

MIL-S-5804C(USAF)  
16 August 1967  
SUPERSEDING  
MIL-S-5804B(ASG)  
24 September 1957

MILITARY SPECIFICATION

SEAT, AIRCRAFT, TROOP WALL-STYLE

1. SCOPE

1.1 This specification covers standard, light-weight folding, wall-type seats for use by troops in cargo-type aircraft.

1.2 Classification. Troop seats shall be of the following four types, as specified (see 6.2):

Type SEU-1/A Four-Man Seat  
Type F-2 Three-Man Seat  
Type F-3 Two-Man Seat  
Type F-4 One-Man Seat

2. APPLICABLE DOCUMENTS

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

SPECIFICATION

Federal

V-T-295	Thread, Nylon
QQ-F-416	Plating, Cadmium (Electrodeposited)
QQ-Z-325	Zinc Coatng, Electrodeposited, Requirements For
PPP-B-601	Boxes, Wood, Cleated-Plywood
PPP-B-621	Boxes, Wood, Nailed And lock-Corner
PPP-B-636	Boxes, Fiberboard

Military

MIL-P-116	Preservation, Methods Of
MIL-D-1000	Drawings, Engineering And Associated Lists
MIL-W-4088	Webbing, Textile, Woven, Nylon
MIL-C-7219	Cloth, Duck, Nylon, Parachute Packs
MIL-A-8625	Anodic Coatings, For Aluminum And Aluminum Alloys

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MIL-A-8905	Adapter, Tie-Down, Aircraft Floor
MIL-A-21165	Adapters, Quick-Disconnect, Passenger Seat To Floor

## STANDARDS

## Federal

FED-STD-595	Colors
FED-STD-751	Stiches, Seams, And Stitchings

## Military

MIL-STD-129	Marking For Shipment And Storage
MIL-STD-130	Identification Marking Of US Military Property
MIL-STD-143	Specifications And Standards Order Of Precedence For The Selection Of
MIL-STD-831	Test Reports, Preparation Of
MIL-STD-1186	Cushioning, Anchoring, Bracing, Blocking, And Waterproofing: With Appropriate Test Methods
MS26504	Plate-Anchor, Aircraft Troop Seat

(Copies of specifications, standards, drawings, and publications required by suppliers in connection with specific procurement functions should be obtained from the procuring activity or-as directed by the contracting officer.)

## 3. REQUIREMENTS

3.1 Preproduction testing. This specification makes provision for preproduction testing.

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

3.2.1 Standard Parts. Standard parts (MS, AN, or JAN) shall be used wherever they are suitable for the purpose, and shall be identified on the drawing by their part numbers. Commercial utility parts such as screws, bolts, nuts, cotter pins et cetera, may be used, provided they possess suitable properties and are replaceable by the standard parts (MS, AN, or JAN) without alteration, and provided the corresponding standard part numbers are referenced in the parts list and, if practicable, on the contractor's drawings. In the event there is no suitable corresponding standard part, in effect on date of invitation for bids, commercial parts may be used provided they conform to all requirements of this specification.

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### 3.3 Materials.

3.3.1 Basic structure. The basic structure of the seats shall be fabricated of metal.

3.3.2 Protective treatment. When materials, that are subject to corrosion in salt air or other atmospheric conditions likely to occur during service usage, are used in the construction of the seat, they 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 coating that will crack, chip, or scale with age or extremes of atmospheric conditions, shall be avoided.

3.4 Design. The seat shall be designed for installation on either the right or left side of the airplane in such manner that the occupants will face inboard. The seat shall accommodate the number of persons specified for each respective type, sitting side-by-side, and shall provide maximum comfort and ease of releasing and stowing.

#### 3.4.1 Folding and stowing.

3.4.1.1 All seats shall be so designed that the leg or legs and seat bottom may be quickly folded against and lashed to the seat back with the leg or legs in between seat bottom and seat back.

3.4.1.2 The two-man, three-man and four-man seats shall also be designed for rolled stowage. They shall be designed in such manner that the legs and spreaders may be folded and the seat back may be quickly detached from the upper-seat support tube which is considered part of and attached to the airplane, to permit the seat to roll up against the side of the fuselage. Two, three, and four straps shall be provided and attached to the two-man, three-man and four-man seats, respectively, for the purpose of lashing the seats in the stowed position.

3.4.1.3 Folding and unfolding time. The seats shall be capable of being folded and lashed, or unlashed and unfolded, quickly and easily, in a period not to exceed 10 seconds.

3.4.1.4 All seats shall also be capable of being stowed or unstowed, quickly, and easily, in a period not to exceed 2 minutes.

3.4.1.5 All operations outlined in 3.4.1.3 and 3.4.1.4 shall not require the use of tools or special equipment or the removal of parts. All lashing of seats must be positive in order that no portion of the seats protrudes into the cargo compartment. All lashing straps shall be 1-inch-wide webbing conforming to type II of MIL-W-4088.

3.4.1.6 Size of package. The seat package of two-man three-man seats, when it is in the stowed position, shall be held to a maximum size of not more than 6 inches in diameter.

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3.4.2 Leg supports. The legs of the seats shall be located as shown in Figures 1, 2, 3, and 4. The base of the legs shall contain fitting in accordance with MIL-A-21165. Fittings shall be capable of attaching the seats securely to the stud of anchor plate shown in MS26504 and the stud of the tie-down fitting shown in MIL-A-8905. The anchor plate and tie-down fitting are installed in the airplane flush with the floor surface, and located as shown in Figures 1, 2, 3, and 4. The leg fittings shall be of the quick-release type. The release shall be capable of being actuated at the base of the leg. The legs shall be capable of a small movement in the fore and aft direction of the location of the floor fittings. When leg braces are used they shall be of a rigid design.

3.4.3 Seat bottom and back. The seat bottom and back shall be fabricated to provide maximum comfort and durability. They shall be tailored to follow the general contours of the occupant's body and to distribute suitably the acting loads to the seat frame.

3.4.3.1 The seat bottom shall be made of one piece, with provisions for attachment to the rear seat support tube which is removable for the installation of the seat. A 2-1/2 inch cutout shall be provided in between each individual seat to permit attachment of the safety belt fitting to rear seat support tube. Additional cutouts in seat bottoms may be provided for attachment of seat legs and spreaders, as required. All cutouts shall be bound with 1-inch-wide tape conforming to MIL-W-4088, type II. Means shall be provided for tightening the seat bottom. Sufficient clearance between seat bottom and spreader shall be provided in order that the seat bottom will not contact the spreader under specified load. The material used for the seat bottom shall be nylon cloth conforming to MIL-C-7219. The nylon cloth shall be attached to the forward seat beam by some continuous support or attachment method to prevent failure in service.

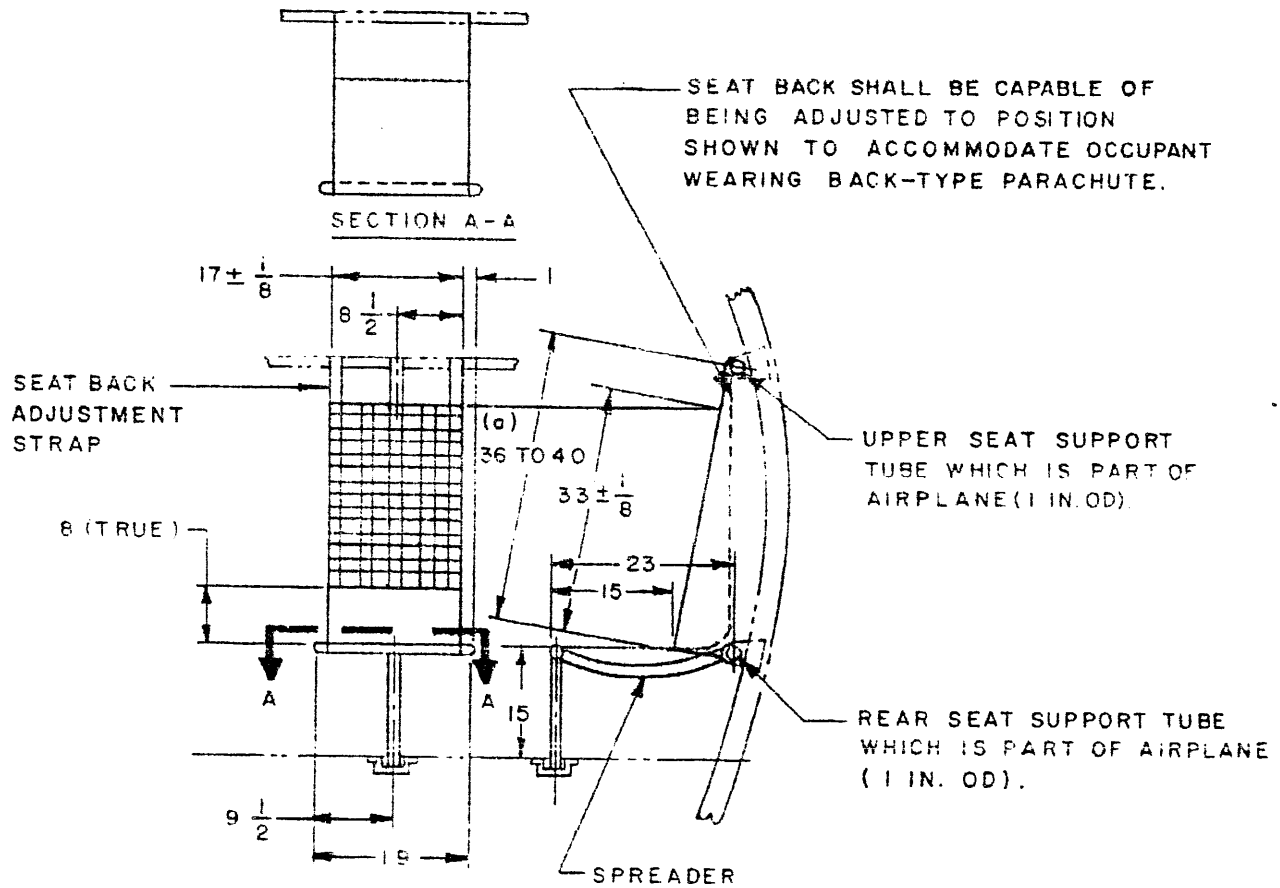
3.4.3.2 The tape (webbing) material used for the center seat back, head rest panel, and seat back adjustment straps shall be 1-1/4 inches in width, conforming to MIL-W-4088, type III. The tapes shall be equally spaced as shown in Figures 1, 2, 3, and 4, and shall be sewed together at the points where they cross or intersect. The lower seat back panel shall be nylon cloth, 8 inches in width, conforming to MIL-C-7219. The seat back shall be adjustable and shall be quickly detachable from the upper seat support tube.

3.4.3.3 The materials for the seat back and bottom shall be vat-dyed a color selected by the procuring activity. The color shall conform to FED-STD-595. All thread and stitches used for sewing seat back and seat bottom shall be in accordance with V-T-295 and FED-STD-751, type 301, respectively.

### 3.5 Construction.

3.5.1 Methods. Riveting or welding may be used for assembly and of component parts fabricated of metals suitable for this type of construction. Fittings and joints which require disassembly for installation or removal of the seat from the airplane, or for disassembly of the component parts of the seat, shall be bolted.

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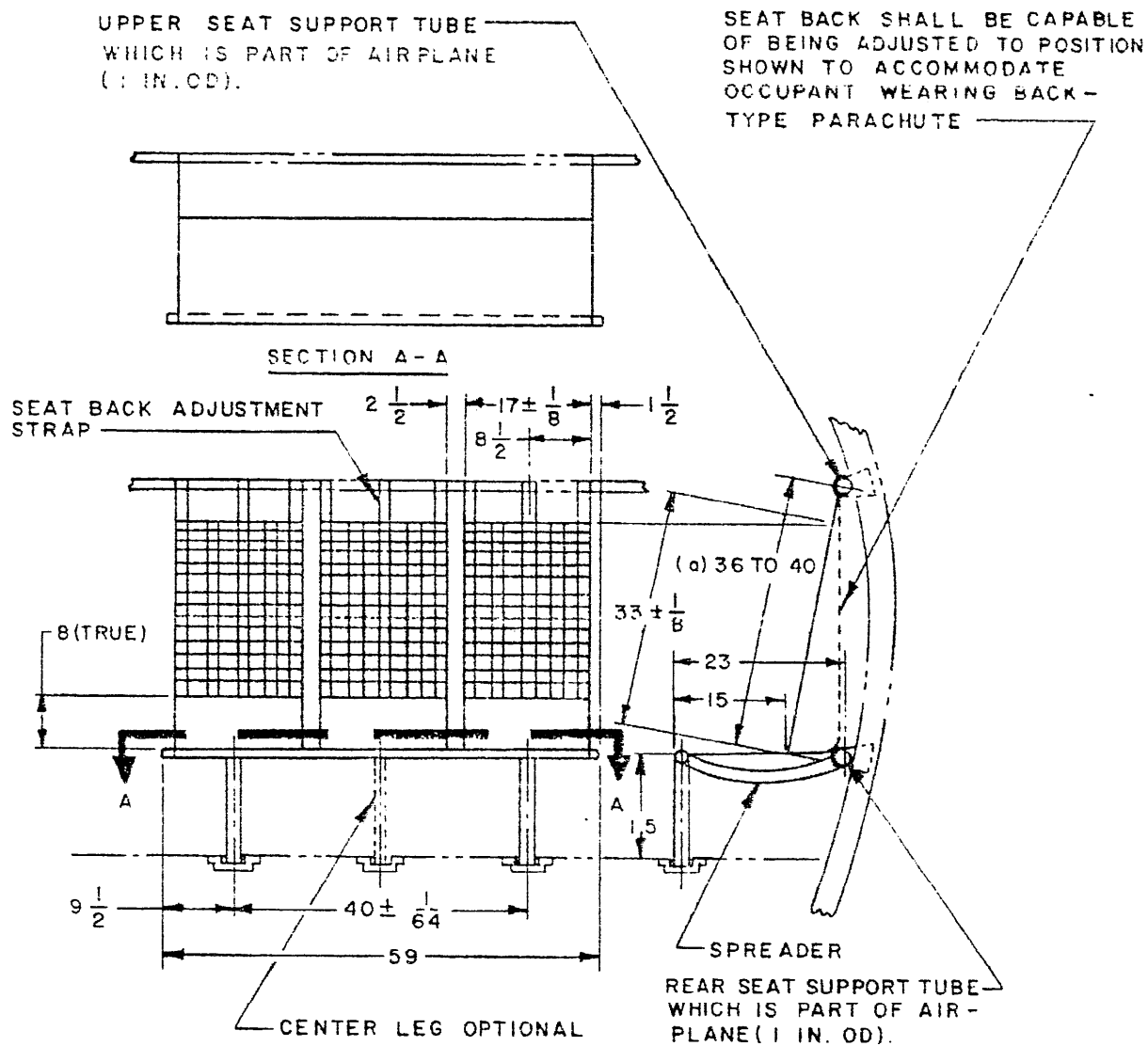


DIMENSIONS IN INCHES.

(a) 36 TO 40 DIMENSION INDICATES THE PERMISSIBLE VARIATION OF THE LOCATION OF THE UPPER SEAT SUPPORT TUBE. SEAT BACK ADJUSTMENT STRAPS SHALL BE MADE TO ACCOMMODATE THIS VARIATION

FIGURE 1 DIMENSIONS OF ONE-MAN SEAT

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DIMENSIONS IN INCHES.

(a) 36 TO 40 DIMENSION INDICATES THE PERMISSIBLE VARIATION OF THE LOCATION OF THE UPPER SEAT SUPPORT TUBE SEAT BACK ADJUSTMENT STRAPS SHALL BE MADE TO ACCOMMODATE THIS VARIATION.

FIGURE 2. DIMENSIONS OF THREE-MAN SEAT

MIL-S-58040 (USAF)

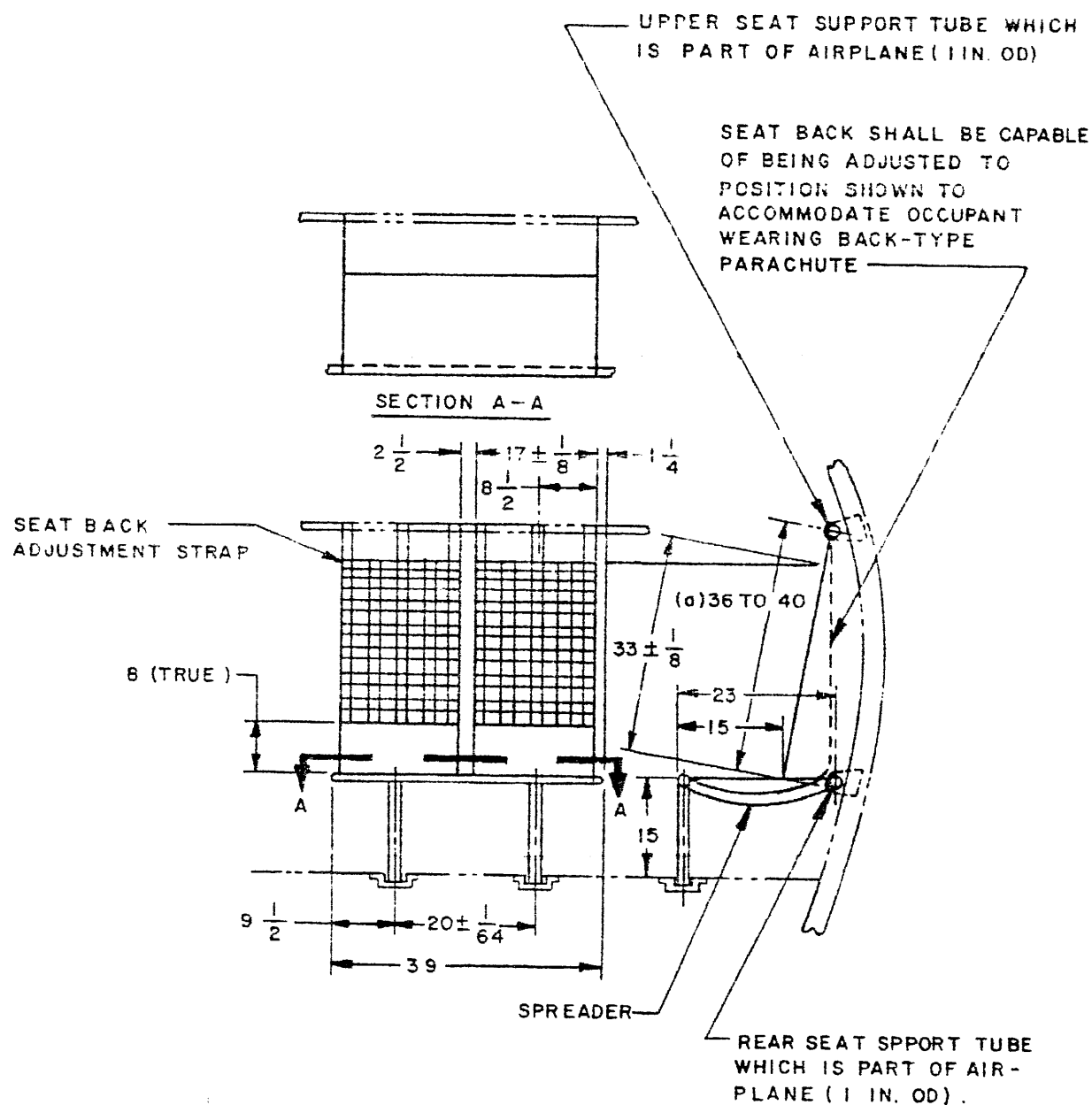
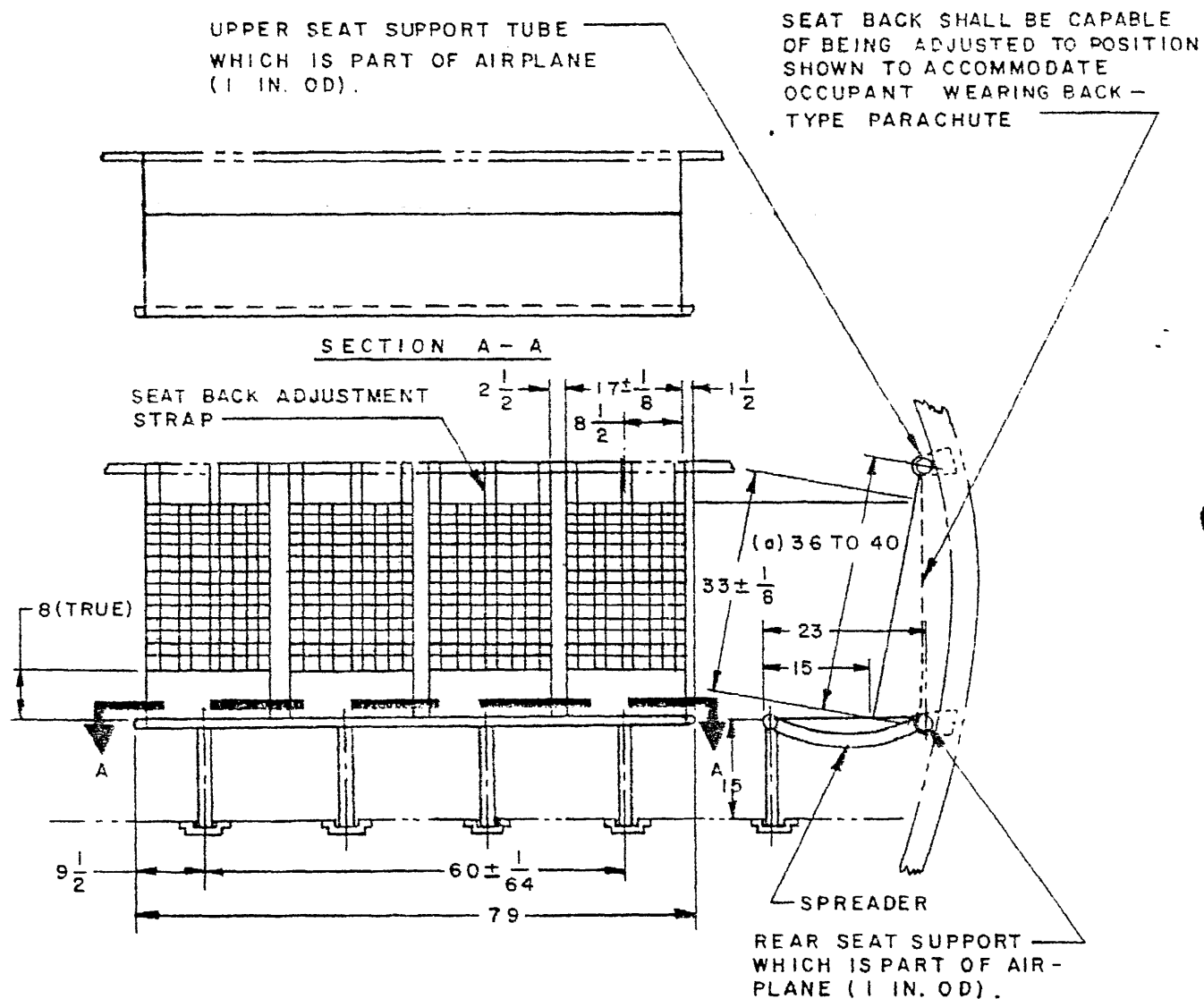


FIGURE 3. DIMENSIONS OF TWO-MAN SEAT

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DIMENSIONS IN INCHES.

(a) 36 TO 40 DIMENSION INDICATES THE PERMISSIBLE VARIATION OF THE LOCATION OF THE UPPER SEAT SUPPORT TUBE. SEAT BACK ADJUSTMENT STRAPS SHALL BE MADE TO ACCOMMODATE THIS VARIATION.

FIGURE 4. DIMENSIONS OF FOUR-MAN SEAT



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3.5.2 Projections. The inside surface of the seats shall be free from projections which could catch or damage, by abrasion, the clothing of the occupant. The exterior surfaces of the seats shall be free from sharp edges of any projections which might scratch the hands or clothing of the occupant.

### 3.5.3 strength.

3.5.3.1 Seat bottom. The seat bottom of each type of seat shall withstand the loads specified in Table I. The loads shall be acting downward on and uniformly distributed over the seat bottom. If shot bags or other high-density materials are used to load the two-man, three-man, or four-man seats, care should be taken to avoid bridging by placing bags or materials in separate piles to represent an occupant.

TABLE I

Load Strength of Seat Bottom

Type of Seat	Ultimate Load (pounds)	Proof Load (pounds)
SEU-1/A four-man seat	8,800	5,880
F-2 three-man seat	6,600	4,410
F-3 two-man seat	4,400	2,940
F-4 one-man seat	2,200	1,470

3.5.3.2 Seat back. The seat back of each type of seat shall withstand the loads specified in Table II. The loads shall be acting rearward on and uniformly distributed over the seat back.

TABLE II

Load Strength of Seat Back

Type of Seat	Ultimate Load (pounds )	Proof Load (pounds )
SEU-1/A four-man seat	2,400	1,600
F-2 three-man seat	1,800	1,200
F-3 two-man seat	1,200	800
F-4 one-man seat	600	400

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3.5.3.3 Side load. Each type of seat shall withstand side loads specified in Table III. The side load shall act in line with the centerline of the front seat tube which supports the front of the seat bottom.

TABLE III

## Side Load Strength

Type of Seat	Ultimate Load (pounds)	Proof Load (pounds)
SEU-1/A four-man seat	900	600
F-2 three-man seat	675	450
F-3 two-man seat	450	300
F-4 one-man seat	225	150

3.5.3.4 Seat leg loads. The seat legs for the four types of seats shall each withstand a proof load of 600 pounds and an ultimate load of 1,000 pounds, applied perpendicular and upward from the floor plane.

3.6 Interchangeability. All parts having the same manufacturer's part number shall be directly and completely interchangeable with each other, with respect to installation and performance. Changes in manufacturer part number shall be governed by the drawing number requirements of MIL-D-1000.

3.7 Dimensions. The outline dimensions of the seats shall be as shown in Figures 1, 2, 3, and 4. Unless otherwise specified, a tolerance of 1 1/16 inch will be allowed on the overall dimensions of all metal parts.

3.8 Weight. The completed seat of each type, including all parts and adequate finish coating, shall not exceed the total weight tabulated below:

<u>Type of Sesat</u>	<u>Weight in pounds</u>
SEU-1/A four-man seat	12.5
F-2 three-man seat	10
F-3 two-man seat	7.5
F-4 one-man seat	5

3.9 Finish. Aluminum-alloy parts shall be anodically treated in accordance with the NIL-A.-8625, type II, undyed, and noncorrosion resistant steel parts shall be cadmium plated in accordance with QQ-P-416, or zinc plated in accordance with QQ-Z-325.

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### 3.10 Identification of Product.

3.10.1 Nameplate. A cloth nameplate, permanently and legibly filled in with the following information, shall be securely sewn to the underside of the seat bottom, or the nomenclature may be stamped on the underside of the seat bottom in a location capable of being read after the seat is installed. The information marked in the spaces provided on the nameplate shall be in accordance with MIL-STD-130,

Seat, Aircraft, Troop, Wall-Style  
 Type (SEU-1/A, F-2, F-3 or F-4, as applicable)  
 Specification MIL-S-5804C  
 stock No.  
 Manufacturer's Part No.  
 Contract or Order No.

3.11 Workmanship. The seat, including all parts and accessories, shall be constructed and finished in a thoroughly workmanlike manner. Particular attention shall be given to neatness and thoroughness of welding, riveting, machine-screw assemblies, painting, freedom of parts from burrs and sharp edges, unraveled edges of cloth, and straightness of stitched seams.

## 4. QUALITY ASSURANCE PROVISIONS

4.1 Responsibility for inspection. Unless otherwise specified the contract or purchase order, the supplier is responsible for the performance of all inspection requirements as specified herein. Except as otherwise specified, the supplier may utilize his own facilities or any commercial laboratory acceptable to the Government. The Government reserves the right to perform any of the inspections deemed necessary to assure supplies and services conform to prescribed requirements.

4.2 Classification of tests. The inspection and testing of the seats shall be classified as follows:

a. Preproduction tests. Preproduction tests save those tests accomplished on a sample representative of the production seat to determine that the production seat meets the requirements of this specification.

b. Acceptance tests. Acceptance tests are those tests accomplished on seats submitted for acceptance under contract.

4.3 Preproduction tests. When specified in the contract, preproduction tests shall be performed by the contractor. The contractor shall subject one sample seat to the preproduction tests described under 4.6.

4.3.1 Sampling. The preproduction test sample shall consist of one seat.

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4.3.2 When specified in the contract, one seat shall be submitted to the procuring activity at the time the preproduction sample test report is submitted for approval. The sample will be used by the procuring activity for performance of any of the tests specified herein which may deem necessary after a review of the contractor's tests report.

4.3.3 Preproduction tests report. After completion: of the preproduction tests by the contractor, a complete report shall be furnished the procuring activity. The preproduction test report shall be in accordance with MIL-STD-831.

4.4 Acceptance tests. The acceptance tests shall consist of examination of product (see 4.6.1) and sample functional testing (see 4.4.1 and 4.6.2).

4.4.1 Sampling tests. Sample seats shall be selected at random from each lot on the same material order, in the quantities specified below and subjected to the tests specified under 4.6.2.

- a.. Two seats from each lot of 200 or fraction thereof.
- b Three seats from each lot of 500 or fraction thereof above 200.
- c. One seat from each additional 500 or fraction there of above 500.

4.4.2 Rejection and retest. Failure of any seat to pass the acceptance tests shall be cause for rejection of the entire lot represented. If, in the opinion of the inspector, such failure is attributable to faulty workmanship or other defects not likely to occur throughout the lot, the contractor may test three additional seats selected at random from the lot. Failure of any one oil these additional seats shall be cause for the final rejection of the entire lot represented.

4.5 Test conditions. *The test conditions are specified under the applicable tests.*

4.6 Test methods.

4.6.1 Examination of Product. Each seat shall be carefully examined to determine conformance to this specification with respect to design, standard parts, finish, adjustments, dimensions, workmanship, material weight, and marking.

4.6.2 Functional tests. The sample seat shall be mounted in a suitable jig. or fixture by utilizing the normal tie-down provisions. The seat shall then be subjected to and be required to withstand without failure, the ultimate loads specified in 3.5.3.1 through 3.5.3.3 inclusive. The attitude of the seat during the test may be changed to facilitate testing if the direction of the loads with respect to the seat remains the same. The loads may be applied by means of hydraulic or pneumatic press, jacks, shot bags, or equivalent high-density material.

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4.7 Inspection of the preservation, packaging, packing and marking for shipment and storage. ~~Sample items or packs and the inspection of the preservation, packaging, packing and marking for shipment and storage shall be in accordance with the requirements of Section 5, or the documents specified therein.~~

## 5. PREPARATION FOR DELIVERY

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

5.1.1 Level A. Each seat shall be preserved and packaged in accordance with MIL-P-116, Method III, in a weather resistant unit container conforming to PPP-B-636.

5.1.2 Level C. Each seat shall be preserved and packaged in a manner that will afford adequate protection against corrosion deterioration and physical damage during shipment from supply source to the first receiving activity for immediate use. This level may conform to the supplier's commercial practice, provided the latter meets the requirements of this level.

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

5.2.1 Level A. Seats preserved and packaged as specified in 5.1.1 shall be packed in overseas type shipping containers conforming to PPP-B-601 or PPP-B-621. As far as practicable, shipping containers shall be of uniform shape and size, or minimum cube and tare consistent with the protection required, and contain identical quantities. The gross weight of each shipping container shall not exceed the weight limitation of the specification. Containers shall be closed and strapped in accordance with the specification and appendix thereto.

5.2.2 Level B. Seats preserved and packaged as specified in 5.1.1 shall not be overboxed for domestic shipments. The unit container, closed and strapped in accordance with the applicable appendix of the container specification shall be the shipping container.

5.2.3 Level C. Seats shall be packed in a manner that will afford adequate protection at the lowest rate against damage during direct domestic shipment from the supply source to the first receiving activity for immediate use. This level shall conform to applicable carrier rules and regulations and may be the supplier's commercial practice, provided the latter meets the requirements of this level.

5.3 Physical protection. Cushioning, blocking and bracing, shall be in accordance with MIL-STD-1186, except that for domestic shipments, waterproofing requirements for cushioning materials and containers shall be waived when preservation, packaging and packing of the item is for immediate use or when drop tests of MIL-P-116 are applicable.

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5.4 Marking. Interior packages and exterior shipping containers shall be marked in accordance with MIL-STD-129.

6. NOTES

6.1 Intended use. The wall-style seats covered by this specification are intended for use by troops in cargo-type aircraft.

6.2 Ordering data. Procurement documents should specify the following:

- a. Title, number, and date of this specification.
- b. Type of seat required (see 1.2).
- c. Applicable levels of preservation, packaging and racking require (see 5.1 and 5.2).
- d. Where the preproduction test sample should be sent, the activity responsible for testing, and instructions concerning the submittal of the test reports (see 4.3.1.2)

6.3 Asterisks are not used in this revision to identify changes with respect to the previous issue, due to the extensiveness of the changes.

Custodian:  
Air Force - 82

Preparing Activity:  
Air Force - 82

Review Activity:  
Air Force - 82

Project No. 1680-0042

1 U.S. GOVERNMENT PRINTING OFFICE: 1967-301-510/900

SPECIFICATION ANALYSIS SHEET		Form Approved Budget Bureau No. 119-R004
<b>INSTRUCTIONS</b>		
This sheet is to be filled out by personnel either Government or contractor, involved in the use of the specification in procurement of products for ultimate use by the Department of Defense. This sheet is provided for obtaining information on the use of this specification which will insure that suitable products can be procured with a minimum amount of delay and at the least cost. Comments and the return of this form will be appreciated. Fold on lines on reverse side, staple in corner, and send to preparing activity.		
SPECIFICATION		
ORGANIZATION		CITY AND STATE
CONTRACT NO	QUANTITY OF ITEMS PROCURED	DOLLAR AMOUNT
MATERIAL PROCURED UNDER A		
<input type="checkbox"/> DIRECT GOVERNMENT CONTRACT <input type="checkbox"/> SUBCONTRACT		
1. HAS ANY PART OF THE SPECIFICATION CREATED PROBLEMS OR REQUIRED INTERPRETATION IN PROCUREMENT USE? A. GIVE PARAGRAPH NUMBER AND WORDING		
B. RECOMMENDATIONS FOR CORRECTING THE DEFICIENCIES		
2. COMMENTS ON ANY SPECIFICATION REQUIREMENT CONSIDERED TOO RIGID		
3. IS THE SPECIFICATION RESTRICTIVE? <input type="checkbox"/> YES <input type="checkbox"/> NO      IF "YES", IN WHAT WAY?		
4. REMARKS (Attach any pertinent data which may be of use in improving this specification. If there are additional papers, attach to form and place both in an envelope addressed to preparing activity)		
SUBMITTED BY (Printed or typed name and activity)		DATE

DD FORM 1426  
1 APR 63

REPLACES NAVSHIPS FORM 4863 WHICH IS OBSOLETE