

[INCH-POUND]

PPP-G-2919

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SUPERSEDING

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FEDERAL SPECIFICATION

GENERATOR SETS, MOBILE ELECTRIC POWER AND SUPPLEMENTAL EQUIPMENT; PACKAGING OF

The General Services Administration has authorized the use of this specification by all Federal agencies.

1. SCOPE AND CLASSIFICATION

1.1 Scope. This specification covers the requirements for the preservation, packing, and marking of mobile electric power generator sets and supplemental equipment for storage and shipment (see 6.1). There is no classification designations in this specification.

2. APPLICABLE DOCUMENTS

2.1 Government publications. The following documents, of the issues in effect on the date of invitation for bids or request for proposal, form a part of this specification to the extent specified herein.

Beneficial comments, recommendations, additions, deletions, clarifications, etc. and any data which may improve this document should be sent to: Commanding Officer (Code 15E2), Naval Construction Battalion Center, 1000 23rd Avenue, Port Hueneme, CA 93043-4301, by using the Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

AREA PACK

DISTRIBUTION STATEMENT A. Approved for public release; distribution is unlimited.

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Federal Specifications

- O-S-801 - Sulfuric Acid, Electrolyte; for Storage Batteries.
- TT-P-664 - Primer Coating, Alkyd, Corrosion-Inhibiting Lead and Chromate Free, VOC-Compliant.
- UU-T-81 - Tags, Shipping and Stock.
- PPP-B-601 - Boxes, Wood, Cleated-Plywood.
- PPP-B-621 - Boxes, Wood, Nailed and Lock-Corner.
- PPP-B-1055 - Barrier Material, Waterproofed, Flexible.
- PPP-P-40 - Preservation and Packing of Hand Tools; Tools and Tool Accessories for Power Driven, Metal and Wood Working Machinery.

Federal Standards

- FED-STD-101 - Test Procedures for Packing Materials.
- FED-STD-123 - Marking for Shipment (Civil Agencies).

Commercial Item Description

- A-A-160 - Sack, Shipping, Paper (Cushioned).

Military Specifications

- MIL-C-104 - Crate, Wood: Lumber and Plywood Sheathed, Nailed, and Bolted.
- MIL-B-121 - Barrier Material, Greaseproofed, Waterproofed, Flexible.
- MIL-S-196 - Support Items, Accessories, and Kits, Mechanical; Packaging of.
- MIL-C-3774 - Crate, Wood; Open 12,000- and 16,000-Pound Capacity.
- MIL-E-10062 - Engine: Preparation for Shipment and Storage of.
- MIL-V-13811 - Varnish, Waterproofing, Electrical, Ignition.
- MIL-E-16298 - Electric Machines Having Rotating Parts, Accessories, and Associated Support Items: Packaging of.
- MIL-B-26195 - Boxes, Wood-Cleated, Skidded, Load-Bearing Base.
- MIL-V-62038 - Vehicles, Wheeled: Preparation for Shipment and Storage of.

Military Standards

- MIL-STD-129 - Marking for Shipment and Storage.
- MIL-STD-1186 - Cushioning, Anchoring, Bracing, Blocking, and Waterproofing; with Appropriate Test Methods.
- MIL-STD-2073 - DoD Materiel Procedures for Development and Application of Packaging.

(Copies of federal and military specifications and standards required by contractors in connection with specific procurement functions are obtained from the Defense Automated Printing Services, Attn: DoDSSP, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

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2.1.1 Other Government documents and publications. The following other Government documents and publications form a part of this document to the extent specified herein. Unless otherwise specified, the issues are those cited in the solicitation.

DEPARTMENT OF COMMERCE (DoC)

- PS-1 - Provisional Standard Specification for Poly (Vinyl Chloride) (PVC) Sewer and Drain Pipe Containing Recycled PVC Material.

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

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

AMERICAN NATIONAL STANDARDS INSTITUTE, INC. (ANSI)

- ANSI-Z1.4 - Sampling Procedures and Tables for Inspection by Attributes.

(Private sector and civil agencies may purchase copies of this voluntary standard from the American National Standards Institute, Inc., 11 West 42nd Street, New York, NY 10036.)

ASTM

- ASTM D 1974 - Standard Practice for Methods of Closing, Sealing, and Reinforcing Fiberboard Boxes.
- ASTM D 3953 - Standard Specification for Strapping, Flat Steel and Seals.
- ASTM D 4727 - Standard Specification for Corrugated and Solid Fiberboard Sheet Stock (Container Grade) and Cut Shapes.
- ASTM D 5118 - Standard Practice for Fabrication of Fiberboard Shipping Boxes.
- ASTM D 5168 - Standard Practice for Fabrication and Closure of Triple Wall Corrugated Fiberboard Containers.
- ASTM D 5330 - Standard Specification for Pressure-Sensitive Tape for Packaging, Filament-Reinforced.
- ASTM D 5486 - Standard Specification for Pressure-Sensitive Tape for Packaging, Box Closure and Sealing.

(Private sector and civil agencies may purchase copies of these voluntary standards from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959.)

NATIONAL MOTOR FREIGHT TRAFFIC ASSOCIATION, INC., AGENT

- National Motor Freight Classification.

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(Private sector and civil agencies may purchase copies of this voluntary standard from the American Trucking Association, Inc., Traffic Department, 1616 P Street, N.W., Washington, DC 20036.)

UNIFORM CLASSIFICATION COMMITTEE, AGENT

Uniform Freight Classification.

(Private sector and civil agencies may purchase copies of this voluntary standard from the Uniform Classification Committee, Tariff Publishing Officer, Room 1106, 222 South Riverside Plaza, Chicago, IL 60606.)

(DoD activities may obtain copies of those adopted voluntary standards listed in the DoD Index of Specifications and Standards free of charge from Defense Automated Printing Services, Attn: DoDSSP, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094.)

2.3 Order of precedence. In the event of a conflict between the text of this document and the references cited herein, the text of this document takes precedence. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 First article pack. Unless otherwise specified (see 4.3 and 6.2), the contractor shall furnish a first article pack for examination and test to prove, prior to starting production, preservation, and packing, that the applied preservation, packing, and marking comply with the requirements of this specification. Examination and tests shall be as specified in section 4 and shall be subject to surveillance and approval by the Government (see 6.5).

3.2 Materials. Materials used shall be free from defects which would adversely affect the performance or maintainability of individual components or of the overall assembly. Materials not specified herein shall be on the same quality used for the intended purpose in commercial practice. Unless otherwise specified herein, all equipment, material, and articles incorporated in the work covered by this specification are to be new and fabricated using materials produced from recovered materials to the maximum extent possible without jeopardizing the intended use. The term “recovered materials” means materials which have been collected or recovered from solid waste and reprocessed to become a source of raw materials, as opposed to virgin raw materials. Unless otherwise specified, none of the above shall be interpreted to mean that the use of used or rebuilt products is allowed under this specification.

3.3 Preservation. Preservation shall be level A or level B, as specified (see 6.2).

3.3.1 Level A.

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3.3.1.1 Disassembly. Disassembly of the generator sets and supplemental equipment shall be the minimum necessary to safeguard parts vulnerable to damage, pilferage, and loss; and to remove protruding parts, such as exhaust stacks, air cleaners, and standpipes, that would otherwise increase cubage. Disassembly shall be limited to those parts that can be removed and reinstalled without special tools.

3.3.1.2 Matchmarking. When necessary to facilitate reassembly, parts removed and mating parts shall be matchmarked. Matchmarking shall be marked on tags conforming to UU-T-81, type A, attached to the mating parts with wire or twine. Marking on tags shall be with waterproof ink.

3.3.1.3 Cleaning, drying, and application preservatives. Surfaces to which preservatives are to be applied shall be cleaned and dried in accordance with MIL-STD-2073. P-type preservatives specified herein shall conform to the applicable specification listed and shall be applied in accordance with MIL-STD-2073.

3.3.1.4 Exterior surfaces. Uncoated exterior ferrous metal surfaces, including threaded surfaces and surfaces exposed by disassembly, shall be coated with type P-1 preservative. Type P-2 or P-19 preservative may be used in lieu of type P-1 when the equipment is to be packed in a box or sheathed crate. On any surfaces, where the type P-1 coating would have to be removed before placing equipment in service, or where removal may cause damage, the surface shall be coated with type P-19 preservative. Unpainted metal information plates, except photosensitized anodized aluminum plates, on unboxed generator sets shall be coated with varnish conforming to MIL-V-13811.

3.3.1.5 Generator sets.

3.3.1.5.1 For sets not greater than 200 pounds (lbs) (91 kilograms (kg)).

3.3.1.5.1.1 Generator set, 0.5 kilowatt (kW). Each 0.5 kW generator set shall be preserved in accordance with MIL-STD-2073. The inner container and outer container shall conform to ASTM D 5118. A single or built-up piece of fiberboard, approximately 1-inch (25 millimetre (mm)) thick and conforming to ASTM D 4727, shall be snugly wedged between the control box and the fuel tank and another piece of fiberboard placed over the face of the control box. The fiberboard shall be secured in place with tape conforming to ASTM D 5330. The tape shall be applied horizontally around the control box and fuel tank with sufficient tension to prevent movement of the fiberboard or control box. Prior to enclosing the generator set in barrier material, the consolidated packed items and any individual items, as required, shall be placed within the confines of the generator set. The engine accessories shall be preserved as specified in 3.3.1.6.1.1. When furnished, the generator canvas cover shall be installed on the generator set. An internal type humidity indicator shall be required within the pack as specified in MIL-STD-2073. The outer container shall be closed in accordance with ASTM D 1974.

3.3.1.5.1.2 Generator set, 1.5 kW. Each 1.5 kW generator set shall be preserved in accordance with MIL-STD-2073. The inner container and outer container shall conform to ASTM D 5118. Prior to enclosing the generator set in the barrier material, the consolidated packed items

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(see 3.3.1.23) and any individual items, as required, shall be placed within the confines of the generator set. The engine and engine accessories shall be preserved as specified in 3.3.1.6.1.1. When furnished, the generator canvas cover shall be installed on the generator set. An internal type humidity indicator shall be required as specified in MIL-STD-2073. The outer container shall be closed in accordance with ASTM D 1974.

3.3.1.5.2 For sets 200 to 1,000 lbs (91 to 454 kg). Sets shall be preserved in accordance with MIL-STD-2073. The completed set shall be enclosed in the barrier and bolted through the barrier to the base of the shipping container in 3.4. An internal or external type humidity indicator shall be required as specified in MIL-STD-2073. When an internal type humidity indicator is used, an inspection window shall be provided in the barrier. Indicators shall be located so that the top panel of the container shall serve as the inspection port. Prior to enclosing the set in the barrier, the consolidated packed items (see 3.3.1.23) and any individual items, shall be placed and secured to the set within the barrier. The engine shall be preserved as specified in 3.3.1.6. When furnished, the generator canvas cover shall be installed on the generator set.

3.3.1.5.3 For fully sheathed crated sets. Sets shall be preserved as specified in 3.3.1.5.2, except that when an inspection window is provided in the barrier, it shall be located to coincide with the inspection door in the crate. When specified (see 6.2), in lieu of preserving in accordance with MIL-STD-2073, the generator component of the set shall be preserved as specified in MIL-E-16298, level A, for electric machines attached to mechanical equipment, and the engine preserved method I, as specified in 3.3.1.6.

3.3.1.5.4 For sets uncrated or in open type crates. Generator components shall be preserved by the alternate method specified in MIL-E-16298, level A, for electric machines attached to mechanical equipment, and the engine preserved method I, as specified in 3.3.1.6. When specified (see 6.2), generator set(s) mounted on a trailer shall be preserved, as specified in 3.3.1.5.2. The weight limitations shall not apply and the generator set(s) shall be secured directly through the barrier material to the trailer chassis, using the required bolts. The engine(s) shall be preserved method II as specified in 3.3.1.6. The generator set(s) shall be protected with a wood housing as specified in 3.4.1.5. Generator set(s) mounted inside of semitrailers shall be preserved by the alternate method of MIL-E-16298, level A as specified herein.

3.3.1.6. Gasoline and diesel engines.

3.3.1.6.1 Engines and boxed or fully sheathed crated sets. Engines and accessories of method II preserved generator sets, shall be preserved in accordance with MIL-E-10062, level A, type II, method II. Engines and accessories of generator sets not preserved by method II, shall be preserved in accordance with MIL-E-10062, level A, type II, method I, and in addition, shall have all openings into the engine and accessories including air intake and exhaust, sealed with tape conforming to ASTM D 5486.

3.3.1.6.1.1 Engines of uncrated or open type crated sets. Engines and accessories shall be preserved in accordance with MIL-E-10062, level A, type I or type II, method I or II, as

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applicable. All openings into the engines and accessories, including air intake and exhaust, for engines preserved method I, shall be sealed with tape conforming to ASTM D 5486.

3.3.1.6.2 Gas turbine engines. Unless otherwise specified (see 6.2), or recommended by the engine manufacturer, gas turbine engines shall be preserved as specified herein. The lubricating system shall be filled with regular operating oil as recommended in the end item specification or by the manufacturer. Start engine and circulate the lubricating oil through the system. Drain fuel system. If the generator set weighs less than 1,000 lbs (454 kg) and will be packed in a container, the lubricating oil shall be drained from the engine. A tag conforming to UU-T-81, type A, shall be attached in a conspicuous location indicating: "LUBRICATION SYSTEM DRAINED. REFILL WITH LUBRICATING OIL PRIOR TO OPERATING ENGINE." Openings into the engines shall be sealed with tape conforming to ASTM D 5486, or covered with waterproof barrier material conforming to PPP-B-1055, class E-1 or E-2. Engines shall be secured in place with tape specified herein. Gas turbine engines in generator sets to be preserved, in accordance with MIL-STD-2073, shall be preserved as specified above except openings shall not be sealed.

3.3.1.6.3 Auxiliary fuel lines. The auxiliary fuel lines for gasoline or diesel engines shall be flushed with type P-9, the same as the engine fuel lines, and the end sealed with tape conforming to ASTM D 5486. Coil to a minimum safe diameter and secure with cotton rope or twine. Place in toolbox or in a protected location on the generator set.

3.3.1.7 Supplemental equipment. Unless otherwise specified (see 6.2), supplemental equipment shall be preserved as specified herein.

3.3.1.7.1 Winterization kit.

3.3.1.7.1.1 Fuel burning and electric winterization kits and fuel burning and electric auxiliary winterization kits. Dry charged batteries shall remain in the container furnished. All components of such complete winterization kit shall be preserved together in accordance with MIL-STD-2073. The inner container shall be a close fitting box conforming to ASTM D 5168. The outer container shall be a close-fitting box conforming to PPP-B-601, overseas type. The inner faces of the outer container sides, ends, bottom, and top shall be covered with fiberboard conforming to ASTM D 4727, class weather-resistant. Strapping shall conform to ASTM D 3953.

3.3.1.7.2 Automatic power transfer panels. Each automatic power transfer panel shall be preserved in accordance with MIL-STD-2073. Interconnecting cables shall be coiled and the coils secured with cotton rope or twine. The cables for each panel shall be packaged in the inner container with the panel. The inner container shall be a close-fitting box conforming to ASTM D 5168 for the 50/60 Hertz (Hz) panel, or ASTM D 5118 and ASTM D 1974, domestic type, style optional for 400 Hz panel. The outer container for the 50/60 and 400 Hz panels shall be a close-fitting box conforming to PPP-B-601, overseas type, or MIL-B-26195, type II, style and class optional with plywood panels and rubbing strips. The inner faces of the outer container sides, ends, bottom, and top shall be covered with fiberboard conforming to ASTM D 4727, class weather-resistant. Strapping shall conform to ASTM D 3953.

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3.3.1.7.3 Load bank. Preservation is not required.

3.3.1.7.4 Remote control box. Each remote control box shall be preserved in accordance with MIL-STD-2073. The remote control box shall be secured through the barrier material to the base of the shipping container. The shipping container shall conform to PPP-B-601, overseas type, or MIL-B-26195, type II, style and class optional, with plywood panels and rubbing strips. The inner container shall be a close-fitting box conforming to ASTM D 5118. The outer container shall be a close-fitting box conforming to PPP-B-601, overseas type. The inner faces of the outer container sides, ends, bottom, and top shall be covered with fiberboard conforming to ASTM D 4727, class weather-resistant. Strapping shall conform to ASTM D 3953.

3.3.1.7.5 Wheel mounting assembly kit. Unprotected metal surfaces of the towing tongue, brake cables, tie rods, axles, brake hand lever, and wheels, requiring a contact preservative in accordance with MIL-STD-2073, shall be coated with type P-I preservative. Grease seals shall be preserved together in accordance with MIL-STD-2073. Bearings shall be coated with type P-II preservative and preserved in accordance with MIL-STD-2073. Nuts, cotter pins, and washers shall be preserved in accordance with MIL-STD-2073. Interior surfaces of brake drums and hubs shall be coated with primer conforming to TT-P-664. Care shall be exercised to prevent primer from contacting brake lining.

3.3.1.8 Air compressors. The air compressor and air compressor components shall be preserved in accordance with manufacture's standard practice..

3.3.1.9 Radiator fronts. Uncrated sets shall have radiator fronts covered with waterproofed barrier conforming to PPP-B-1055, class E-2 or H-1, hardboard. As an option, 0.25-inch (6 mm) plywood shall be used, and secured with tape conforming to ASTM D 5486.

3.3.1.10 Housings. All hoods and doors shall be secured. Uncrated or open type crated sets shall have all vents, louvers, and other openings in generator set housings sealed with tape conforming to ASTM D 5486. As an option, openings in generator set housing shall be covered with waterproofed barrier conforming to PPP-B-1055, class E-2 or H-1, hardboard or 0.25-inch (6 mm) plywood, secured with tape as specified herein. Openings at the bottom of the generator set housing where air flows over or through the frame structure, shall remain unsealed.

3.3.1.11 Windows. Unless otherwise specified (see 6.2), the glass in windows shall be protected with hardboard or 0.25-inch (6 mm) plywood secured in place with tape conforming to ASTM D 5486.

3.3.1.12 Cabinet doors and access panels inside generator housings. Interior surfaces of hinges shall be coated with type P-7 or P-9 preservative. In addition to mechanical locks or catches, secure doors and panels with steel strapping conforming to ASTM D 3953 or tape conforming to ASTM D 5330. When steel strapping is used fiberboard shall be placed under the strapping to prevent damage to adjacent surfaces.

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3.3.1.13 Hinges, latches and other features. Interior surfaces of hinges, latches, and other features of housings and toolboxes shall be coated with type P-7 or type P-9 preservative.

3.3.1.14 Dry charged batteries and battery cables. Dry charged batteries, except those for winterization kits (see 3.3.1.7.1.1), shall be placed and secured in the battery compartment. Batteries, except those in method II packs, shall be moisture sealed in a manner that the batteries cannot be activated without destroying the seals. For method II packs, the batteries shall be left open for ventilation into the interior surfaces of the batteries. Fill caps, if removed from the batteries, shall be secured to the batteries with tape as specified herein. The battery cables shall be disconnected and secured to the battery box or compartment with tape conforming to ASTM D 5486.

3.3.1.15 Electrolyte. Electrolyte, when furnished, shall be preserved and packed in accordance with level A requirements of O-S-801. Unless otherwise specified (see 6.2), the packed electrolyte shall be shipped separately from, but at the same time, as the generator sets and winterization kits.

3.3.1.16 Paralleling cables. The paralleling cables, when furnished, shall be coiled to a minimum safe diameter and secured with cotton tape or twine. The paralleling cables shall be placed inside the storage compartment, if space is available, or within the generator housing in a protected location.

3.3.1.17 Hydraulic fluid system (except hydraulic brakes). When specified (see 6.2), the hydraulic tank and filters of hydraulic systems of generator sets, if equipped, shall be drained of fluid. Replace drain plug. A tag conforming to UU-T-81, type A, shall be attached in a conspicuous location indicating: "HYDRAULIC SYSTEM DRAINED. REFILL WITH APPROVED HYDRAULIC FLUID BEFORE OPERATING."

3.3.1.18 Fire extinguishers. Unpainted exterior ferrous metal surfaces of the fire extinguishers shall be coated with type P-1 preservative. For mobile, unboxed, uncrated, or open type crated shipments, the fire extinguishers shall be individually placed in a fiberboard box conforming to ASTM D 5118. The box shall be waterproof sealed in accordance with ASTM D 1974. For boxed and sheathed crated shipments, the fire extinguisher shall be placed in the mounting bracket and secured.

3.3.1.19 Trailer chassis. Trailer chassis shall be preserved in accordance with MIL-V-62038, for mobile shipments.

3.3.1.20 Repair parts. Unless otherwise specified herein, the repair parts shall be preserved in accordance with MIL-S-196 and MIL-E-16298. For parts not specifically covered in MIL-S-196 or MIL-E-16298, an applicable method of preservation in MIL-STD-2073 shall be used. When specified (see 6.2), the preservative application criteria and applicable method(s) of preservation contained in MIL-STD-2073 shall be used to preserve the repair parts, unless detailed requirements are specified by the procuring activity.

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3.3.1.21 Maintenance tools. Maintenance tools shall be preserved in accordance with PPP-P-40, level A.

3.3.1.22 Technical publications. Technical publications for each generator set shall be preserved in accordance with MIL-STD-2073. Publications shall be placed in the document compartment, if equipped, or in the toolbox or consolidation pack with other components.

3.3.1.23 Consolidation.

3.3.1.23.1 For boxed sets. The preserved repair parts and maintenance tools shall be consolidated together in a minimum number of sacks conforming to A-A-160 or fiberboard boxes conforming to ASTM D 5118. The boxes shall be closed and sealed in accordance with ASTM D 1974. The size and number of sacks or boxes shall be determined by the available space to secure the container(s) within the confines of the generator set.

3.3.1.23.2 For crated and uncrated sets. Disassembly and matchmarking shall be as specified for level A (see 3.3.1.1 and 3.3.1.2), except that marking on tags shall not be required to be with waterproof ink and shipping tags may be type B.

3.3.2 Level B. Unless otherwise specified (see 6.2 and 6.5), level B preservation shall be as follows:

3.3.2.1 Disassembly and matchmarking. Disassembly and matchmarking shall be as specified for level A (see 3.3.1.1 and 3.3.1.2), except that marking on tags shall be required to be waterproof ink and shipping tags may be type B.

3.3.2.2 Cleaning, drying, and application of preservatives. Cleaning, drying, and application of preservatives shall be as specified for level A (see 3.3.1.3).

3.3.2.3 Exterior surfaces. Exterior surfaces shall be coated with preservatives as specified for level A (see 3.3.1.4), except unpainted information plates shall not be coated with varnish.

3.3.2.4 Generator sets. Openings that will permit direct entrance of dirt or water into electrical windings in the machine enclosures shall be sealed with tape conforming to ASTM D 5486. A tag shall be attached in a conspicuous location indicating: "REMOVE TAPE PRIOR TO OPERATION OF THE GENERATOR SET." The openings through which cooling air flows over or through the frame structure, but not over the electrical windings, shall not be taped. Contact preservative shall be applied as specified herein.

3.3.2.4.1 Shafts and couplings. Shafts and rigid couplings shall have unprotected ferrous metal surfaces coated with type P-1 or P-19 preservative. Flexible couplings shall be coated with type P-11 and overwrapped with barrier material conforming to MIL-B-121, grade A, secured in place with tape conforming to ASTM D 5486.

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3.3.2.4.2 Commutators, brushes, and coils. Preservation shall not be applied to the commutators, brushes, or coils.

3.3.2.4.3 Collector rings. On steel collector rings, the brushes shall be raised and the exposed steel collector ring surfaces shall be coated with type P-2 preservative. After coating with preservative, the steel collector rings shall be covered with barrier material conforming to MIL-B-121, grade A, or a piece of barrier material shall be inserted between each brush and the collector ring. The brushes shall be replaced and the springs adjusted. A tag shall be attached in a conspicuous location indicating: "REMOVE PACKAGING MATERIAL PRIOR TO OPERATION OF GENERATOR SET." Preservatives or barrier material are not required for bronze or brass collector rings.

3.3.2.5 Engines.

3.3.2.5.1 Gasoline and diesel engines. The engine and engine accessories shall be preserved in accordance with MIL-E-10062, level A (see 3.3.1.6), type I or type II, method I, as applicable.

3.3.2.5.2 Gas turbine engine. Unless otherwise specified (see 6.2), gas turbine engines shall be preserved as specified in 3.3.1.6.2.

3.3.2.6 Auxiliary fuel lines. Auxiliary fuel lines shall be coiled to a minimum safe diameter secured with cotton rope or twine and placed in the toolbox or in a protected location of the generator set.

3.3.2.7 Supplemental equipment. Unless otherwise specified (see 6.2), supplemental equipment shall be preserved as specified for level A (see 3.3.1.7), except the outer container shall be domestic type.

3.3.2.8 Air compressors. The air compressor and air compressor components shall be preserved in accordance with manufacture's standard practice.

3.3.2.9 Radiator fronts. When specified (see 6.2), radiator fronts on uncrated generator sets shall be covered as specified for level A (see 3.3.1.9).

3.3.2.10 Housings. Hoods, doors, and openings shall be secured and covered as specified for level A (see 3.3.1.10).

3.3.2.11 Windows. When specified (see 6.2), the glass in windows for level B shall be protected as specified for level A (see 3.3.1.11).

3.3.2.12 Cabinet doors and access panels inside generator housings. Secure doors and panels as specified for level A (see 3.3.1.12). No preservative is required on hinges.

3.3.2.13 Hinges, latches, and other features. Preservatives not required.

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3.3.2.14 Dry charged batteries and battery cables. Dry charged batteries shall be secured in the battery carrier, moisture sealed, and the battery cables secured to the battery box or compartment, as specified for level A (see 3.3.1.14).

3.3.2.15 Electrolyte. Electrolyte shall be preserved and packed as specified for level A (see 3.3.1.15), except unless otherwise specified (see 6.2), the electrolyte shall be shipped separately from, but at the same time as the generator sets and winterization kits.

3.3.2.16 Paralleling cables. Paralleling cables shall be coiled and secured with cotton tape or twine and stowed within the storage compartment or the generator housing.

3.3.2.17 Hydraulic fluid systems (except hydraulic brakes). When specified (see 6.2), the hydraulic tank and filters shall be drained and tagged as specified for level A (see 3.3.1.17).

3.3.2.18 Fire extinguishers. The fire extinguishers shall be secured in the mounting bracket.

3.3.2.19 Trailer chassis. The trailer chassis shall be preserved in accordance with MIL-V-62038, level B unboxed (mobile) requirements.

3.3.2.20 Repair parts, maintenance tools, and technical publications. Repair parts, maintenance tools, and technical publications shall be preserved as specified for level A (see 3.3.1.20, 3.3.1.21, and 3.3.1.22).

3.3.2.21 Consolidation. The preserved repair parts, maintenance tools, disassembled components, and accessories shall be consolidated as specified for level A (see 3.3.1.23). Boxes shall be class domestic or class I.

3.3.2.22 Unit packing. The 0.5 kW and 1.5 kW generator sets shall be unit packed as specified herein. Generator sets over 1.5 kW shall not require unit packing.

3.3.2.22.1 Generator set, 0.5 kW. Each 0.5 kW generator set preserved in accordance with the applicable requirements in 3.3.2.1 through 3.3.2.21, shall be unit packed in a close fitting box conforming to ASTM D 5118. Strapping shall not be required. The box shall be waterproof sealed in accordance with ASTM D 1974.

3.3.2.22.2 Generator set, 1.5 kW. Each 1.5 kW generator set preserved in accordance with the applicable requirements in 3.3.2.1 through 3.3.2.21, shall be unit packed in a close-fitting box conforming to ASTM D 5118. Strapping shall not be required. The box shall be waterproof sealed in accordance with ASTM D 1974.

3.4 Packing. Packing shall be level A or level B, as specified (see 6.2).

3.4.1 Level A.

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3.4.1.1 Generator sets not greater than 200 lbs. (91 kg). Unless otherwise specified (see 6.2), each 0.5 kW or 1.5 kW generator set shall be packed in a close-fitting box conforming to ASTM D 5118. Strapping shall be zinc-coated. When specified (see 6.2), generator sets of like description shall be packed together in a close-fitting box conforming to PPP-B-601, overseas type, in quantities not greater than the weight limitations of the box. Strapping shall conform to ASTM D 3953.

3.4.1.2 Generator sets 200 to 1,000 lbs (91 to 454 kg). Unless otherwise specified herein, each complete 3 kW, 5 kW, and 10 kW generator set shall be packed as specified for level A. When a generator is greater than 1,000 lbs (454 kg), it shall be packed in accordance with 3.4.1.3. When specified (see 6.2), the generator set(s) shall be packed in boxes conforming to PPP-B-601, overseas type or each complete generator set greater than 1,000 lbs (454 kg) shall be packed in a box conforming to MIL-B-26195, type II, style A or B, class optional, with plywood superstructure and rubbing strips. See table I for pallets.

TABLE I. Packing level.

Generator weight lbs (kg)	A Overall width of pallet, cap and length of skid	B Overall length of pallet and cap
275 - 600 (125 - 272)	Overall width of generator +4.75-inch (121 mm)	Overall length of generator +6.5-inch (165 mm)
605 - 1,000 (274 - 454)	Overall width of generator +4.875-inch (124 mm)	Overall length of generator +6.625-inch (168 mm)

Note: Intermediate cleats: 10 kW sets will require two intermediate cleats on sides and top and one on each end; 5 kW, one each side, top and end; 3 kW, one each side and top.

3.4.1.3 Generator sets 1,000 to 20,000 lbs (454 to 9 072 kg) (except highway type trailer mounted unit(s)). Each complete generator set shall be packed in a crate conforming to MIL-C-104, type I or II, class 2, style A. The contents shall be anchored, blocked, and braced in accordance with MIL-C-104 and MIL-STD-1186. When specified (see 6.2), for unit(s) not preserved in accordance with MIL-STD-2073, the steel base of the generator set shall be utilized as the base of the container. The housing consisting of ends, sides, and top constructed in accordance with MIL-C-104, type I, class 2, shall be provided to house the generator set. The housing shall be secured directly to the steel base of the generator set. When generator sets are preserved and packaged in accordance with MIL-STD-2073, and an internal type humidity indicator is utilized, the crate shall be provided with an inspection door. The inspection door shall be located so as to allow access to the humidity indicator.

3.4.1.4 Generator sets, skid mounted, greater than 20,000 lbs (9 072 kg). The generator sets shall be shipped uncrated. Consolidated packs, disassembled components, accessories, and repair parts for each generator set, when practicable, shall be placed within the generator set housing and secured to prevent movement.

3.4.1.5 Generator sets, highway type, trailer mounted. Generator sets mounted on highway type trailers shall be shipped uncrated. Consolidated packs, disassembled components, accessories,

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and repair parts for each generator set shall be positioned and secured to the generator set. Items secured to the generator set shall be in such a manner as not to interfere with towing or lifting the generator set with slings. When specified (see 6.2), a housing consisting of ends, sides, and top constructed in accordance with PPP-B-601, overseas type or MIL-C-104, type 1, class 2, shall be provided to house the generator set. The housing shall be secured to the generator base or to the trailer. CAUTION: Landing gears on trailers are subject to damage during shipment. Do not ship trailer resting on landing gear.

3.4.1.6 Supplemental equipment.

3.4.1.6.1 Winterization kits, automatic power transfer panels, and remote control boxes. The items preserved as specified in 3.3.1.7 for level A do not require packing.

3.4.1.6.2 Load bank. Each load bank shall be secured to the base of a crate conforming to MIL-C-104, type I or II, class 2, style A. Blocking, bracing, and anchoring of the load bank within the crate shall be in accordance with MIL-C-104 and MIL-STD-1186. Closure of the crates shall be in accordance with MIL-C-104. Strapping shall conform to ASTM D 3953.

3.4.1.6.3 Wheel mounting assembly kit. The preserved components of each complete wheel mounting assembly kit shall be packed in a close-fitting, cleated plywood box conforming to PPP-B-601, overseas type. Blocking, bracing, anchoring, and cushioning shall be in accordance with MIL-STD-1186. Strapping shall conform to ASTM D 3953.

3.4.2 Level B.

3.4.2.1 Generator sets not greater than 200 lbs (91 kg). Unless otherwise specified (see 6.2), each 0.5 kW or 1.5 kW generator set, preserved as specified in 3.3 for level A or B, shall be prepared for shipment without overpacking. Strapping of boxes shall be in accordance with ASTM D 1974. When specified (see 6.2), generator sets of like description, preserved as specified in 3.3 shall be packed together in close-fitting box conforming to ASTM D 5168. The quantities to be packed in the box shall be specified (see 6.2). The box shall be waterproof sealed with tape and reinforced as specified in ASTM D 1974.

3.4.2.2 Generator sets 200 to 1,000 lbs (91 to 454 kg). Each complete 3 kW, 5 kW, and 10 kW generator set shall be packed in a box conforming to PPP-B-601, domestic type or PPP-B-621, class 1. When a generator set is greater than 1,000 lbs (454 kg), it shall be packed in accordance with 3.4.2.3. When specified (see 6.2), each complete 3 kW, 5 kW, and 10 kW generator set shall be packed as specified for level B. Complete generator set greater than 1,000 lbs (454 kg) shall be packed in a box conforming to MIL-B-26195, type I, with plywood superstructure and rubbing strips. See table I for pallets.

3.4.2.3 Generator sets 1,000 to 16,000 lbs (454 to 7 257 kg) (except highway type), trailer mounted units. Each complete generator set shall be packed in a crate conforming to MIL-C-104, type I or II. The contents shall be anchored, blocked, and braced in accordance with MIL-C-104

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and MIL-STD-1186. Strapping shall be in accordance with MIL-C-104 and appendix thereto. The contents of open crated conforming to MIL-C-3774, shall be shrouded in accordance with MIL-C-104 and appendix thereto. When specified (see 6.2), a wood housing shall be provided over the generator set as specified in 3.4.1.3 for level A.

3.4.2.4 Generator sets, skid mounted, greater than 16,000 lbs (7 257 kg). The generator sets shall be shipped uncrated or as specified by the procurement activity. Consolidated packs, disassembled components, accessories, and repair parts for each generator set, when practicable, shall be placed within the generator set housing and secured to prevent movement.

3.4.2.5 Generator sets, highway type, trailer mounted. Generator sets mounted on highway type trailers shall be shipped uncrated. Consolidated packed disassembled components, accessories, and repair parts for each generator set shall be positioned and secured to the generator set. Items secured to generator set shall be in such a manner as not to interfere with towing or lifting the generator set with slings. When specified (see 6.2), a wood housing shall be provided over the trailer mounted generator sets as specified in 3.4.1.5 for level A. The trailer shall not be shipped resting on the landing gear (see 3.4.1.5).

3.4.2.6 Supplemental equipment.

3.4.2.6.1 Winterization kits, automatic power transfer panels, and remote control boxes. Items preserved as specified in 3.3 for levels A or B do not require packing.

3.4.2.6.2 Load bank. Each load bank shall be packed as specified for level A (see 3.4.1.6.2), except that the crate shall conform to MIL-C-3774, type I or II, and the load bank shall be protected with a shroud. Anchoring and waterproofing shall be in accordance with MIL-C-104 and MIL-STD-1186.

3.4.2.6.3 Wheel mounting assembly kit. Packing shall be as specified for level A (see 3.4.1.6.3), except that the box shall be domestic type.

3.4.3 Generator sets and supplemental equipment packing. The complete generator sets and supplemental equipment shall be packed in a manner which will ensure arrival at destination in satisfactory condition and which will be acceptable to the carrier at lowest rates. Containers and packing shall comply with Uniform Freight Classification rules or National Motor Freight Classification rules. When specified (see 6.2), each 3 kW, 5 kW, or 10 kW set shall be packed conforming to MIL-STD-2073. For trailer mounted generator sets, the trailer shall not be shipped resting on the landing gear.

3.5 Marking. Marking shall be in accordance with MIL-STD-129. For civil agencies, marking shall be in accordance with FED-STD-123. In addition to any special marking required, the following shall be stenciled on one side and one end of each shipping container packed: "DO NOT STACK. CONTAINER WILL NOT SUPPORT SUPERIMPOSED LOAD."

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3.6 Depreservation guide. Two depreservation guides shall be furnished. One shall be preserved in accordance with MIL-STD-2073 and the bag marked to indicate DEPRESERVATION GUIDE. The preserved guide shall be secured in a conspicuous location on the inside of the shipping container or on the equipment. The other copy shall be placed in the document compartment or the toolbox with the technical publications. Unless otherwise specified (see 6.2 and 6.6), DA Form 2258 - Depreservation Guide for Vehicles and Equipment shall be used.

3.7 Workmanship. All operations and processes involved in accomplishing the requirements of this specification shall be in accordance with the highest grade practices associated with this type of work.

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 (examinations and tests) 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 ensure that supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance. All items shall meet all requirements of section 3 and 5. The inspection set forth in this document shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in this document shall not relieve the contractor of the responsibility of ensuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling inspection, as part of manufacturing operations, is an acceptable practice to ascertain conformance to requirements, however, this does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to accept defective material.

4.1.2 Component and material inspection. Components and materials shall be inspected in accordance with all the requirements specified herein and in applicable referenced documents.

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

- a. First article inspection (see 4.3).
- b. Quality conformance inspections (see 4.4).

4.3 First article inspection. The first article inspection shall be performed on one complete pack when a first article is required (see 3.1 and 6.2). This inspection shall include the examination of 4.3.1 and the tests of 4.3.2. The first article may be either a first production item or a standard production item from the supplier's current inventory provided the item meets the requirements of

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the specification and is representative of the design, construction, and manufacturing technique applicable to the remaining items to be furnished under the contract.

4.3.1 Examination. The first article pack shall be examined for the defects listed in table II. One or more defects shall be cause for rejection.

4.3.2 Tests. When specified (see 6.2), the first article pack for level A and B packs shall be tested in accordance with 4.3.2.1 or 4.3.2.2, as applicable. After satisfactorily completing the first article pack tests and all specified requirements have been met, a test report shall be prepared by the contractor and three copies of the report shall be furnished to the procuring activity.

4.3.2.1 Boxed generator sets (level A or B). Boxed generator sets not greater than 200 lbs (91 kg) shall be subjected to the free-oil drop test in accordance with FED-STD-101, method 5007, procedure D. Boxed generator sets greater than 200 lbs (91 kg), but not greater than 1,000 lbs (454 kg), shall be subjected to the pendulum impact test in accordance with FED-STD-101, test 5012 or the incline test in accordance with test method 5023.

4.3.2.2 Crated generator sets (level A or B). Crated generator sets shall be subjected to the guided-impact test (railroad car) specified in MIL-STD-1186, appendix A. The car shall strike a string of five empty cars with draft gear extended and the brakes set, at a speed of not less than 10 miles per hour (mph) (16 kilometre (km/h)) and not greater than 11 mph (18 km/h). Packs not greater than 9.5 feet (2 896 mm) in length shall have one impact applied to each end and each side of the pack. Packs greater than a 9.5 feet (2 896 mm) in length shall have one impact applied to each end of the pack. When it is impracticable to test in accordance with the railroad car method, the incline-impact test as specified in MIL-STD-1186 may be substituted.

4.3.3 Failure criteria. Shifting of contents, visible damage to the contents, loosening or breaking of anchoring, blocking, bracing, and cushioning within the container shall constitute failure of the test and shall be cause for rejection of the first article pack.

4.4 Quality conformance inspection.

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

4.4.2 Inspection lot. All preserved, packed, and marked generator sets and supplemental equipment offered for delivery at one time shall be considered a lot for purpose of inspection.

4.4.3 Sampling for examination. Random samples of preserved, packed, and marked generator sets and supplemental equipment shall be selected from each lot in accordance with ANSI-Z1.4. Guidance for inspection level and an Acceptable Quality Level (AQL) is provided in 6.4.

4.4.4 Examination. Each completed pack shall be examined for defects listed in table II. Each attribute within each classification of multiple defects shall constitute one defect.

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TABLE II. Classification of defects.

Classification	Defects	Requirement paragraph
Major:		
101	Materials, methods, or containers not as specified.	3.2, 3.3, and 3.4
102	Disassembly and matchmarking not as specified.	3.3.1.1, 3.3.1.2, and 3.3.2.1
103	Cleaning, drying, and preservatives not as specified.	3.3.1.3 and 3.3.2.2
104	Unpainted exterior ferrous metal surfaces not coated with a preservative as specified; information plates not coated with varnish for level A.	3.3.1.4 and 3.3.2.3
105	Generator sets not greater than 200 lbs (91 kg) not preserved as specified.	3.3.1.5.1
106	Generator sets 200 lbs to 1,000 lbs (91 kg to 454 kg) not preserved as specified.	3.3.1.5.2
107	Fully sheathed crated generator sets not preserved as specified; the generator component not preserved in accordance with the alternate method when specified for level A.	3.3.1.5.3
108	Generator sets uncrated or in open type crates not preserved as specified.	3.3.1.5.4
109	Engines not preserved as specified for levels A and B.	3.3.1.6, 3.3.2.5
110	Auxiliary fuel lines not preserved; ends not sealed; lines not coiled, secured, or stowed as specified.	3.3.1.6.3 and 3.3.2.6
111	Winterization kits, automatic power transfer panes and remote control boxes not preserved as specified; containers not lined with fiberboard.	3.3.1.7.1.1, 3.3.1.7.2, 3.3.1.7.4, and 3.3.2.7
112	Components of wheel mounting assembly kit not preserved as specified.	3.3.1.7.5 and 3.3.2.7
113	Air compressors not preserved in accordance with manufacturer's standard practice.	3.3.1.8 and 3.3.2.8

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TABLE II. Classification of defects. (continued)

Classification	Defects	Requirement paragraph
Major:		
114	Front of radiators and glass in windows not covered or protected as specified for level A and B.	3.3.1.9, 3.3.1.11, 3.3.2.9, and 3.3.2.11
115	Hoods and doors not secured; openings into housings not sealed or covered as specified.	3.3.1.10 and 3.3.2.10
116	Cabinet doors and access panels not preserved or secured as specified; fiberboard not placed under steel strapping.	3.3.1.12 and 3.3.2.12
117	Hinges, latches, and other features not coated with a preservative as specified for level A.	3.3.1.13
118	Batteries not secured in the battery compartment; battery cables not disconnected and secured to the battery box or compartment as specified; batteries not moisture sealed or filler caps not removed and secured to the battery as specified.	3.3.1.14 and 3.3.2.14
119	Electrolyte not preserved and packed or shipped separate as specified.	3.3.1.15 and 3.3.2.15
120	Paralleling cables not coiled, the coils not secured, or the cables not stowed as specified.	3.3.1.16 and 3.3.2.16
121	Hydraulic fluid systems not drained and tagged as specified.	3.3.1.17 and 3.3.2.17
122	Fire extinguishers not coated with a preservative; placed in fiberboard box or secured in the mounting bracket as specified.	3.3.1.18 and 3.3.2.18
123	Trailer chassis not preserved as specified.	3.3.1.19 and 3.3.2.19
124	Repair parts, maintenance tools, and technical publications not preserved as specified. Technical publication not stowed in the document compartment of the toolbox.	3.3.1.20, 3.3.1.21, 3.3.1.22, and 3.3.2.20

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TABLE II. Classification of defects. (continued)

Classification	Defects	Requirement paragraph
Major: 125	Consolidation not as specified.	3.3.1.23 and 3.3.2.21
126	Packing for levels A or B not as specified. Containers not the proper type, class or styles, or exceed the specified weight limitations. Anchoring, blocking, and bracing is inadequate and not as specified. Contents not waterproofed with shroud. Strapping not as specified. Wood housings not provided for trailer mounted generator set when specified; trailer shipped resting on landing gear.	3.4.1 and 3.4.2
127	Packing not provided, when specified. Trailer shipped resting on landing gear.	3.4.3
128	Marking illegible, incorrect, incomplete, or otherwise not as specified.	3.5
129	Depreservation guide not prepared or located as specified.	3.6

5. PACKAGING

This section is not applicable to this specification.

6. NOTES

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

6.1 Intended use. This specification is intended to be used for the preservation, packing, and marking of generator sets, mobile, electric power and supplemental equipment, and is to be used for reference in section 5 of end item specifications, direct reference in contracts or orders, and can be used for preparing packaging data sheets or other types of packaging instructions.

6.2 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. When first article is required for inspection and approval (see 3.1 and 4.3).
- c. Level of preservation and level of packing required (see 3.3 and 3.4).

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- d. When sheathed crated sets are to be preserved by the alternate method (see 3.3.1.5.3).
- e. When generator set(s) mounted on trailers are to be preserved in accordance with MIL-STD-2073 (see 3.3.1.5.2).
- f. If gas turbine engines are to be preserved other than specified (see 3.3.1.6.2 and 3.3.2.5.2).
- g. If supplemental equipment is to be preserved other than specified (see 3.3.1.7 and 3.3.2.7).
- h. If glass in windows are not to be protected (see 3.3.1.11 and 3.3.2.11).
- i. If electrolyte is to be shipped other than as specified (see 3.3.1.15 and 3.3.2.15).
- j. When hydraulic fluid system should be drained and tagged (see 3.3.1.17 and 3.3.2.17).
- k. When repair parts are to be preserved in accordance with MIL-STD-2073 (see 3.3.1.20).
- l. When level B preservation is intended to provide economical but limited protection and should be specified only when the generator sets and supplemental equipment will be shipped in a covered carrier and held in covered storage for an indefinite period (see 3.3.2 and 6.5).
- m. When radiator fronts or glass in windows are to be covered or protected for level B (see 3.3.2.9 and 3.3.2.11).
- n. When packing is other than as specified (see 3.4).
- o. When generator sets not greater than 200 lbs (91 kg) are to be packed in boxes other than specified and when generator sets of like description are to be packed together (see 3.4.1.1).
- p. When generator sets 200 lbs to 1,000 lbs (91 to 454 kg) are to be packed in boxes conforming to PPP-B-601 or when generator sets over 1,000 lbs (454 kg) are to be packed in boxes conforming to MIL-B-26195 (see 3.4.1.2).
- q. When a wood housing is to be provided over the generator sets (see 3.4.1.3 and 3.4.2.3).
- r. When a wooden housing is required over the trailer mounted generator sets (see 3.4.1.5 and 3.4.2.5).
- s. If 0.5 kW or 1.5 kW generator sets are to be overpacked (see 3.4.2.1).
- t. When generator sets of like description are to be packed together and the quantity to be packed in each container (see 3.4.2.1).
- u. When generator sets over 1,000 lbs (454 kg) are to be packed in boxes conforming to MIL-B-26195 (see 3.4.2.2).
- v. When 3 kW, 5 kW, or 10 kW generator sets are to be packed conforming to MIL-STD-2073 (see 3.4.3).
- w. When other than DA form 2258 is to be used (see 3.6).
- x. When a first article pack test is required (see 4.3.2).

6.3 First article. When a first article inspection is required, the item will be tested and should be a first article sample or it may be a standard production item from the contractor's current inventory as specified in 4.3. The first article should consist of one unit. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examination, test, and approval of the first article.

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6.4 Sampling procedures. Recommended inspection level is II and AQL is 4.0 defects per hundred unit(s) (see 4.4.3).

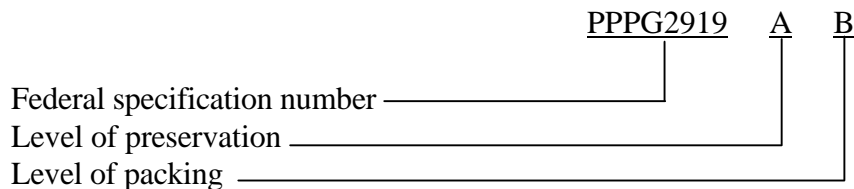
6.5 Level B preservation. Level B preservation (see 3.3.2), has been developed for use by the Army and Air Force for the specific conditions. For Navy procurements, details of level B preservation, when required, should be developed at time of procurement when all conditions are known.

6.6 Depreservation guides. The contracting officer should arrange to furnish the necessary copies of DA form 2258, when requested by the contractor.

6.7 Fuel systems. When shipping generator sets by military aircraft, the fuel system of gasoline, diesel and gas turbine engines should be drained and purged as specified in AFM 71-4, DSAM 4145.3, TM 38-250, NAVSUP PUB 505, and MCO 4030.19. Additional information for draining and purging fuel tanks is contained in MIL-HDBK-758, T.O. 35-1-4, and T.O. 38-1-5.

6.8 Environmental pollution preventive. Disposal methods of packaging materials, to prevent environmental pollution, are contained in MIL-HDBK-742, the material specification, or may be obtained from the preparing activity of the applicable material specification.

6.9 Part or Identification Number (PINs). The specification number, level of preservation and level of packing are combined to form PINs for preservation and packing covered by this document (see 1.2). PINs for preservation and packing are established as follows:



The above PIN for level of preservation and level of packing is designated by one code letter (see table II).

TABLE III. PIN designators.

Pin designator	Preservation level		Packing level	
	A	B	A	B

6.10 Supersession data. This specification replaces Military Specification MIL-G-28554C, Amendment 1, dated 17 November 1988.

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6.11 Subject term (key word) listing.

Electrolyte
Generator
Marking
Packing
Preservation

MILITARY INTERESTS:

Custodians:

Army - GL
Navy - YD1
Air Force - 69

Review Activities:

Army - ME, SM, MI
Navy - SA, OS, MC, SH
Air Force - 71, 80
DLA - CS

CIVIL AGENCY COORDINATING ACTIVITY:

GSA-FSS

PREPARING ACTIVITY:

Navy - YD1

(Project PACK-1052)

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ITEM NUMBER	DESCRIPTION	QUANTITY LEVEL	
		A	B
1	CAP, FABRICATED IN ACCORDANCE WITH PPP-B-601, OVERSEAS TYPE, STYLE A, LOAD TYPE 2, WITHOUT BOTTOM	1	
2	CAP, WEATHER RESISTANT, ASTM 5168 WITHOUT BOTTOM		1
3	BASE, PALLET, PLYWOOD, NN-P-530, GROUP A (CS-51, TYPE I, GRADE 3-4) OR GROUP B (PS-1, TYPE EXTERIOR, GRADE C-D), (SEE NOTE 3).	1	1
4	STRIP, LUMBER, MIL-STD-731, CL 2, 2X2 (51X51 MM) NOMINAL SIZE (SEE NOTE 4).	2	2
5	STRIP, LUMBER, MIL-STD-731, 1X1 (25X25 MM) NOMINAL SIZE.	2	
6	STRIP, RUBBING, LUMBER, MIL-STD-731, CL 2, 1X4 (25X102 MM) NOMINAL SIZE (SEE NOTE 2).	2	2
7	SKID, LUMBER, MIL-STD-731, CL 2, 2X4 (51X102MM) NOMINAL SIZE (SEE NOTE 2).	2	2
8	BOLT, CARRIAGE, LENGTH TO SUIT WITH SELF-LOCKING NUT AND WASHER (SEE NOTE 5 FOR DIAMETER).	4	4
9	NAIL, BOX, CEMENT COATED 4d, TO BE CLINCHED WHEN DRIVEN THROUGH	AR	AR
10	NAIL, BOX, CEMENT COATED 7d, TO BE CLINCHED WHEN DRIVEN THROUGH.	AR	AR
11	STRAP, ASTM D 3953, TYPE 1 OR 2, FINISH B, .75X.020 (19X0.5 MM) THICK AND SEALS (SEE NOTE 6).	AR	
12	STRAP, ASTM D 3953, TYPE 1 OR 2, FINISH A OR B, .75X.020 (19X0.5 MM) THICK AND SEALS (SEE NOTE 6).		AR
13	STAPLES, PPP-B-601 PARAGRAPH 30.4.	AR	
14	NAIL, ROOFING, GALVANIZED, .5 (13 MM) DIA, HDX1.25 (30 MM) LG.		AR
15	TAPE 3-INCH (76 MM) WIDE, PPT-T-60, TYPE IV, ENDS, TOP AND MANUFACTURES JOINT.		AR
16	WOOD SCREW, NO. 12X2.25 (57 MM) LG. PHOSPHATE COATED, FLAT HEAD	AR	

NOTES:

1. ALL DIMENSIONS ARE IN INCHES.
2. ITEM NOS. 6 AND 7 MAY BE COMBINED AS ONE PIECE 2.25 INCH (57 MM) MINIMUM THICKNESS.
3. USE .5-INCH (13 MM) PLYWOOD BASE FOR 3 AND 5 KW GENERATORS: USE .75-INCH (19 MM) FOR 10 KW.
4. ITEM NO. 4 EXTENDS BEYOND WIDTH OF GENERATOR SKID FOR LEVEL A, BUT IS BETWEEN GENERATOR SKID FOR LEVEL B.
5. BOLT DIAMETERS: .5-INCH (13 MM) FOR 3 AND 5 KW GENERATORS; .625-INCH (16 MM) FOR 10 KW.
6. FOUR GIRTHWISE STRAPS FOR 10 KW GENERATORS, THREE FOR 3 AND 5 KW.