less than 75 feet in length, with the maximum overall ratio reduction, at an ambient temperature of 120° F.

4.6.2 Tests. Tests shall be as specified herein. In addition, ISO size van bodies furnished by the contractor having evidence of one or more defects under Item 101 in 4.6.1 shall result in the contractor testing either his commercial ISO, Series 1, freight container, or the unmodified, preproduction model van body in accordance with the requirements of the American Bureau of Shipping and International Organization for Standardization agreements for intermodal transport service. Failure of this freight container or of this van body to be acceptable by the American Bureau of Shipping or by Lloyds Register of Shipping for intermodal transport service without restriction, when the van body is removed and prepared for ISO transport, shall be cause for rejection. Any test failure attributable to Government-furnished equipment shall not constitute failure of any test specified herein.

4.6.2.1 Test conditions. Prior to test, the van body shall be lubricated with oils and greases as specified in 3.15. Lubricants shall be those designated for use in the ambient temperature at the place of test.

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4.6.2.2 Standard air leakage rating test. The ISO size van body shall be tested or certified to determine the heat transmission rating and shall be tested to determine the air leakage rate. All tests and certification shall be in accordance with TTMA RP No. 38 or ISO/ANSI methods. Absence of a TTMA Thermal Rating plate on each van body, or a heat transfer rate or an air leakage rate exceeding the maximum limit specified in 3.10, Table II, (a), shall constitute failure of this test.

4.6.2.3 Precipitation test. The van body shall be placed on a horizontal surface and shall be exposed to natural or simulated rain with a 30 mph horizontal minimum wind velocity, perpendicular or parallel to the van body centerline, to obtain the conditions described below. The volume of rain impinging on the horizontal surface shall be not less than 1/4 gallon per minute per square foot of wetted horizontal area. Simulated rain shall originate from a source which produces droplets of uniform distribution and velocity, similar to natural rain at the point of contact with the van body. The test shall be conducted as follows:

- (a) Expose the top and left side to the rain as described above for a period of 5 minutes.
- (b) Repeat (a) with the top and front exposed.
- (c) Repeat (a) with the top and right side exposed.
- (d) Repeat (a) with the top and rear exposed.

Evidence of leakage into the interior of the van body or nonconformance to 3.5.2 or 3.10 shall constitute failure of this test.

4.6.2.4 Mobility tests. With the van body mounted on the intended vehicle, install and secure the intended operating equipment or a simulated minimum interior van payload evenly distributed over the body floor area, and perform the following tests. With the payload, weigh the vehicle axle-by-axle, and all axles, and record GVW. During all vehicle tests, all service lights shall be illuminated, turn signals operated on turns, and hazard warning system actuated on stops, except as otherwise specified herein.

- (a) Highway. Drive the vehicle over hard surfaced highways at sustained speeds up to 60 mph for not less than 2 hours.
- (b) Secondary and unimproved roads. Drive the vehicle over secondary roads (gravel and crushed stone) and unimproved roads (dirt and partially surfaced) at maximum safe speeds up to 40 mph for not less than 4 hours. Braking

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shall include not less than 15 abrupt stops from a speed of 25 mph in forward gear and not less than 5 abrupt stops from a speed of 5 mph in reverse gear. Turning shall include not less than 20 sharp turns (10 to the right and 10 to the left) at maximum safe speeds in forward gear.

- (c) Off-road. Drive the vehicle over off-road terrain at speeds up to 20 mph for not less than 2 hours.
- (d) Chatter course. Drive the vehicle over a chatter course until at least 2600 either upward or downward accelerations of magnitudes indicated herein have been applied to a rear wheel center. The course shall be of such construction that the acceleration magnitudes indicated below can be obtained by adjusting the vehicle speed without the frequency of the accelerations exceeding 15 cycles per second (cps) or becoming less than 3 cps. The maximum acceleration magnitude indicated below shall not be exceeded, and accelerations having magnitudes less than the minimum shall be disregarded. The course shall be of such length that a wheel center receives in one pass over the course at least 50 consecutive vertical acceleration cycles of any magnitude less than the maximum specified herein. The accelerations shall be measured by a trial test to establish the required vehicle test speed. The recording instruments shall then be disconnected and the test completed at established speed. The acceleration values used shall be those of the wheel center receiving the highest accelerations. Means for assuring that the vehicle test speed is held constant throughout the test shall be provided. Accelerations shall be measured on a running-gear member, usually an axle or spindle, that has a motion identical to that of the wheel center. The magnitude of the accelerations shall be not more than 6 g nor less than 3 g, where g represents the weight imposed.
- (e) Diagonal V-ditches. Drive the vehicle through highway standard V-ditches until 60 reversal torsional frame stresses have been applied. The ditches shall be approximately 18-inches deep, 36-inches wide at the top. With the V-ditches at an angle to the direction of travel, drive the vehicle to obtain one rear wheel and one front wheel, of opposite sides, in the ditches at a time. During the test, measure and record suspension articulation.

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- (f) Mud course. Drive the vehicle through mud at least 12 inches deep for a distance equal to 3 times the vehicle's overall length. Immobilize the vehicle and retrieve by towing out.
- (g) Braking. Demonstrate and record the vehicle braking capability required of the vehicle. In accordance with the DOT FMVSS and FMCSR and the California Vehicle Code procedures and requirements, conduct service, emergency, and parking ability demonstrations.
- (h) Semitrailer mobility tests. When ISO size van bodies are semitrailer mounted, perform the following:
 - (1) Tow the semitrailer in a pivot-turn about the center of the rear running gear for 360 degrees to the left and 360 degrees to the right on a level dry surface.
 - (2) Measure and record the deviation of off-tracking of the semitrailer with respect to the truck-tractor and compare with DOT FMCSR.
 - (3) Jackknife the semitrailer at angles of at least 90 degrees to the left and to the right from straight ahead.
 - (4) Demonstrate compatibility of the semitrailer to couple and uncouple from commercial truck-tractors and demonstrate the ability of the semitrailer front supports to raise and lower and withstand loaded free falls during uncoupling.
 - (5) Test brake system in accordance with TMA RP No. 12 and RP No. 44.
- (i) Truck mobility tests. When ISO size van bodies are truck mounted, perform the following:
 - (1) Based on the highway travel fuel consumption, calculate the travel distance per tank full.
 - (2) Rock the truck in soft, slippery mud by cycle shifting at not more than 2-second intervals from forward to reverse and back, continuously for at least 30 seconds. reverse and back, continuously for at least 30 seconds. Achieve at least 3/4-wide-open-throttle.
 - (3) Apply the service brakes, shift the powershift transmission into lowest forward gear, and apply wide-open-throttle power for at least 5 seconds. Repeat in all gears including reverse.

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- (4) Demonstrate the trucks' gradeability at GVWR and GCWR on either approximate grades ($\pm 5\%$ of the grade value) or by the drawbar pull methods. Present both actual gradeability by demonstration and the theoretical gradeability by calculation, per SAE J950 and SAE J688, respectively.
- (5) Demonstrate the acceleration capability of the truck at GVWR and GCWR.
- (6) During the mobility tests, measure the drive-by truck noise level per the California Vehicle Code and the in-cab noise level per DOT FMCSR and compare with those legal maximums.
- (7) Demonstrate the trucks' vehicle clearance circle and curb clearance circle in accordance with SAE J695, Field Test Procedure.

Examine the van body at the completion of each phase of this test, including vehicle, heaters, air conditioner, air filter, and humidity control system. Damage to or displacement of any component, accessory, part, or tool; evidence of defective welded, bolted, or riveted connections; accumulation of dust, mud, or water in the body; or nonconformance to 3.8 through 3.8.9 and 3.10, 3.11, or 3.12 shall constitute failure of these mobility tests.

4.6.2.5 Leveling test. With the van body mounted and loaded as specified in 4.6.2.4, park the vehicle on a side slope (perpendicular to the long axis) of approximately 5 percent. With all doors closed, the vehicle shall be leveled by means of the leveling jacks as determined by the van body levels. Check the actual leveling of the van body interior floor. Failure of the doors to open and close without binding or nonconformance to 3.10, 3.11, or 3.12 shall constitute failure of this test.

4.6.2.6 Blackout test. With the van body in darkness, close the window blackout curtains, door blackout curtains, and doors and turn on all interior lights with the van body. Open and close the personnel doors. Leakage of light or nonconformance to 3.10, Table II, (g) and (h), shall constitute failure of this test.

4.6.2.7 Demounting test. Test the ISO size van body for demounting from the vehicle. With the simulated payload evenly distributed and

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secured within the van body, with all underbody appurtenances secured, and with the doors closed, unlatch the van body from the vehicle, lift the van body, and place on the ground. Then lift the van body, reposition it back on the vehicle and latch down. A commercial top lifting or bottom lifting ISO freight container spreader shall be used to remove the ISO size van body and the four lifting and tiedown mechanisms specified in 3.10 shall be used to replace the ISO size van body. Inability to remove and reinstall the van body on the chassis, malfunction, permanent deformation, or damage to the van body or vehicle, or nonconformance to 3.6 or 3.10, Table II, (p), shall constitute failure of this test.

4.6.2.8 Heater test. Test the heaters (including accessories specified) for operation and installation. Set the heat thermostat for operation (electrically jumped if ambient air temperature requires). Set the manual control for 100 percent fresh air and operate the heaters for not less than 1/2 hour. Repeat the procedure with the manual control set for 100 percent recirculated air. Adjust the heater as necessary. Measure and record the pressure drops, the temperatures and temperature differentials, the relative humidity, and noise level. Inability of the heaters, dampers, diffusers or controls to function correctly or nonconformance to 3.10, Table II, (o), shall constitute failure of this test.

4.6.2.9 Air conditioner test. Test the air conditioner (including accessories specified) for operation and installation. Set the cooling thermostat for operation (electrically jumped if ambient air temperature requires). Set the manual control for 100 percent fresh air and operate the air conditioner for not less than 1/2 hour. Repeat the procedure with the manual control set for 100 percent recirculated air. Operate the condenser door with the control inside the body. Measure and record the pressure drops, the temperatures and temperature differentials, the relative humidity, and noise level. Inability of the air conditioner, diffusers, or controls to function correctly, or nonconformance to 3.10, Table II, (o), shall constitute failure of this test.

4.6.2.10 Electrical test. Energize all installed electrical equipment, interior lights, and exterior lights upon completion of the road test in 4.6.2.4. Failure of any item to function properly shall constitute failure of this test.

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4.6.2.11 Electromagnetic interference. The preproduction model shall be tested to determine conformance to 3.14. The contractor shall furnish the contracting officer a report of tests. Disapproval of the report shall constitute failure of this test.

4.6.3 Production van bodies.

4.6.3.1 Production inspection. The contractor's inspection system shall, as a minimum, assure that each production van body conforms to the physical and performance requirements specified herein. For each van body, the contractor shall make available to the Government, at the point of final acceptance, records acceptable to the Government indicating that the servicing and adjusting required by 3.16 has been accomplished.

4.6.3.2 Production tests. Lower, mount, and lock the ISO size van body on the van body's transport vehicle and insure compatibility. Connect and operate each heater and the air conditioner for not less than 10 minutes insuring correct operation. Seal the air conditioner and heater openings and close the doors. Pressurize or set a smoke bomb inside the van body and observe for evidence of excessive air leakage. Questionable ISO size van bodies shall be tested for both air and thermo leakage as specified in 4.6.2.2. When van bodies are mounted on vehicles by the contractor, drive the vehicle-mounted van bodies for a distance of not less than 5 miles, observing body and components for malfunction or defects. Any incompatibility, incorrect operation or control, defects in the heating or air conditioning system, excessive van body leakage exceeding the leakage rate specified, or inability of the vehicle-mounted van body to travel without malfunction or evidence of defects shall constitute failure of this test.

4.7 Inspection comparison. The Government may select van bodies at any time during the contract production period and subject these van bodies to the examinations specified in 4.6.1 and the tests specified in 4.6.2.1 thru 4.6.2.10 to determine conformance to the requirements of this specification. The inspection will be performed by the Government, at a site selected by the Government on van bodies selected at random from those which have been accepted by the Government and will not include the previously inspected preproduction model and initial production van bodies. In addition to any test specified as part of the inspection comparison, the Government reserves the right to conduct any and all other tests contained in this specification as part of the inspection comparison and failure of such additional tests shall have the same effect as failure of those tests specified as inspection comparison.

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4.7.1 Inspection failure. Failure of an inspection comparison van body to meet any requirement specified herein during and as a result of the examination and tests specified in 4.7 shall be cause for rejection of the inspection comparison van body and shall be cause for refusal by the Government to continue acceptance of production van bodies until evidence has been provided by the contractor that corrective action has been taken to eliminate the deficiencies. Correction of such deficiencies shall be accomplished by the contractor at no cost to the Government on van bodies previously accepted and produced under the contract. Any deficiencies found as a result of the inspection comparison will be considered prima facie evidence that all van bodies accepted prior to the completion of the inspection comparison are similarly deficient unless evidence to the contrary is furnished by the contractor and such evidence is acceptable to the contracting officer.

4.8 Inspection of packaging.

4.8.1 Preproduction pack inspection. The preproduction pack shall be examined for the characteristic specified in 4.8.2.3 for possible defects. Presence of one or more defects shall be cause for rejection.

4.8.2 Quality conformance inspection of pack.

4.8.2.1 Unit of product. For the purpose of inspection, a completed pack prepared for shipment shall be considered a unit of product.

4.8.2.2 Sampling. Sampling for examination shall be in accordance with MIL-STD-105.

4.8.2.3 Examination. Samples selected in accordance with 4.8.2.2 shall be examined for the following characteristics for possible defects. AQL shall be 1.0 percent defective for major defects and 2.5 percent defective for minor defects.

Major

- 119. Materials not as specified for Level A.
- 120. Small components and assemblies not secured to large components and assemblies.

Minor

- 206. Marking illegible, incorrect, or incomplete.
- 207. Fire extinguisher not packaged as specified.
- 208. Maintenance tools not preserved as specified.

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5. PACKAGING

5.1 Preservation (see 6.6). Each van body, attached components and assemblies, accessories, and tools shall be preserved in a manner to assure protection against deterioration and damage from the contractor to the initial destination. Doors and lids shall be closed and secured in a manner to prevent accidental opening or pilferage of contents.

5.2 Packing (see 6.6). Each van body, attached components and assemblies, accessories, and tools preserved and packaged as specified in 5.1 shall be prepared for shipment in a manner to assure carrier acceptance and safe delivery to destination at lowest ratings in compliance with Uniform Freight Classification rules or National Motor Freight Classification rules.

5.3 Marking. Marking shall be in accordance with MIL-STD-129 (see 6.6).

6. NOTES

6.1 Intended use. The vehicle-mounted van bodies are intended for use singularly or in multivehicle sets to provide a mobile plant for the operating equipment in support of troops in the field. The van bodies are vehicle-mounted for rapid mobility. Intermodal transportability of ISO size van bodies insures rapid worldwide deployment of the plants by aircraft, ship, railroad, and highway travel. In operation, the ISO size van bodies may provide a temporary plant by remaining vehicle-mounted or may provide a semipermanent plant by installing the removable van bodies on a prepared base, thereby freeing the vehicles for transport service. The ISO size van bodies are intended to house and transport furniture, cabinets and cupboards, water tanks and sinks, photographic equipment, layout tables, printing plants, driver training simulator devices, and various other items of operational equipment. Map repro vans are specifically intended to house the offset press, photomechanical processing, laboratory, plate processing, camera copy, and map reproduction equipment.

6.2 Ordering data. Procurement documents should specify the following:

- (a) Title, number, and date of this specification.
- (b) Title, number, and date of the applicable van body specification sheet.

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- (c) Which selection(s) and in what quantities the van bodies shall be mounted on the transport vehicles (see 3.1):
 - (1) Semitrailer mounted (without dolly converter).
 - (2) Full trailer mounted (including dolly converter).
 - (3) Transport truck mounted.
- (d) When mounting of van bodies on a transport vehicle is not required (see 3.1).
- (e) Time frame required for submission of the preproduction model, and the number of van bodies required (see 3.2).
- (f) When the Government will conduct any or all of the preproduction model examinations and tests. When the Government will conduct some but not all of the preproduction examinations and tests, the contracting officer should specify which examinations and tests will be conducted by the Government and which examinations and tests shall be conducted by the contractor (see 3.2).
- (g) When initial production inspection is required and the number and manner of mounting of the van bodies to be furnished (see 3.3).
- (h) When mandatory use of noise absorption material lining the van interior is required and (if applicable) the number of vans to be lined (see 3.4.2).
- (i) When ISO size van bodies are to be one of the ISO optional container heights, in lieu of the standard 8-foot height, and the value of the optional height required (see 3.10.1, Table I, Note 1).
- (j) When ISO size van bodies are required to have an optional overall container width of 2.59 meters (102 in.) in lieu of the standard 8-foot width (see 3.10.1, Table I, Note 2).
- (k) When ISO size van body windows, all or part, are not required or shall differ from those specified (see 3.10.2, Table II, g.).
- (l) For ISO size van bodies with windows, when window blackout curtains are not required (see 3.10.2, Table II, g., (2)).
- (m) When ISO size van body door requirements differ in location, quantity, and size (see 3.10.2, Table II, h.).

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- (n) When roll-up doors are required, the quantity of doors to be furnished and the locations of the doors (see 3.10.2, Table II, h., (4)).
- (o) When interior mounts between floor and ceiling are required and if required, when Type F mounts are required in lieu of Type E (see 3.10.2, Table II, k., (1)).
- (p) When pop-out type sides are required and the minimum length and height sizes and floor load capacity per square foot acceptable (see 3.10.2, Table II, k., (2)).
- (q) When (1) operating equipment installation by the contractor is required, (2) the kinds and types of equipment to be installed, and (3) whether the operating equipment, in whole or in part, will be supplied by the contractor or the Government (see 3.10.2, Table II, k., (3)).
- (r) When van body utility electrical system components are required to be furnished unmounted and which components shall be mounted and which components shall be unmounted (see 3.10.2, Table II, (1)).
- (s) When van body utility electrical system main power receptacle and cable differ from the components required (see 3.10.2, Table II, (2), (1)).
- (t) When GFE air conditioning and heater units are required to be different than those specified (see 3.10.2, Table II, o., (2)).
- (u) When air conditioning and heater unit front exterior protrusion limits differ from those specified (see 3.10.2, Table II, o., (2)).
- (v) When a humidity control system is not required or is required to differ from the system specified (see 3.10.2, Table II, o., (4)).
- (w) When electrostatic clean air filter is required (see 3.10.2, Table II, o., (5)).
- (x) When exhaust fan(s) are required and the locations and quantities of fans necessary (see 3.10.2, Table II, o., (6)).
- (y) When ISO size container semitrailer kinpin is required to be of the heavy duty, SAE J848, 3-1/2-inch size in lieu of the standard SAE J700, 2-inch size (see 3.11.2, Table IV, c., (3)).
- (z) When semitrailer-mounted reels and cradles differ from those specified or are not required (see 3.11.2, Table IV, m.).
- (aa) When dolly converters for full trailer use are required and the quantity to be furnished (see 3.11.2, Table IV, o.)
- (bb) When a military, 24-volt vehicle electrical system receptacle is required in addition to the commercial 12-volt vehicle electrical system receptacle (see 3.11.3).

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- (cc) When the transporter truck-mounted van bodies are required with a transmission PTO to drive operating equipment (see 3.12.3, Table V, d., (5)).
- (dd) When the transporter truck-mounted van bodies are required to have single front and dual rear tires in lieu of singles all the way around (see 3.12.3, Table V, e. (4) (b)).
- (ee) When cold weather heaters are required on the transporter truck and whether the self-contained system or the utility line system of heaters are to be installed (see 3.12.3, Table V, m., (1) and (2)).
- (ff) When truck-mounted reels and cradles differ from those specified or are not required (see 3.12.3, Table V, n. (3)).
- (gg) When military varnish coating of electrical system is required in lieu of commercial electrical coating (see 3.13.1).
- (hh) When Government-furnished property is required to be other than as specified (see 3.17).
- (ii) When vehicle marking is required to be other than white (see 3.19).
- (jj) When the exterior color of the van bodies is required to be other than as specified (see 3.20).

6.3 Preproduction model. Any changes or deviations of production van bodies from the approved preproduction model during production shall be subject to the approval of the contracting officer. Approval of the preproduction model by the activity concerned shall not relieve the contractor of his obligation to furnish van bodies conforming to this specification (see 3.2).

6.4 Lubricants. The contracting officer should furnish a list of military lubricants applicable to the van bodies covered by this specification as contained in Federal Supply Catalog, Department of Defense Section, Identification List C9100-IL, for FSC Group 91 (see 3.15.1).

6.5 Government-furnished property. The contracting officer should arrange to furnish to the contractor the property as specified in 3.10.2, Table II, k. (3), 3.17 and 6.2).

6.6 Section 5 levels. Levels of preservation, packaging, and packing have not been included, as the van body is a component of a set and it is anticipated that the van bodies will be shipped only from the van body manufacturer to the fabricator of the set. For the purposes of preservation/packing level marking, the marking shall be A/A.

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6.7 Data requirements. The contracting officer should include requirements for such data as the contractor's and each component contractor's commercial technical publications, instructional materials, illustrated parts list, maintenance and operation manuals and, optionally, the TTMA "Maintenance Manual for Trailers and Containers" and a general motor truck repair manual (such as MoToR or Chilton), or equal to be furnished with each van body or vehicle mounted van body. The technical data should be in accordance with SAE J920.

6.8 Provisioning. The contracting officer should include provisioning requirements for repair parts and maintenance tools as necessary (including any special tools), and instructions regarding shipment of the van bodies. For vehicle mounted van bodies, the contracting officer should include requirements for the contractor to include two copies of the ATA Vehicle Maintenance Reporting Standard (VMRS) "Vehicle Master Record" for power units or for trailers, as applicable, on each vehicle furnished. Each vehicle should include a tire lug wrench.

6.9 Vehicle weight classification. The contracting officer should arrange to furnish the contractor with blank vehicle classification forms (see 3.21) and request the return of these forms, completed, to the Government. The technical data thus obtained should be utilized to determine the weight classification number for the complete van body using its actual operating equipment weights, if known, or the GVWR requirements in Section 3 and the applicable specification sheet. The contractor should then be requested by the contracting officer to apply the vehicle weight classification number on each van body. The use of either a contractor-furnished or Government-furnished sign kit conforming to MIL-S-40626 should be determined and furnished.

6.10 Registration markings. The contracting officer should furnish a list of the USA registration markings to be applied on the vehicle mounted van bodies.

6.11 Commercial users. The contracting officer should request the personnel contacts and company names and addresses of at least five civilian users of the contractor's commercial container and semitrailer or truck, product lines, as applicable, similar to that being offered to the Government (see 3.10, 3.11, and 3.12).

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6.12 Military design van body. User requirements for the former Size 17, Military Design van body, covered by Drawings D10574 and D10777 and mounted on the 2-1/2-ton, 6 x 6, M63, Military Design Truck Chassis, have become obsolete by the introduction of the ISO modified containers. This deletion is in accord with the U.S. Army WHEELS study and the CCE (Commercial Construction Equipment) plan for equipment updating.

6.13 Electromagnetic interference. Van bodies covered by this specification should be designed to meet the electromagnetic compatibility requirements of MIL-STD-461, Class IIIC (see 3.14).

6.14 Handbook for evaluation. The contracting officer should include requirements for the van body contractor candidates and their sub-contractors to furnish a completed copy of the Handbook for Evaluation, depicting the equipment to be furnished, prior to or with Step 1 of bids or requests for proposals. Blank copies of the Handbook for Evaluation may be obtained from MERADCOM, ATTN: DRXFB-HK, Fort Belvoir, VA 22060.

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DOCUMENT IDENTIFIER AND TITLE		
MIL-V-13207D(ME) Body, Van, Vehicle-Mounted, General Specification for		
NAME OF ORGANIZATION AND ADDRESS		CONTRACT NUMBER
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