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SUPERSEDING
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MILITARY SPECIFICATION

SPRAYERS, PACKAGING OF

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

1. SCOPE

1.1 Scope. This specification covers the minimum requirements for methods, materials and procedures for the preservation, packing, and marking of manually operated and power operated sprayers for paint, dope and bituminous emulsion; spray outfits for rubber cement; spray equipment for spray cleaners and water blast cleaners; spray guns for strippable compounds: insecticide sprayers; and spray outfits for decontamination fluid (see 6.3).

2. APPLICABLE DOCUMENTS

2.1 Government documents.

2.1.1 Specifications and standards. Unless otherwise specified (see 6.2), the following specifications and standards of the issue listed in that issue of the Department of Defense Index of Specifications and Standards (DoDISS) specified in the solicitation, form a part of this specification to the extent specified herein.

SPECIFICATIONS

FEDERAL

TT-P-664	- Primer Coating, Synthetic, Rust-Inhibiting, Lacquer-Resisting.
TT-V-119	- Varnish, Spar, Phenolic-Resin.
UU-T-81	- Tags, Shipping and Stock.

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

AREA PACK

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- PPP-B-601
 - PPP-B-621
 - PPP-B-636
 - PPP-C-843
 - PPP-P-40
- Boxes, Wood, Cleated-Plywood.
 - Boxes, Wood, Nailed and Lock-Corner.
 - Boxes, Shipping, Fiberboard.
 - Cushioning Material, Cellulosic.
 - Packaging of Hand Tools.

MILITARY

- MIL-C-104
 - MIL-P-116
 - MIL-B-121
 - MIL-R-196
 - MIL-P-775
 - MIL-L-2105
 - MIL-C-3600
 - MIL-C-3774
 - MIL-C-5501
 - MIL-E-10062
 - MIL-V-13811
 - MIL-E-16298
 - MIL-T-22085
 - MIL-P-46093
 - MIL-A-46153
 - MIL-C-52950
- Crates, Wood: Lumber and Plywood Sheathed, Nailed and Bolted.
 - Preservation, Methods of.
 - Barrier Material, Greaseproofed, Water-proofed, Flexible.
 - Repair Parts, Accessories, and Kits, Mechanical; Packaging of.
 - Packaging of Hose, Hose Assemblies, Rubber, Plastic, Fabric, or Metal, (Including Tubing); and Fittings, Nozzles, and Strainers.
 - Lubricating Oil, Gear, Multi-Purpose.
 - Compressors, Rotary, Power-Driven; and Compressors, Reciprocating, Power-Driven: Air and Gas (Except Oxygen and Refrigerant), Packaging of.
 - Crates Wood; Open 12,000- and 16,000-Pound Capacity.
 - Caps and Plugs, Protective, Dust and Moisture Seal.
 - Engines: Preparation for Shipment and Storage of.
 - Varnish, Waterproofing, Electrical, Ignition.
 - Electric Machines Having Rotating Parts and Associated Repair Parts: Packaging of.
 - Tape, Adhesive, Preservation and Sealing.
 - Primer Coating, Synthetic (For Brake Drums).
 - Antifreeze, Ethylene Glycol, Inhibited, Heavy Duty, Single Package.
 - Crates, Wood, Open and Covered.

STANDARDS

FEDERAL

- FED-STD-101
- Preservation and Packing Materials: Test Procedures.

MILITARY

- MIL-STD-105
 - MIL-STD-129
- Sampling Procedures and Tables for Inspection by Attributes.
 - Marking for Shipment and Storage.

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MIL-STD-281	- Automobiles, Trucks, Truck-Tractors, Trailors, and Trailer Dollies; Preservation and Packaging of.
MIL-STD-1186	- Cushioning, Anchoring, Bracing, Blocking, and Waterproofing: with Appropriate Test Methods.
MIL-STD-1188	- Commercial Packaging of Supplies and Equipment.

(Copies of specifications and standards 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 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein, the text of this specification shall take precedence.

3. REQUIREMENTS

3.1 Materials. Materials shall be as specified herein and in applicable specifications and standards. Materials not specified shall be selected by the contractor and shall be subject to all provisions of this specification. Materials shall be free of defects (see 6.6).

3.2 Preproduction pack. Unless otherwise specified (see 6.2(c)), the contractor shall furnish a preproduction pack for examination and testing within the time frame specified (see 6.2(d)), to prove prior to the start of production packaging, that the applied preservation, packing and marking comply with the requirements of this specification. Examination and testing shall be as specified in Section 4 and shall be subject to surveillance and approval by the Government (see 6.4). The preproduction pack may utilize either the preproduction model or a production model. When the preproduction model is utilized, and the Government requests a comparison between the preproduction model and a production model, any preservation and packing shall be removed by the contractor at no expense to the Government.

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

3.3.1 Level A.

3.3.1.1 Preservation applicability. The provisions of MIL-P-116 shall apply when determining the applicability of preservatives. Preservatives specified herein by "P" numbers shall conform to the applicable specifications listed in and shall be applied in accordance with MIL-P-116.

3.3.1.2 Disassembly. Disassembly of the sprayers and equipment shall be the minimum necessary to safeguard parts vulnerable to damage, pilferage, and loss. The extent of further disassembly shall be confined to the removal of protruding

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parts that would otherwise increase cubage; however, disassembly shall be limited to those parts that can be removed and reinstalled without special tools or skilled personnel. Removed bolts, nuts, pins, screws and washers shall be reinstalled to mating parts and secured to prevent their loss.

3.3.1.3 Matchmarking. Removed parts and mating parts remaining on the sprayers and equipment shall be matchmarked when necessary to facilitate reassembly. Matchmarking information shall be marked on cloth shipping tags conforming to UU-T-81, type A, grade optional and the marked tags shall be attached to mating parts with wire or twine. When sprayers are prepared for unboxed (mobile) shipment (see 3.4.1.2 and 3.4.2), the tags shall be marked with waterproof ink.

3.3.1.4 Exterior surfaces. Unpainted exterior ferrous metal surfaces of bolts, nuts, pins, screws, washers, brackets, fittings, tanks, spray bars, stands and any other exterior surface requiring a contact preservative (see 3.3.1.1) shall be coated with a type P-1 preservative. Unpainted ferrous metal information plates shall be coated with varnish conforming to MIL-V-13811 or TT-V-119.

3.3.1.5 Agitators, heater and tanks. Interior surfaces of agitators, heaters and tanks requiring a contact preservative (see 3.3.1.1), shall be fogged with preservative lubricating oil conforming to type P-10, type I, grade 10. Excessive preservative shall be allowed to drain. Openings, except drain valves and drain cock openings, shall be sealed with plastic caps or plugs conforming to MIL-C-5501 or with pressure sensitive tape conforming to MIL-T-22085, type II. Drain valves and drain cocks shall be left open.

3.3.1.6 Drive belts. Drive belts shall be removed or released from tension. Removed belts shall be preserved in accordance with MIL-P-116, method IC-1.

3.3.1.7 Drive chains.

3.3.1.7.1 Enclosed drive chains. Enclosed chains which operate in lubricants shall be preserved by having the chain housing filled to the operating level with one of the following preservatives:

<u>Operating lubricant</u>	<u>Preservative lubricant</u>
a. Lubricating oil (SAE 10, 30, or 50)	Oil conforming to MIL-P-116, type P-10, type I, grade 10, 30, or 50 as applicable.
b. Gear lubricant (SAE 80 or 90)	Gear lubricant conforming to MIL-L-2105, grade as applicable.
c. Lubricant other than a or b	Manufacturers approved operating lubricant.

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Controls for enclosed chains preserved as in a or b above shall be tagged to indicate:

"This housing is filled to the proper operating level with preservative lubricant of the applicable grade and is adequate for operation until the first required lubricant change. Do not drain."

Controls for enclosed chains preserved as in c above shall be tagged to indicate:

"This housing is filled to the proper operating level with the approved lubricant required for operation. Do not drain."

Tags specified herein shall conform to UU-T-81, type A and the printing thereon shall be with waterproof ink. Control mechanisms shall be coated with type P-1 preservative.

3.3.1.7.2 Exposed drive chains. Exposed drive chains shall be coated with type P-3 or type P-9 preservative. The amount of preservative applied shall be of such quantity to assure penetration of the preservative to the inner surfaces of the rollers, pins and bushings. After any excess preservative has drained, the entire chain shall be over-coated with type P-1 preservative. Control mechanisms shall be coated with type P-1 preservative.

3.3.1.8 Chassis for trailer mounted sprayers, truck mounted sprayers and wheeled sprayers.

- a. The chassis of trailer mounted sprayers and the chassis (frames) of wheeled sprayers shall be preserved with the sprayers mounted in place. The preservatives and their application shall be in accordance with MIL-STD-281, level A for unboxed (mobile) shipment or boxed shipment as specified (see 6.2(f)).
- b. The chassis for truck mounted sprayers shall be preserved with the sprayer mounted in place. The preservatives and their application shall be in accordance with MIL-STD-281, level A for unboxed (mobile) shipments.

3.3.1.9 Disc-type clutches. With the cover plates removed and the clutches engaged, all accessible metal interior components of the clutches shall be sprayed with a thin film of primer conforming to TT-P-664 or MIL-P-46093. After being sprayed and with the cover plates back in position, spring-loaded-type clutches shall be secured in a partially disengaged position to eliminate contact between the disc facings and the pressure plates. Snap-over-center-type clutches and toggle-in-type clutches shall be secured in a completely disengaged position after spraying. Clutch control mechanisms shall be coated with type P-1 preservative.

3.3.1.10 Air compressors. Air compressors and air compressor components shall be preserved in accordance with MIL-C-3600, level A.

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3.3.1.11 Engines. Engines and engine accessories shall be preserved in accordance with MIL-E-10062, level A, type I, method I for unboxed sprayers or type II, method I for boxed sprayers (see 6.2(g)), except that antifreeze shall conform to MIL-A-46153.

3.3.1.11.1 Alternate engine preservation. Alternatively, when specified (see 6.2(h)), engines for units to be prepared for boxed or crated shipments shall be preserved for level A in accordance with MIL-E-10062, level A, type II, method IIa.

3.3.1.12 Fire extinguishers. Unpainted exterior ferrous metal surfaces of the fire extinguisher requiring a contact preservative (see 3.3.1.1), shall be coated with a type P-1 preservative. Unpainted ferrous metal information plates shall be coated with varnish conforming to MIL-V-13811 or TT-V-119. For boxed shipment of sprayers, the extinguishers shall be placed in their mounting brackets and secured. For unboxed (mobile) shipment of sprayers, the extinguishers shall be additionally preserved in accordance with MIL-P-116, method III, using close fitting containers conforming to PPP-B-636, W5c, W6c or V3c, as applicable, style RSC. Box closure shall be as specified for method IV in the appendix to the box specification.

3.3.1.13 Gages, meters and regulators. Gages, meters, and regulators removed from the sprayer shall be individually preserved in accordance with MIL-P-116, method IC-2.

3.3.1.14 Gears.

3.3.1.14.1 Enclosed gears. Enclosed gears which operate in lubricants shall be preserved by having the gear housing filled to the operating level with lubricants as specified in 3.3.1.7.1. The controls shall be preserved and tagged as specified in 3.3.1.7.1.

3.3.1.14.2 Exposed gears. Exposed gears requiring a contact preservative (see 3.3.1.1.), shall be coated with type P-1 preservative. Controls shall be coated with type P-1 preservative.

3.3.1.15 Hose and hose fittings. Hose and hose fittings removed from the sprayer shall be preserved in accordance with MIL-P-775, level A. Openings into ends of hose not removed and openings into ends of fittings not removed shall be sealed with plastic caps or plugs conforming to MIL-C-5501 or with pressure sensitive tape conforming to MIL-T-22085, type II. Attached hose on reels shall be secured to prevent the hose from unwinding. Lengths of attached hose not on reels shall be coiled to the safe minimum diameter and the coils secured to the sprayer with cotton tape or twine or pressure sensitive tape conforming to MIL-T-22085, type II.

3.3.1.16 Instrument panels. Sprayers shipped unboxed (mobile) with instrument panels not protected by a metal housing or cover, shall have the instrument glass covered with barrier material conforming to MIL-B-121, type I, grade A, class 2, over which a fitted piece of 1/4 inch plywood or particle board shall be placed. The plywood or particle board shall be secured in place with pressure sensitive tape conforming to MIL-T-22085, type II.

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3.3.1.17 Air motors. Interior surfaces of air motors requiring a contact preservative (see 3.3.1.1), shall be coated with preservative lubricating oil conforming to type P-10, type I, grade 10, applied through the air intake while the motor is being activated. Excess preservative shall be drained. Openings into the motors shall be sealed with plastic caps or plugs conforming to MIL-C-5501 or with tape conforming to MIL-T-22085, type II.

3.3.1.18 Electric motors. Electric motors shall be preserved in accordance with MIL-E-16298, level A, using the alternate method for assembled machines attached to mechanical equipment.

3.3.1.19 Nozzles and spray guns. Interior surfaces of nozzles and spray guns requiring a contact preservative (see 3.3.1.1), shall be coated with preservative lubricating oil conforming to type P-10, type I, grade 10. Excess preservative shall be drained. Spray guns and nozzles removed from the sprayers shall be preserved in accordance with MIL-P-116, method IC-2.

3.3.1.20 Repair parts. Unless otherwise specified (see 6.2(i)), repair parts for each sprayer shall be preserved in accordance with the level A requirements of MIL-R-196. Parts not specifically mentioned therein shall be preserved as specified for parts of similar design and construction.

3.3.1.21 Technical publications. The technical publications for each sprayer shall be preserved in accordance with MIL-P-116, method IC-1 or IC-3. Special note: When more than one technical publication is required for a sprayer, the publications shall be preserved as a set in one method IC-1 or IC-3 bag.

3.3.1.22 Pulleys. Unpainted faces of pulley grooves shall be coated with primer conforming to TT-P-664 or MIL-P-46093.

3.3.1.23 Pumps. Interior surfaces of pumps requiring a contact preservative (see 3.3.1.1), shall be coated with preservative lubricating oil conforming to type P-10, type I, grade 10. The pumps shall be actuated during application of the preservative to insure complete coverage of all working parts and interior surfaces of the pumps, connecting piping, spray bars and nozzles. Excessive preservative shall be drained. Drain valves and drain cocks shall be left open. Other openings into the pump shall be sealed as specified in 3.3.1.5.

3.3.1.24 Respirators. Respirators shall be preserved in accordance with MIL-P-116, method IC-2.

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

3.3.1.26 Alternate preservation.

3.3.1.26.1 Units prepared for boxed shipments. When specified (see 6.2(j) or 6.2(k)), each complete unit, to be prepared for boxed or crated shipments (see 3.4.1.2.1.1 and 6.2(f)), shall be preserved for level A in accordance with MIL-P-116, method IIa or IIc. When method IIa or IIc is used, openings in the equipment shall not be sealed as specified in 3.3.1.5 and 3.3.1.23 so that dedicated air may circulate.

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3.3.1.26.2 Units prepared for unboxed (mobile) shipments. When specified (see 6.2(1)), each complete unit, to be prepared for unboxed (mobile) shipments (see 3.4.1.2.1.2, 3.4.1.2.2 and 6.2(f)), shall be preserved for level A in accordance with MIL-P-116, method I.

3.3.1.27 Consolidation.

3.3.1.27.1 Manually-carried sprayers with chests. Each preserved manually-carried sprayer with a chest or other appropriate carrying case, (such as insecticide sprayers, paint and dope sprayers or any other portable-type sprayers), shall be consolidated, with its preserved accessories, spare parts, tools and technical publications, into the chest or carrying case. Cushioning material conforming to PPP-C-843, type II, class A, shall be provided as necessary in a manner and in sufficient quantity to immobilize the components within the chest or case. The chest or case lid shall be closed and secured.

3.3.1.27.2 Manually-carried sprayers without chests. Each preserved manually-carried sprayer without a chest or other appropriate carrying case, (such as insecticide sprayers, paint and dope sprayers, or any other portable-type sprayers), shall be consolidated, with its preserved accessories, spare parts, tools and technical publications, into a close fitting box conforming to PPP-B-636, W5c, W6c, or V3c, as applicable to the weight and size of the items. Cushioning material conforming to PPP-C-843, type II, class A, shall be provided in a manner and in sufficient quantity to immobilize the components within the box. Box closure shall be as specified for method IV in the appendix to the box specification.

3.3.1.27.3 Components of other sprayers. Preserved components, accessories, spare parts, tools and technical publications for sprayers other than the manually-carried types (see 3.3.1.27.1 and 3.3.1.27.2), shall be consolidated into boxes as follows:

- a. For sprayers to be packed in PPP-B-601 and PPP-B-621 boxes and for sprayers to be packed in MIL-C-104 sheathed crates (see 3.4.1.2.1.1), the components, accessories, spare parts, tools and technical publication for each sprayer shall be consolidated into a box conforming to PPP-B-636, W5c, W6c, or V3c, as applicable to the weight and size of the items. Box closure shall be specified for method IV in the appendix to the box specification.
- b. For sprayers prepared for unboxed (mobile) shipment (see 3.4.1.2.1.2, 3.4.1.2.2 and 6.2(f)), the components, accessories, spare parts, tools and technical publication for each sprayer shall be consolidated into a box conforming to PPP-B-601, overseas type, grade B or PPP-B-621, class 2, grade B.

All boxes shall be snug fitting and cushioning material shall be applied in the manner specified in 3.3.1.27.1.

3.3.2 Level B. Level B preservation shall be as specified for level A (see 3.3.1), except for the following:

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3.3.2.1 Enclosed chains and gears. The housing for enclosed gears and enclosed drive chains shall be filled to the proper operating level with applicable type lubricant required for operation. The controls shall be coated with type P-1 preservative and tagged to indicate:

"This housing is filled to the proper operating level with the approved lubricant required for operation. Do not drain."

The tags and ink shall be as specified for level A (see 3.3.1.7.1).

3.3.2.2 Chassis for trailer mounted sprayers, truck mounted sprayers and wheeled sprayers.

- a. The chassis of trailer mounted sprayers and the chassis (frames) of wheeled sprayers shall be preserved with the sprayers mounted in place. The preservatives and their application shall be in accordance with MIL-STD-281, level B for unboxed (mobile) shipment or boxed shipment as specified (see 6.2(f)).
- b. The chassis for truck mounted sprayers shall be preserved with the sprayer mounted in place. The preservatives and their application shall be in accordance with MIL-STD-281, level B for unboxed (mobile) shipments.

3.3.2.3 Alternate preservation.

3.3.2.3.1 Units prepared for boxed shipments. When specified (see 6.2(m)), each complete unit, to be prepared for boxed or crated shipments (see 3.4.2), shall be preserved for level B in accordance with MIL-P-116, method I.

3.3.2.3.2 Units prepared for unboxed (mobile) shipments. When specified (see 6.2(m)), each complete unit, to be prepared for unboxed (mobile) shipments (see 3.4.2), shall be preserved for level B in accordance with MIL-P-116, method I.

3.3.2.4 Consolidation. Consolidation containers shall be as specified for level A (see 3.3.1.27) except that all wood boxes shall be domestic type and class.

3.3.3 Commercial. Each complete sprayer with repair parts, maintenance tools and technical publications (except for engine and engine accessories [see 3.3.3.1]), shall be preserved in accordance with MIL-STD-1188.

3.3.3.1 Engine. Liquid cooling systems shall be filled with a fresh clean solution of 50 percent water and 50 percent antifreeze conforming to MIL-A-46153. A tag shall be attached indicating the lowest temperature to which the cooling system can be subjected without damage. All lubrication and fluid reservoirs shall be filled to the operating level with the lubricant or fluid designated for use in the temperature range at the shipping destination. A tag or tags, as applicable, shall be attached in a conspicuous location indicating which lubricant or fluid has been used.

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

3.4.1 Level A.

3.4.1.1 Manually carried sprayers. Manually carried sprayers shall be packed as follows:

- a. Manually carried sprayers with chest or other appropriate carrying cases, consolidated as specified in 3.3.1.27.1, shall be packed in boxes conforming to PPP-B-601, overseas type, grade B or PPP-B-621, class 2, grade B. The boxes shall be snug fitting and shall not exceed the weight limitations of the applicable box specification. Finished surfaces subject to abrasion by contact with dunnage or the inside of the box shall be protected with cushioning material conforming to PPP-C-843, type II, class A.
- b. Manually carried sprayers without chests, consolidated as specified in 3.3.1.27.2, shall be packed in boxes conforming to PPP-B-601, overseas type, grade B or PPP-B-621, class 2, grade B. The boxes shall be snug fitting and shall not exceed the weight limitations of the applicable box specification.

The closure (assembly) and strapping of the boxes shall be as specified in the appendix to the applicable box specification.

3.4.1.2 Sprayers other than manually carried.

3.4.1.2.1 Trailer mounted and wheeled sprayers. Trailer mounted sprayers and wheeled sprayers shall be prepared for shipment in accordance with the following requirements.

3.4.1.2.1.1 Boxed shipments. Unless otherwise specified (see 6.2(f)), each complete trailer mounted sprayer or wheeled sprayer preserved as specified in 3.3.1.8 and its consolidation container prepared as specified in 3.3.1.27.3a, shall be packed, as applicable to its weight, in a wood box or crate. Wood boxes shall conform to PPP-B-601, overseas type, style optional or PPP-B-621, class 2, style optional. The closure and strapping of the boxes shall be as specified therein. Blocking, bracing, and anchoring shall be as specified in MIL-STD-1186. Wood crates shall conform to MIL-C-104, type I or type II, class 1 or 2, style A and blocking, bracing, anchoring, closure and strapping shall be in accordance with the appendix thereto. Boxes and crates shall be close fitting.

3.4.1.2.1.2 Unboxed (mobile) shipments. When specified (see 6.2(f)), each complete trailer mounted sprayer or wheeled sprayer preserved as specified in 3.3.1.8 shall be prepared for unboxed (mobile) shipment. Consolidation containers, prepared as specified in 3.3.1.27.3b, shall be secured to the units or shipped separately as outlined in 3.4.1.2.2. Wheels shall be free to rotate.

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3.4.1.2.2 Truck mounted sprayers. Truck mounted sprayers, preserved as specified in 3.3.1.8, shall be prepared for unboxed (mobile) shipment. Consolidation containers, prepared as specified in 3.3.1.27.3b, shall be secured, insofar as practical, to the units in a manner not to increase cubage or interfere with the handling of the unit with slings. Consolidation containers that cannot be secured to the units shall be shipped separately but at the same time as the sprayer. Wheels shall be free to rotate.

3.4.2 Level B. Level B packing shall be as specified for level A except for the following:

- a. Boxes conforming to PPP-B-601 (see 3.4.1.1 and 3.4.1.2), shall be domestic type, rather than overseas type.
- b. Boxes conforming to PPP-B-621 (see 3.4.1.1 and 3.4.1.2), shall be class 1, rather than class 2.
- c. Crates conforming to MIL-C-104 (see 3.4.1.2.1.1), shall be replaced by crates conforming to MIL-C-52950, type V, style A or MIL-C-3774, type I, style A.

3.4.3 Commercial. The commercial packing of the sprayers shall be in accordance with the requirements of MIL-STD-1188.

3.5 Marking.

3.5.1 Levels A and B. In addition to any special or other identification marking required by the contract or purchase order (see 6.2(n)), consolidation containers, shipping containers and unboxed (mobile) sprayers shall be marked in accordance with MIL-STD-129.

3.5.2 Commercial. Commercial marking shall be in accordance with the requirements of MIL-STD-1188.

3.6 Workmanship. Workmanship shall be such as to provide maximum protection to the sprayers by the application of the requirements specified herein, to prevent corrosion, deterioration and mechanical or physical damage during handling, shipment and storage.

3.7 Depreservation guides. Depreservation guides, as specified in referenced documents herein or in the end item documents, shall be placed in waterproof envelopes marked "Depreservation Guide". The sealed envelope, as applicable, shall be secured to the sprayer in a conspicuous location or when attachment is not practical, the sealed envelope shall be included in the consolidation container or carrying case. Unless otherwise specified (see 6.2(o)), when depreservation guides are required, DA Form 2258, "Depreservation Guide for Vehicles and Equipment" shall be used (see 6.5).

4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified in the contract or purchase order, the contractor is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified

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in the contract or purchase order or when disapproved by the Government, the contractor may use his own or any other facilities suitable for the performance of the inspection requirements specified herein. The Government reserves the right to perform any or all of the inspections set forth in this specification where such inspections are deemed necessary to assure supplies and services conform to prescribed requirements.

4.1.1 Material inspection. The contractor is responsible for insuring that supplies and materials used are manufactured, examined and tested in accordance with referenced specifications and standards.

4.2 Classification of inspection. Inspections shall be classified as follows:

- a. Preproduction pack inspection (see 4.3).
- b. Quality conformance inspection (see 4.4).

4.3 Preproduction pack inspection.

4.3.1 Examination. The preproduction pack shall be examined for the defects listed in 4.4.4. Examination shall be in three stages as specified in 4.4.1. The presence of one or more defects shall be cause for rejection of the preproduction pack.

4.3.2 Tests. The preproduction pack for levels A and B shall be tested in accordance with 4.3.2.1 or 4.3.2.2, as applicable to the type of shipping container (box or crate). Failure to pass the applicable test shall be cause for rejection.

4.3.2.1 Sprayers packed in boxes. Sprayers in boxes not exceeding 150 pounds shall be subjected to the free-fall drop test in accordance with FED-STD-101, method 5007, procedure D for rectangular containers. Sprayers in boxes exceeding 150 pounds shall be subjected to the pendulum-impact test in accordance with FED-STD-101, method 5012 except that the vertical height of the drop shall be increased to 18 inches.

4.3.2.2 Sprayers packed in crates. Sprayers in crates shall be subjected to the rail-impact test in accordance with appendix A of MIL-STD-1186. When it is impractical to test in accordance with the rail-impact test, one of the following alternate tests may be applied:

- a. The incline impact test in accordance with FED-STD-101, method 5023, or
- b. The pendulum-impact test in accordance with FED-STD-101, method 5012 except that the vertical height of the drop shall be increased to 18 inches.

4.3.3 Basis for rejection. Any shifting of the contents, visible damage to the contents, loosening, breaking or displacement of anchoring, blocking or bracing within the container or damage to the interior containers, wraps, liners, barriers or cushioning shall constitute failure of the test. In addition, when

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specified (see 6.2(p)), the sprayer shall be subjected to the operational test(s) specified in the end item specification. Any malfunction of the sprayer resulting from the preproduction test shall constitute failure of the test.

4.4 Quality conformance inspection.

4.4.1 Inspection stages. Examination shall be in three progressive stages as follows:

4.4.1.1 First stage. The first stage shall include inspection of procedures, methods, materials, containers and marking prior to the placement of the preserved components in the consolidation container (chest or case).

4.4.1.2 Second stage. The second stage shall include inspection of:

- a. The consolidation container.
- b. The placement of the preserved components within the consolidation container (chest or case).
- c. The application of cushioning to protect the components in the consolidation container (chest or case).
- d. The closure and marking of the consolidation container (chest or case).
- e. The placement of the consolidation container and the sprayer in the shipping container.
- f. The placement of the carrying chest or case in the shipping container.
- g. The application of blocking, bracing, anchoring and cushioning required to secure the complete sprayer in the shipping container.
- h. The placement and anchoring of the consolidation container on the unboxed (mobile) sprayers.
- i. The closure, including strapping, of the shipping containers.

4.4.1.3 Third stage. The third stage shall include inspection of the marking of the complete sprayers as necessary for a boxed (packed) shipment or an unboxed (mobile [unpacked]) shipment.

4.4.2 Unit of product. For the purpose of inspection only, a unit of product shall be those components and packs of a complete sprayer that have been prepared to satisfy the packaging progression within any inspection stage (see 4.4.1).

4.4.3 Sampling. Sampling for inspection shall be in accordance with MIL-STD-105.

4.4.4 Examination. Samples selected for examination in accordance with 4.4.3 shall be examined for applicable defects listed in table I. Each discrepancy shall constitute one defect and the acceptable quality level (AQL) shall be 2.5 percent defective.

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TABLE I. Examination.

No.	Defect	A	B	COMM.
	PRESERVATION First Stage			
	General			
101.	Disassembly of sprayers not as specified.	3.3.1.2	3.3.2	
102.	Matchmarking of removed parts and mating parts remaining on the sprayer not as specified.	3.3.1.3	3.3.2	
103.	Exterior surfaces not preserved as specified.	3.3.1.4	3.3.2	3.3.3
104.	Agitators, heaters and tanks not preserved as specified.	3.3.1.5	3.3.2	3.3.3
105.	Belts not released from tension, or	3.3.1.6	3.3.2	3.3.3
106.	Belts removed from sprayer not preserved as specified.	3.3.1.6	3.3.2	3.3.3
	Chains			
107.	Enclosed chains not preserved and tagged as specified.	3.3.1.7.1	3.3.2.1	3.3.3
108.	Exposed chains not preserved as specified.	3.3.1.7.2	3.3.2	3.3.3
109.	Chassis not preserved as specified.	3.3.1.8	3.3.2.2	3.3.3
110.	Clutches and clutch control mechanisms not preserved as specified.	3.3.1.9	3.3.2	3.3.3
111.	Clutch control mechanisms not secured in the disengaged position as specified.	3.3.1.9	3.3.2	
112.	Compressors not preserved as specified	3.3.1.10	3.3.2	3.3.3
113.	Engines and engine accessories not preserved as specified.	3.3.1.11	3.3.2	3.3.3.1
114.	Alternate engine preservation, when required (see 6.2(h)), not as specified for boxed or crated shipments.	3.3.1.11.1	3.3.2	
115.	Extinguishers not preserved as specified.	3.3.1.12	3.3.2	3.3.3
116.	Gages, meters and regulators not preserved as specified.	3.3.1.13	3.3.2	3.3.3
	Gears			
117.	Enclosed gears not preserved and tagged as specified.	3.3.1.14.1	3.3.2.1	3.3.3
118.	Exposed gears not preserved as specified	3.3.1.14.2	3.3.2	3.3.3

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TABLE I. Examination. (Cont'd)

No.	Defect	A	B	COMM.
119.	Heaters (see No. 104).			
120.	Hose and hose fittings not preserved as specified.	3.3.1.15	3.3.2	3.3.3
121.	Instrument panels not prepared as specified for unboxed (mobile) shipment.	3.3.1.16	3.3.2	3.3.3
	Motors			
122.	Air motors not preserved as specified.	3.3.1.17	3.3.2	3.3.3
123.	Electric motors not preserved as specified.	3.3.1.18	3.3.2	3.3.3
124.	Nozzles and spray guns not preserved as specified.	3.3.1.19	3.3.2	3.3.3
125.	Parts for repair of sprayer not preserved as specified.	3.3.1.20	3.3.2	3.3.3
126.	Publications, technical, not preserved as specified.	3.3.1.21	3.3.2	3.3.3
127.	Pulley groove faces not preserved as specified.	3.3.1.22	3.3.2	3.3.3
128.	Pumps not preserved as specified.	3.3.1.23	3.3.2	3.3.3
129.	Regulators (see No. 115).			
130.	Respirators not preserved as specified.	3.3.1.24	3.3.2	3.3.3
131.	Spray guns (see No. 123).			
132.	Tanks (see No. 104).			
133.	Tools for maintenance not preserved as specified	3.3.1.25	3.3.2	3.3.3
	ALTERNATE			
	PRESERVATION First Stage			
134.	Alternate unit preservation, when required (see 6.2(j), 6.2(k) or 6.2(m)), not as specified for boxed or crated units.	3.3.1.26.1	3.3.2.3.1	
135.	Alternate unit preservation, when required (see 6.2(l) or 6.2(m)), not as specified for unboxed (mobile) units.	3.3.1.26.2	3.3.2.3.1	

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TABLE I. Examination. (Cont'd)

No.	Defect	A	B	COMM.
	CONSOLIDATION Second Stage			
136.	Manually carried sprayers with chests or carrying case not consolidated as specified.	3.3.1.27.1	3.3.2.4	3.3.3
137.	Manually carried sprayers without chests or carrying cases not consolidated as specified.	3.3.1.27.2	3.3.2.4	3.3.3
138.	Other than manually carried sprayers not consolidated for boxed or crated shipment as specified.	3.3.1.27.3a	3.3.2.4	3.3.3
139.	Other than manually carried sprayers not consolidated for unboxed (mobile) shipment as specified.	3.3.1.27.3b	3.3.2.4	3.3.3
	PACKING Second Stage			
	Manually carried sprayers.			
140.	Manually carried sprayers with chests or carrying cases not packed as specified.	3.4.1.1a	3.4.2	3.4.3
141.	Manually carried sprayers without chests or carrying cases not packed as specified	3.4.1.1b	3.4.2	3.4.3
	Other than manually carried sprayers			
142.	Trailer mounted or wheeled sprayers not packed as specified for boxed shipment.	3.4.1.2.1.1	3.4.2	3.4.3
143.	Trailer mounted or wheeled sprayers not prepared as specified for unboxed (mobile) shipment.	3.4.1.2.1.2	3.4.2	3.4.3
144.	Truck mounted sprayers not prepared as specified for unboxed (mobile) shipment.	3.4.1.2.2	3.4.2	3.4.3
145.	Container closure, including strapping, not as specified.	3.4.1	3.4.2	3.4.3
	MARKING Third Stage			
146.	Shipping containers not marked as specified.	3.5.1	3.5.1	3.5.2
147.	Sprayers prepared for unboxed (mobile) shipment not marked as specified.	3.5.1	3.5.1	3.5.2

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5. PACKAGING.

(This section is not applicable to this specification).

6. NOTES

6.1 Intended use. It is intended that the requirements of this specification be used for reference in Section 5 of Equipment Specifications, for direct reference in contracts or orders and can be used as a guide in the preparation of packaging data sheets covering preservation, packing and marking of sprayers.

6.2 Ordering data. Procurement documents should specify the following:

- a. Title, number and date of this specification.
- b. Date of issue of DoDISS applicable and exceptions thereto (see 2.1.1).
- c. When a preproduction pack is not required (see 3.2).
- d. Time frame required for submission of preproduction pack (see 3.2).
- e. Degree of preservation and degree of packing required (see 3.3 and 3.4).
- f. When wheeled and trailer mounted sprayers are to be prepared for unboxed (mobile) shipment (see 3.3.1.8, 3.3.2.2, 3.4.1.2.1.2).
- g. Whether engines are to be preserved for Type I (unboxed) or type II (boxed) shipments (3.3.1.11 and 3.3.2).
- h. When alternate engine preservation method IIa is required for level A preservation on engines installed on equipment to be boxed or crated (see 3.3.1.11.1).
- i. Specific preservation instructions for repair parts when other than as specified in 3.3.1.20.
- j. When alternate unit preservation method IIa is required for level A preservation of boxed or crated units (see 3.3.1.26.1).
- k. When alternate unit preservation method IIc is required for level A preservation of boxed or crated units (see 3.3.1.26.1).
- l. When alternate unit preservation method I is required for level A preservation of unboxed (mobile) units (see 3.3.1.26.2).
- m. When alternate unit preservation method I is required for level B preservation of boxed or crated, or unboxed (mobile) units (see 3.3.2.3.1 or 3.3.2.3.2).
- n. Any special marking instructions (see 3.5).
- o. When other than DA Form 2258 is to be used (see 3.7).
- p. When the sprayers shall be subjected to the operational tests (see 4.3.3).

6.3 Exceptions. The requirements of this specification do not cover metalizing outfits in FSC 3433.

6.4 Preproduction pack. Any changes or deviation of production packs from the approved preproduction pack will be subject to the approval of the contracting officer. Approval of the preproduction pack will not relieve the contractor of his obligation to preserve, pack and mark the sprayers in accordance with this specification.

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6.5 DA Form 2258. The contracting office should arrange to furnish the necessary copies of DA Form 2258 when requested by the contractor (see 3.7).

6.6 Recycled material. It is encouraged that recycled materials be used when practical as long as it meets the requirements of the specification (see 3.1).

Custodians:

Army - ME
Navy - YD
Air Force - 69

Preparing activity:

Army - ME

Project PACK-0654

Review activities:

Army - SM
Navy - MC, SH
Air Force - 99

User activity:

Navy - OS

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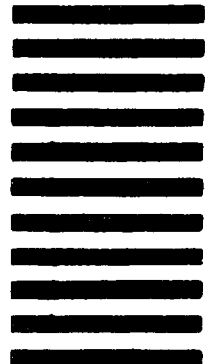
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