

MIL-S-83863B(USAF)
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 SUPERSEDING
 MIL-S-83863A(USAF)
 3 Oct 1978

MILITARY SPECIFICATION

SPACER ASSEMBLY, SURVIVAL CONTAINER PARACHUTE SUPPORT

- * This specification is approved for use within the Department of the Air Force and is available for use by all Departments and Agencies of the Department of Defense.

1. SCOPE

1.1 Scope. This is a general specification for the parachute support assembly used on rigid seat style survival containers.

* 2. APPLICABLE DOCUMENTS

* 2.1 Government documents.

* 2.1.1 Specifications and standards. The following specifications and standards form a part of this specification to the extent specified herein. Unless otherwise specified, the issues of these documents shall be those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation.

SPECIFICATIONS

FEDERAL

V-F-106	Fastener, Slide, Interlocking.
QQ-A-250	Aluminum and Aluminum Alloy Plate and Sheet, General Specification for.
PPP-B-636	Boxes, Shipping, Fiberboard.

MILITARY

MIL-P-116	Preservation, Methods of.
MIL-C-20696	Cloth, Coated, Nylon, Waterproof.
MIL-P-26514	Polyurethane Foam, Rigid or Flexible for Packaging.
MIL-T-43636	Thread, Aramid.
MIL-C-43842	Cloth, Oxford, Aramid.
MIL-T-83193	Thread, Aramid, Spun Staple.

Beneficial comments (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to: the Engineering Division, San Antonio ALC/MMEDO, Kelly AFB, TX 78241 by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

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STANDARDS

FEDERAL

FED-STD-191 Textile Test Methods.
 FED-STD-751 Stitches, Seams, and Stitchings.

MILITARY

DOD-STD-100 Engineering Drawing Practices.
 MIL-STD-129 Marking for Shipment and Storage
 MIL-STD-130 Identification Marking of US Military Property.
 MIL-STD-143 Standards and Specifications, Order of Precedence,
 for the Selection of.
 MIL-STD-2073/1 DOD Materiel Procedures for Development and Appli-
 cation of Packaging Requirements.
 MS21042 Nut, Self-Locking, 450 Deg. F, Reduced Hexagon,
 Reduced Height, Ring Base, Non-Corrosion Resistant
 Steel.
 MS35207 Screw, Machine-Pan Head, Cross-Recessed, Carbon
 Steel, Cadmium Plated, UNF-2A.

* 2.1.2 Other Government drawings. The following other Government drawings form a part of this specification to the extent specified herein. Unless otherwise specified, the issues shall be those in effect on the date of the solicitation.

DRAWINGS

AIR FORCE

66C25337 Mounting Plate, Spacer, Parachute Support.
 66C25338 Foam Insert, Spacer, Parachute Support.
 66D25339 Spacer Assembly, Parachute Support, Survival
 Container.

* (Copies of specifications, standards, drawings, publications, and other Government documents required by contractors in connection with specific acquisition functions should be obtained from the contracting activity or as directed by the contracting activity.)

* 2.2 Other publications. The following document forms a part of this specification to the extent specified herein. Unless otherwise specified, the issues of the documents which are DOD adopted shall be those listed in the issue of the DODISS specified in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS shall be the issue of the non-government documents which is current on the date of the solicitation.

AMERICAN SOCIETY FOR TESTING AND MATERIAL (ASTM)

ASTM D-3951 Packaging, Commercial.

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

HQ DPSC Handbook 4120.1

List of Armed Services Colors for Clothing,
Equipage and Textiles.
Defense Personnel Support Center
2800 South 20th Street
Philadelphia, PA 19001

(Application for copies should be addressed to the above mentioned address.)

UNIFORM CLASSIFICATION COMMITTEE, AGENT

Uniform Freight Classification

(Application for copies should be addressed to the Uniform Classification Committee, Room 1106, 222 South Riverside Plaza, Chicago, IL 60606.)

* 2.3 Order of precedence. In the event of a conflict between the text of this specification and the references cited herein (except for associated detail specifications, specification sheets or MS standards), the text of this specification shall take precedence. Nothing in this specification, however, shall supersede applicable laws and regulations unless a specific exemption has been obtained.

3. REQUIREMENTS

3.1 First article. When specified, in the contract or purchase order, the contractor shall furnish a first article for testing and approval (see 4.3, 6.2 and 6.4).

3.2 Selection of specification and standards. Specifications and standards for necessary commodities and services not specified shall be selected in accordance with MIL-STD-143.

3.3 Materials. Materials shall conform to applicable specifications and shall be as specified herein and on applicable drawings. Materials which are not covered by specifications, or which are not specifically described herein, shall be of the best quality, of the lightest practicable weight and suitable for the purpose intended.

3.3.1 Nonmetallic materials. The nonmetallic materials used shall be light in weight and shall be strong enough to withstand constant flexing of the fiber or weave from the weight of a parachute assembly. Any nonmetallic material which has a tendency to tear, harden or stretch with use shall not be used.

3.3.2 Metals. Metals shall be of the corrosion-resistant type or suitably treated to resist corrosion due to fuels, salt spray, or atmospheric conditions likely to occur in storage or normal service. Metals shall be protected against such corrosion in a manner that will in no way prevent compliance with the performance requirements of this specification. The use of any protective treatment that will crack, chip or scale with age or extremes of atmospheric conditions shall be avoided.

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3.4 Design and construction. The parachute support spacer assembly shall have a basic cover with slide fastener, a mounting plate with three screws and nuts, and the applicable number of foam inserts as specified on 66D25339. The spacer assembly shall be complete when foam inserts and mounting plate are in place within the basic cover and the screws and nuts are fastened in their proper place. The spacer assembly shall be flame proof.

3.4.1 Basic cover. The material for the basic cover shall conform to MIL-C-43842 and shall be sage green, color number 1565 per HQ DPSC Handbook 4120.1 and shall be made according to 66C25338 and 66D25339. Alternate materials that may be used shall conform to MIL-C-20696, type III, class 3 or 5 except coated one side only with a fire retardant added.

3.4.2 Slide fastener. The slide fastener shall be brass, type I, style 7, size M, or equivalent, as specified in V-F-106. The length of the fastener shall be in accordance with 66D25339 for the particular spacer assembly. The slide fastener shall be attached to the cover according to 66D25339.

3.4.3 Foam insert. The foam insert shall be a polyurethane sheet or equivalent, in accordance with MIL-P-26514, type I, class 2 and shall be 1.69 inches in thickness. The foam insert shall be constructed in accordance with 66C25338 for the particular spacer assembly.

3.4.4 Thread. The thread shall be nylon thread as specified in MIL-T-83193 and shall be of the same color as the basic fabric. An alternate thread that may be used shall conform to MIL-T-43636, type I, size F and be of the same color as the basic fabric.

3.4.5 Stitching. Stitching shall be type 301 with not less than 8 or more than 10 stitches per inch in accordance with FED-STD-751. The ends of stitching shall be back-stitched not less than 1/2 inch.

3.4.6 Mounting plate. The mounting plate shall be aluminum alloy 2024, 0.060 inch thick, temper T-4, in accordance with QQ-A-250/4 and constructed in accordance with 66C25337 for the particular spacer assembly.

3.4.7 Screws and nuts. The screws shall be in accordance with MS35207-263 and the nuts shall be in accordance with MS21042-3. The screws and nuts shall be attached according to 66D25339.

3.5 Performance.

3.5.1 Compression loading. The spacer assembly shall pass the required dimension testing as specified on 66D25339 when a 40 pound weight is applied evenly across the top surface of the spacer assembly for 5 minutes.

3.5.2 Foam insert recovery. The foam insert shall recover from the compression loading to its original shape within the basic container within two minutes after removal of the weight.

3.5.3 Mounting. The spacer assembly shall be mounted on the respective survival kit according to 66D25339 when a 40 pound weight is applied evenly across the top surface of the spacer assembly for 5 minutes.

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3.5.4 Flame proofness. All materials used for the spacer assembly shall be self-extinguishing and shall resist igniting by an open flame.

3.6 Interchangeability. All parts having the same manufacturer's part number shall be functionally and dimensionally interchangeable. The drawing number requirements of DOD-STD-100 shall govern changes in the manufacturer's part number.

3.7 Identification of product. The parachute support spacer assembly shall be marked with the following information in accordance with MIL-STD-130. The marking shall be permanently affixed or impregnated, centered from top to bottom in a conspicuous location on the front surface of the assembly as specified on 66D25339 in letters 0.25 inch in height and of a suitable contrasting color.

*Manufacturer's name and code

*Manufacturer's part number

Parachute support (spacer assembly)

*AF part number

USAF

*Contract number

NOTE: (*) Manufacturer shall include the applicable information.

3.8 Workmanship. The parachute support spacer assembly shall be uniform in quality and shall be free from irregularities, defects or foreign matter which could adversely affect safety, performance, reliability or durability.

3.9 Reclaimed materials. The use of reclaimed materials shall be encouraged to the maximum extent possible.

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

* 4.1.1 Responsibility for compliance. All items must meet all requirements of sections 3 and 5. The inspection set forth in this specification shall become a part of the contractor's overall inspection system or quality program. The absence of any inspection requirements in the specification shall not relieve the contractor of the responsibility of assuring that all products or supplies submitted to the Government for acceptance comply with all requirements of the contract. Sampling in quality conformance does not authorize submission of known defective material, either indicated or actual, nor does it commit the Government to acceptance of defective material.

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4.2 Classification of inspection. The examination and testing of the parachute support spacer assembly shall be classified as follows:

- a. First article inspection. First article inspection consists of examination tests performed on a sample which is representative of the production item, after award of a contract to determine that the production item meets the requirements of this specification.
- b. Quality conformance inspection. Quality conformance inspection consists of examinations and tests performed on individual products or lots to determine conformance of the products or lots with the requirements set forth in this specification.

4.3 First article inspection. When required (see 6.2 and 6.6), the first article inspection of the spacer assembly shall consist of all examinations and tests specified herein.

4.4 Quality conformance inspection. Quality conformance inspection shall consist of the following examinations and tests:

4.4.1 Individual tests. Each spacer assembly shall be visually inspected for defects according to Table I. Any major defect constitutes rejection. Three minor defects out of a lot of 25 samples, or fraction thereof, constitutes rejection.

4.4.2 Sampling tests. One spacer assembly out of a lot of 25 or fraction thereof, shall be tested according to 4.5.2.

4.4.3 Rejection and retest. When an item selected from a production run fails to meet the specification, no items still on hand or later produced shall be accepted until the extent and cause of failure have been determined and appropriately corrected. The contractor shall explain to the Government representative the cause of failure and the action taken to preclude recurrence. After correction, all of the tests shall be repeated.

4.5 Test methods.

4.5.1 Visual examination. The parachute support spacer assembly shall be examined according to Table I. Three minor defects out of a lot of 25 spacer assemblies, or fraction thereof, constitutes a major defect. Any major defect shall constitute rejection.

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TABLE I. Classification of defects for visual examination.

MAJOR	MINOR
1. Dimensions not meeting specifications within tolerance limits.	101. Identification missing, illegible, or not conforming to specifications.
2. Basic cover snagged or torn, stitching loose or missing, insert missing or not conforming to fit, slide fastener missing.	102. Basic fabric soiled or otherwise discolored.
3. Slide fastener damaged or not operating properly.	103. Excess thread showing from seams. Stitching ends not trimmed.
4. Any other impairments or irregularities which might hinder intended use of parachute support spacer assembly.	104. Screws and nuts missing or not assembled properly.
5. Any materials which do not conform to the applicable specification.	

4.5.2 Loading test. The spacer assembly shall have a 40 pound weight evenly distributed across the top surface for 5 minutes. The dimensions prior to loading, during loading, and after loading shall be taken. The tolerance limits for particular spacer assemblies shall be as specified on 66D25339. Failure of the spacer to be within tolerance limits constitutes rejection.

4.5.3 Flame resistance. The basic cover shall be subjected to the flame resistance test method 5903 of FED-STD-191. The sample shall meet the requirements specified in the applicable material specification.

5. PACKAGING

5.1 Preservation-packaging. Preservation and packaging shall be level A, C or industrial as specified (see 6.2).

5.1.1 Level A. Each spacer assembly shall be preserved, wrapped and cushioned in and packaged in accordance with MIL-P-116, method III, and MIL-STD-2073/1, and placed in a snug fitting container conforming to PPP-B-636, weather resistant.

5.1.2 Level C. Spacer assembly shall be packed to afford adequate protection against deterioration and physical damage during shipment from the supply source to first receiving activity. The contractor may use his standard commercial practice provided it meets these requirements.

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* 5.1.3 Industrial. The industrial preservation and packaging of each spacer assembly shall be in accordance with the requirements of ASTM D-3951.

* 5.2 Packing. Packing shall be level B, C, or industrial as specified (see 6.2).

* 5.2.1 Level B. Spacer assembly packaged as specified in 5.1.1 shall be packed in weather-resistant shipping containers conforming to PPP-B-636. As far as practicable overseas shipping containers shall be of uniform shape and size, shall be of minimum cube and tare consistent with the protection required and shall contain identical quantities. The gross weight of each shipping container shall not exceed the limitation of the container specification. Closure of the container shall conform to the applicable appendix of PPP-B-636.

5.2.2 Level C. The spacer assembly shall be packed in a shipping container which will be acceptable to the carrier at lowest rates and insure safe transportation to the point of delivery. Containers shall comply with Uniform Freight Classification Rules and Regulations or other regulations of other carriers as applicable to the mode of transportation.

* 5.2.3 Industrial. The preserved and packaged spacer assemblies shall be packed in accordance with the requirements of ASTM D-3951.

5.3 Marking. In addition to any other marking required by the order or contract, the interior and exterior containers shall be marked in accordance with MIL-STD-129.

6. NOTES

6.1 Intended use. The parachute support spacer assembly is mounted on the top rear portion of the survival kit. The spacer assembly supports the parachute which is attached to the back of the crew member. It is designed to relieve back fatigue caused by the weight of the parachute.

* 6.2 Ordering data.

* 6.2.1 Acquisition requirements. Acquisition documents should specify the following:

- a. Title, number, and date of this specification.
- b. Whether a first article sample is required (see 3.1, 4.3 and 6.6).
- c. List of interchangeable components and assemblies.
- d. Level of packaging and packing required (see 5.1 and 5.2).

6.3 Data. For the information of contractors and contracting officers, any of the data specified in applicable documents listed in section 2 of this specification or referenced lower-tier documents need not be prepared for the Government and shall not be furnished to the Government unless specified in the contract or order. The data to be furnished shall be listed on DD Form 1423 (Contractor Data Requirements List), which shall be attached to and made a part of the contract or order.

* 6.4 First article. Requirements for first article test and approval of items covered by this specification under the appropriate provisions of the Armed Services Procurement Regulations (ASPR) should be specified by the procuring activity. The contracting officer should include specific instructions in acquisition documents regarding arrangements for examinations, approval of first article test results and disposition of first articles. Invitations for bids should provide that the Government reserves the right to waive the requirements for samples for first article inspection to those bidders offering a product which has been previously acquired or tested by the Government, and that bidders offering such products, who wish to rely on such production or test, must furnish evidence with the bid that prior Government approval is presently appropriate for the pending contract.

6.5 Subject term (key word) listing.

Parachute support spacer, assembly
Parachute, survival kit
Spacer assembly, survival container parachute support
Survival container, parachute support
Survival kit, parachute support

6.6 Changes from previous issue. The margins of this specification are marked with asterisks (or vertical lines) to indicate where changes (additions, modifications, corrections, deletions) from the previous issue were made. This was done as a convenience only and the Government assumes no liability whatsoever for any inaccuracies in these notations. Bidders and contractors are cautioned to evaluate the requirements of this document based on the content irrespective of the marginal notations and relationship to the last previous issue.

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