

INCH-POUND  
MIL-H-81735B(AS)  
30 July 1992  
SUPERSEDING  
MIL-H-81735A(AS)  
19 October 1983

## MILITARY SPECIFICATION

### HELMETS, FLIGHT DECK CREWMAN'S, IMPACT RESISTANT

This specification is approved for use by the Naval Air Systems Command, Department of the Navy, and is available for use by all Departments and Agencies of the Department of Defense

#### 1. SCOPE

1.1 Scope This specification covers the requirements for impact resistant flight deck crewman's helmets and components (see 6.2 b)

1.2 Classification The impact resistant, flight deck crewman's helmets shall be of the following sizes and colors, as specified (see 6.2 c)

1.2.1 Size The cloth helmet shall be of the following sizes

#### SIZE 1/

6-3/4	7-1/4
7	7-1/2

1/ Cloth helmet patterns (see 3.4.1.1)

1.2.2 Color The color of the cloth helmet shall be khaki and the cranial shield shall be of the following colors

#### COLORS (see 3.5.2)

White	Irish Green
Pimento Red	Cocoa Brown
Purple	Lemon Yellow
Royal Blue	

Beneficial comments, (recommendations, additions, deletions) and any pertinent data which may be of use in improving this document should be addressed to Commanding Officer, Naval Air Warfare Center Aircraft Division Lakehurst, Code SR3, Lakehurst NJ 08733-5100, by using the self-addressed Standardization Document Improvement Proposal (DD Form 1426) appearing at the end of this document or by letter.

AMSC N/A

DISTRIBUTION STATEMENT A

Approved for public release, distribution is unlimited

FSC 8415

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## 2 APPLICABLE DOCUMENTS

2.1 Government documents

2.1.1 Specifications, standards, and handbooks The following specifications, standards, and handbooks form a part of this document to the extent specified herein. Unless otherwise specified, the issues of these documents are those listed in the issue of the Department of Defense Index of Specifications and Standards (DODISS) and supplement thereto, cited in the solicitation (see 6.2d).

## SPECIFICATIONS

## FEDERAL

NN-P-71	-	Pallets, Material Handling, Wood, Stringer Construction, 2-Way and 4-Way
CCC-C-461	-	Cloth, Twill, Uniform Cotton
DDD-L-20	-	Label, for Clothing, Equipage, and Tentage (General Use)
DDD-T-86	-	Tape, Textile, Cotton, General Purpose (Unbleached, Bleached, or Dyed)
MMM-A-1617	-	Adhesive, Rubber Base, General Purpose
PPP-B-636	-	Boxes, Shipping, Fiberboard
PPP-T-45	-	Tape, Gummed, Paper, Reinforced and Plain, for Sealing and Securing

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MIL-A-5540	-	Adhesive Polychloroprene
MIL-W-5664	-	Webbing, Textile, Elastic
MIL-P-15011	-	Pallets, Material, Handling, Wood, Post Construction, 4-way Entry
MIL-P-15280	-	Plastic Material, Unicellular (Sheets and Tubes)
MIL-C-19002	-	Cloth, Coated, and Strip, Coated Cloth, Polychloroprene on Nylon
MIL-F-21840	-	Fastener Tapes, Hook and Loop, Synthetic

## STANDARDS

## FEDERAL

FED-STD-751	-	Stitches, Seams and Stitchings
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## MILITARY

MIL-STD-105	-	Sampling Procedures and Tables for Inspection by Attributes
MIL-STD-129	-	Marking for Shipment and Storage
MIL-STD-147	-	Palletized Unit Loads
MS27981	-	Fastener, Snap, Style 2A
MS27983	-	Fastener, Snap, Style 4

(Unless otherwise indicated, copies of federal and military specifications, standards, and handbooks are available from the Standardization Documents Order Desk, Building 4D, 700 Robbins Avenue, Philadelphia, PA 19111-5094)

2 1 2 Other Government documents, drawings, and publications The following other Government documents, drawings, and publications form a part of this document to the extent specified herein Unless otherwise specified, the issues are those cited in the solicitation

## DRAWINGS

## NAVAL AIR SYSTEMS COMMAND

323AS100	-	Cloth Helmet Assemblies, Impact Resistant Flight Deck Crew Helmets, HGU-24/P, -25(V)1/P, -25(V)2/P
323AS101	-	Back Pad Sub-Assembly, Impact Resistant Flight Deck Crew Helmets, HGU-24/P, -25(V)1/P, -25(V)2/P
323AS102	-	Front Pad Assembly, Impact Resistant Flight Deck Crew Helmets, HGU-24/P, -25(V)1/P, -25(V)2/P
323AS106	-	Front Pad Patterns, Impact Resistant Flight deck Crew Helmets HGU-24/P, -25(V)1/P, -25(V)2/P
323AS107	-	Cranial Shell Sub-Assembly, Back, Impact Resistant Flight Deck Crew Helmets, HGU-24/P, -25(V)1/P, -25(V)2/P
323AS108	-	Cranial Shell Sub-Assembly, Front, Impact Resistant Flight Deck Crew Helmets, HGU-24/P, -25(V)1/P, -25(V)2/P
323AS109	-	Back Pad, Impact Resistant Flight Crew Helmets, HGU-24/P, -25(V)1/P, -25(V)2/P
323AS1 0	-	Back Pad Patterns, Impact Resistant Flight Deck Crew Helmets, HGU-24/P, -25(V)1/P, -25(V)2/P

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- 323AS111 - Cap Assemblies, Impact Resistant Flight Deck Crew Helmets, HGU-24/P, -25(V)1/P, -25(V)2/P
- 323AS112 - Ear Dome Holder Assemblies, Impact Resistant Flight Deck Crew Helmets, HGU-24/P, -25(V)1/P -25(V)2/P
- 323AS113 - Cover Assembly, Headband, Impact Resistant Flight Deck Crew Helmets, HGU-24/P, -25(V)1/P, -25(V)2/P
- 323AS114 - Chin Strap and Tab Strap Assemblies, Impact Resistant Flight Deck Crew Helmets, HGU-24/P, -25(V)1/P, -25(V)2/P
- 323AS115 - Tab Assemblies, Snap, Impact Resistant Flight Deck Crew Helmets, HGU-24/P, -25(V)1/P, -25(V)2/P
- 323AS998 - Helmets, Flight Deck Crewman's and Passenger, Impact Resistant, HGU-25(V)1/P, -25(V)2/P
- 323AS999 - Helmets, Flight Deck Crew Chief, Impact Resistant, HGU-24/P

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

2.2 Non-Government publications The following documents form a part of this document to the extent specified herein. Unless otherwise specified, the issues of the documents which are DoD adopted are those listed in the issue of the DODISS cited in the solicitation. Unless otherwise specified, the issues of documents not listed in the DODISS are the issues of the documents cited in the solicitation (see 6.2d)

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

- ASTM D1788 - Standard Specification for Rigid Acrylonitrile - Butadiene-Styrene (ABS) Plastics

(Application for copies should be addressed to the American Society for testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103-1137 )

## COLOR ASSOCIATION OF THE UNITED STATES, INCORPORATED

## TCA Cable Numbers and Colors

(TCA Cable Numbers and Colors may be obtained from the Color Association of the United States, Incorporated, 24 East 38th Street, New York, New York 10016 )

(Non-Government standards and other publications are normally available from the organizations that prepare or distribute the documents. These documents also may be available in or through libraries or other informational services )

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2 3 Order of precedence In the event of a conflict between the text of this document and the reference cited herein, (except for related associated detail specifications, specification sheets, or MS standards) 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 When specified, the helmet and components shall be subjected to first article inspection (see 6 4) in accordance with 4.3

3 1 1 Guide sample Guide samples when furnished, are solely for guidance and information to the contractors (see 6 5). Variation from the specification may appear in the sample in which case this specification shall govern.

3 2 Materials and components The materials and components shall conform to applicable specifications, standards and drawings and shall be as specified herein. Equivalent materials and parts require approval by the Naval Air Warfare Center Aircraft Division Warminster (Code 603), Warminster, Pennsylvania 18974-5000. Requests for use of equivalent items shall be submitted to the Contracting Officer.

3 2 1 Cloth helmet The cloth helmet shall be fabricated from khaki cotton cloth conforming to CCC-C-461, Type IV (see 3 4 1 2).

3 2 2 Reinforcement patch The reinforcement patch for the ear dome opening section shall be fabricated from black polychloroprene coated nylon cloth conforming to MIL-C-19002, Type I (see 3 4 1 2).

3 2 3 Back, front, and side pads The back, front, and side pads shall be fabricated from unicellular plastic conforming to MIL-P-15280, Form S (color optional) (see 3 4 1 2).

3 2 4 Cranial shields The cranial shields shall be plastic molding material in accordance with ASTM D1788. The outside surface finish shall be Mold-Tech Division of Standard International, Youngstown, Ohio, Finish Number 977, or equivalent (see 3 2). Color shall be in accordance with 3 5 2.

3 2 5 Tabs The short and long tabs shall be fabricated from nylon tape, 1/2 inch wide, Part Number 7774 of Bally Ribbon Mills, Bally, Pennsylvania, or equivalent (see 3 2).

3 2 6 Tapes

3 2 6 1 Reinforcement seam tape The reinforcement seam tape shall be fabricated from cotton tape in accordance with DDD-T-86, Type I, Class 3, 5/8 inch wide.

3 2 6 2 Bias binding tape The bias binding tape shall be fabricated from uniform cotton cloth twill in accordance with CCC-C-461, Type IV, 1 1/8 inch wide.

3 2 6 3 Take-up tape The bias binding tape shall be fabricated from elastic textile webbing in accordance with MIL-W-5664, Class I, 1/2 inch wide.

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3 2 6 4 Hook and pile tapes

3 2 6 4 1 Hook tape The hook tape shall be nylon in accordance with MIL-F-21840, Type II, 3/4 inch wide See 3 5 1 for color requirements

3.2.6 4 2 Pile tape The pile tape shall be nylon in accordance with MIL-F-21840, Type II, Class I, 1 inch wide See 3 5 1 for color requirement

3 2 7 Square loop The square loop shall be Part Number 4950 of North & Judd Manufacturing Company, New Britain, Connecticut, or equivalent (see 3 2)

3 2 8 Snap fasteners

3.2.8 1 Back cranial shield sub-assembly snap fasteners The back cranial shield sub-assembly button and socket snap fasteners shall be in accordance with MS27983-1 and MS27983-2, respectively

3 2.8 2 Headband cover assembly snap fasteners The headband cover assembly eyelet, stud, socket and button snap fasteners shall be in accordance with MS27981 -5N, -4N, -3N, and -1N, respectively

3 3 Design Unless otherwise specified, the helmets furnished under this specification shall be made of unlined cotton cloth and fitted with impact resistant, varicolored, cranial shields to provide protection to, and identification of, the crewman The helmets shall be compatible for use with communications head sets and aural sound protectors Helmets and components shall conform to applicable drawing requirements as specified herein

3 4 Construction Unless otherwise specified, the construction of the helmets and components furnished under this specification shall conform to the following drawings (see 6 2e).

323AS100	323AS109	323AS115
323AS101	323AS110	323AS998
323AS102	323AS111	323AS999
323AS106	323AS112	
323AS107	323AS113	
323AS108	323AS114	

3 4 1 Cutting The cloth helmets shall be cut in strict accordance with the furnished patterns which provide for seam allowance, size, shape, placement of the components, directional lines for cutting, and notches or markings for the proper assembly of all the parts The directional lines shall be in the warp direction The component parts of the cloth helmet shall be cut from the same ply of the lay The chin and tab straps may be cut from the ends The chin and tab straps may also be prefabricated, from one continuous piece of the cloth, and then cut to the specified length The cut edges of the nylon snap tab tapes shall be seared or treated, prior to the fabrication of the helmet, to prevent fraying No sharp edges shall be formed nor shall the searing or treatment have a deleterious affect on the tapes

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3 4.1 1 Patterns. Standard patterns will be furnished by the Government to the contractor for use in cutting working patterns (see 6 5) The working patterns shall be identical to the Government patterns Neither the Government patterns nor the working patterns shall be altered in any way. Minor modifications are permitted where necessary when using automatic equipment These modifications shall not alter the appearance, serviceability, or dimensional requirement cited in the specification The patterns provide a 3/16 inch seam allowance for regulator seams, and unless otherwise specified in 3 4, seams shall be in accordance with this seam allowance

3 4.1 2 Component parts The component parts shall be cut from the material specified, in accordance with the pattern parts in table I

3 4 2 Shade and size marking Except for the chin and tab straps, which may be cut from the ends, all the component parts shall be marked or ticketed, by any commercial method, to ensure a uniform shade and proper assembly throughout the cloth helmet No metal fastening device or sewn-on ticket shall be used The shade and size markings shall be accomplished by the use of an ink pad numbering machine, rubber stamp, or pencil, provided the markings do not show through to the outside of the helmet and are not deleterious to the cloth. The markings, placed on the seam allowance, shall not be visible on the outside The adhesive type shade and size marking tickets may be used, for the shade and size markings, provided they conform to 3 4 2 1 The assembled cloth helmet shall not contain any shade or size marking tickets The bundling method may be used in lieu of the shade and size marking, provided it conforms to 3 4 2 2

3 4 2 1 Adhesive shade and size marking tickets. The adhesive shade and size marking tickets shall be fabricated from paper with a thermoactivated adhesive applied on one side The adhesive shall not discolor or damage the cloth and the adhesive mass shall not adhere to the cloth, upon removal of the ticket The heat used to attach the thermoactivated adhesive tickets shall not stiffen, harden, or scorch the cloth

3 4 2 2 Bundling method The bundling method may be used, in lieu of the shade and size marking, provided each bundle contains parts cut only from the same piece of the cloth The bundle shall be numbered or otherwise identified, for the shade and size, to assure that the component parts of the assembled cloth helmets are from the same piece of the cloth and for the proper size helmet

3 4 3 Seams and stitching All the seams and stitching used in the fabrication of the helmets shall conform to 323AS100 and 323AS111 through 323AS115 Unless otherwise specified by the acquiring activity, all the machine stitching shall be accomplished with Stitch Type 301, 9 to 12 stitches per inch, except that the stitching of the chin strap fastener tape ends shall be 14 to 18 stitches per inch and shall be backstitched 1/4 +1/8 inch The earpiece section shall be attached to the helmet with Stitch Type 504, 14 to 16 stitches per inch, and then restitched with Stitch Type 301 The coated cloth shall be attached at the earpiece sections slots with Stitch Type 304, 26 to 30 stitches per inch, 3/32 +1/32 inch wide The snap tabs shall be attached to the helmet with Stitch Type 304, 26 to 30 stitches per inch, 3/32 +1/32 inch wide The chin and tab straps shall each be attached to the helmet with two rows of Stitch Type 304, 26 to 30 stitches per inch, 3/16 +1/32 inch wide An additional row of Stitch Type 304 stitching shall be employed over the one used to attach the cut end of the straps to the helmet, in such a manner that the cut end of the chin and tab straps shall be completely hidden by the stitching All the stitch types shall conform to FED-STD-751, except for



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the seam construction on the inside of the nylon snap tab tapes, hook and pile fastener tapes, the point of attachment of the earpiece sections, slots, coated cloth, and the visible end of the bias binding tape, no cut or raw edge shall be visible. All the seam edges shall be properly forced out and shall not contain any folds. No seam or component shall be twisted, puckered, or pleated and no part of the cloth helmet shall be caught in an unrelated operation or seam. All the thread ends shall be trimmed to a maximum length of 3/8 inch. The number of zigzag stitches per inch shall be determined by counting the number of needle holes per inch and subtracting one. A zigzag stitch shall be defined as the thread between two needle holes.

**3.4.3.1 Sewing** Each row of stitching shall be straight and parallel to the seam edge. The straightness of the stitching in any row shall be maintained within a tolerance of plus or minus 1/32 inch. The ends of the stitching that are not caught in other seams or stitching shall be securely backstitched by overlapping on themselves for at least 1/2 inch. The thread breaks, skips, and runoffs shall be overstitched not less than one inch. The thread tension shall be maintained so that there shall not be any loose or tight stitching and the lock shall be embedded in the materials sewn together.

**3.4.4 Use of adhesive** In all the cementing operations, the surface to which the adhesive is to be applied shall be thoroughly cleaned with a suitable solvent so that any surface contaminant is removed. The surface shall be clean prior to cementing. Care shall be exercised to ensure that the fastener tape and the plastic shield are not damaged and the adhesion between both shall not be impaired in any way by the prolonged exposure to the solvent. The solvent used shall evaporate completely prior to the application of the adhesive, and shall leave no residue. The cemented areas shall not contain any trapped air, channels, or wrinkles. The adhesive shall be controlled to ensure that old adhesive or adhesive which has partly or completely polymerized shall not be used. The containers for the adhesive shall be free from congealed adhesive before being refilled.

**3.4.5 Cementing of the hook and pile fastener tapes** The cementing of the hook and pile fastener tapes shall be undertaken utilizing the technique and precautions outlined in 3.4.4 so that, prior to the inspection of the assembled helmet, the adhesive shall have developed its optimum bonding properties and the adherence of all the hook and pile fastener tapes shall comply with the requirements of this specification. The adhesive, when dry or cured, shall present a neat and uniform appearance. The adhesive shall not be allowed to remain in clots nor permitted to extend in such a manner as to result in localized stiffness, which might result in discomfort to the wearer. The adhesive, upon drying or curing, shall not cause the tapes to shrink or pucker at any point. The adhesive shall not be allowed to run over the edges of the tapes to form stiff or hard needle points.

**3.4.5.1 Cementing of the hook fastener tapes to the front and back cranial shields** Cementing of the hook fastener tapes to the front and back cranial shields shall be in accordance with 3.4.5. The tapes shall be secured by the adhesive and in the locations specified in 323AS107 and 323AS108, as applicable. The tapes shall be cemented to the front and back cranial shields without tension. The adhesive shall be applied in a straight line, parallel to the edges of the tapes, and shall extend from just being visible to a minimum of 1/2 inch beyond the tape edges. The hook portion of the fastener tapes and the front and back cranial shields shall be free from congealed masses of the adhesive, and spots or stains resulting from excessive adhesive. The adhesive shall be polychloroprene in accordance with MIL-A-5540, Class 3, Form A or B.



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3 4 5 2 Cementing of the pile fastener tapes to the front cranial shield  
Cementing of the pile fastener tapes to the front cranial shield shall be in accordance with 3 4 5. The tapes shall be secured by the adhesive and in the locations specified in 323AS108. The tapes shall be cemented to the front cranial shield without tension. The adhesive shall be applied in a straight line, parallel to the edges of the tapes and shall extend from just being visible to a minimum of 1/16 inch beyond the tape edges. The pile portion of the fastener tapes and the front cranial shield shall be free from congealed masses of the adhesive, and spots or stains resulting from excess adhesive. The adhesive shall be polychloroprene in accordance with MIL-A-5540, Class 3, Form A or B.

3 4 5 3 Cementing of the pile fastener tapes to the front and back foam pads  
The cementing of the pile fastener tapes to the front and back foam pads shall be in accordance with 3 4 5. The tapes shall be secured by the adhesive and in the locations specified in 323AS101 and 323AS102, as applicable. The tapes shall be cemented to the front and back pads without tension. The adhesive shall be applied in a straight line, parallel to the edges of the tape, and shall extend from just being visible to a maximum of 1/2 inch past the tape edges. The pile portion of the fastener tapes and the front and back pads shall be free from congealed masses of the adhesive, and spots or stains resulting from excess adhesive. The adhesive shall be in accordance with MMM-A-1617, Type II.

3 4 5 4 Cementing of the foam pads The cementing of the side and back foams pads shall be undertaken utilizing techniques so that, prior to inspection of the assembled helmet, the adhesive shall have developed its optimum bonding properties. The surface to which the adhesive is to be applied shall be thoroughly cleaned using a suitable solvent if necessary, so that any surface contaminant is removed. The surface shall be clean prior to cementing. If a solvent is used it shall evaporate completely prior to the application of the adhesive, and shall leave no residue. The cemented areas shall not contain any trapped air, channels, or wrinkles. The adhesive shall be controlled to ensure that old adhesive, or adhesive which has partly or completely polymerized shall not be used. The containers for the adhesive shall be free from congealed adhesive before being refilled. The back and side foam pads shall be adhered together as specified in 323AS109. The pads shall be cemented together without tension. The adhesive to join the pads shall be Groendyk Mfg Company, Buckhanan, Virginia Part Number 27708, or equivalent (see 3 2). The pads shall be free from congealed masses of the adhesive, and spots or stains resulting from excess adhesive.

3 5 Color The colors of the components shall be compared to the approved standard shade (see table II) under natural (north sky) daylight or artificial daylight having a color temperature of 7500 degrees Kelvin.

3 5 1 Fibrous components Except for the plastic foam pads, the color of the fibrous components of the cloth helmet shall be khaki, Marine Corps Shade 2101 or approximately match the crepe side of TCA Cable Number 70188 (see 2 2). The color of the front and back plastic foam pads shall be optional to the manufacturer, except that they shall be uniform for each pad. The color of the hook and pile fastener tapes for the chin strap shall be khaki or beige. The color of the thread shall match the color of the cloth.

3.5 2 Cranial shields The resin shall be pigmented so that the color of the molded cranial shields shall be uniform throughout. The use of any external method of color application is prohibited. The color of the outer surface of the front and back cranial shields shall be as specified (see 6 2c) and shall approximately match the crepe side of the colors specified in table II.

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3.6 Identification label Unless otherwise specified by the acquiring activity, an identification label, 1-5/6 inches by 3 inches, conforming to DDD-L-20, Type VI, Class I, shall be sewn on the inside back of the cloth helmets in the location specified in drawing 323AS111. Legible, permanent and durable black markings shall be used on the label. All markings shall be thoroughly dry prior to packaging. Markings shall consist of the following information:

HELMETS, FLIGHT DECK CREWMAN'S, IMPACT RESISTANT  
 SIZE  
 MIL-H-81735 (applicable revision/amendment) (AS)  
 CONTRACT OR ORDER NO  
 NAME OF MANUFACTURER  
 DATE OF MANUFACTURER (Month and year)  
 NSN

3.7 Workmanship After completion of the final assembly, the helmets shall be thoroughly cleaned and all loose thread, lint, and foreign matter shall be removed. Each snap fastener shall be clinched without distortion, cracking, splitting, or cutting of the cloth, tape, or shield, as applicable. Two splits per snap fastener shall be allowed. The helmets shall not contain any crack, nick, burr, sharp edge, unspecified hole, tear, needle chew, mend, patch, spot, stain, corrosion, scale, pit or dent. The plastic shields shall not be warped, distorted, chipped or splintered and all flash marks shall be removed. Because of the emergency use of these items, the importance of providing a product of uniform excellent quality cannot be overemphasized. The helmets shall be uniform in quality and shall be free from irregularities or defects which could adversely affect performance, reliability, or durability. The helmets shall conform to the quality and grade of product established by this specification. The occurrence of defects shall not exceed the acceptance criteria established herein.

#### 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 (examinations and tests) 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 this specification where such inspections are deemed necessary to ensure supplies and services conform to prescribed requirements.

4.1.1 Responsibility for compliance All items shall meet all requirements of sections 3 and 5. The inspections 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 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.

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4 2 Classification of inspections The inspection requirements specified herein are classified as follows

- a First article inspection First article inspection consists of examinations and tests performed on samples which are representative of the production item after award of a contract to determine that the production item conforms to the requirements of this specification (see 4 3)
- 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 (see 4 4).

4 3 First article inspection. The first article inspection of the helmets shall consist of the following

Visual Examination	3 3 through 3 7, 4.5 1 1, table IV, and applicable drawings (see 3 4)
Dimensional Check	4 5 1 1, table V, and applicable drawings (see 3 4)

4 3 1 First article samples Unless otherwise specified, as soon as practicable after the award of the contract or order, the manufacture shall submit three front or back cranial shields of each color, three front or back plastic foam pads, three cloth helmets of any size, or three assembled helmets, any cloth helmet size, of each cranial shield color specified in the contract or order, as applicable. The samples shall be representative of the construction, workmanship, components, and materials to be used during production. When a contractor is in continuous production of these cranial shields, pads, cloth helmets, or assembled helmets, as applicable, from contract to contract, submission of further first article inspection samples on the new contract may be waived at the discretion of the acquiring activity (see 6 2h). Approval of the first article inspection samples or the waiving of the first article inspection does not preclude the requirements for performing the quality conformance inspection. The first article inspection samples shall be furnished to the Government as directed by the contracting officer (see 6 2i).

4 3 2 First article information One of the approved first article inspection samples of the cranial shields, pads, cloth helmets, or assembled helmets, as applicable, will be returned to the manufacturer for use in monitoring production. The other two cranial shields, pads, cloth helmets, or assembled helmets, as applicable, will be destroyed in the first article inspection and shall not be considered as part of the quantity to be delivered under the contract or order.

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4 4 Quality conformance inspection Quality conformance inspection shall consist of the examinations and tests specified in table III. The sampling and inspection levels and acceptance criteria shall conform to MIL-STD-105.

4 4 1 Sampling4 4 1 1 Inspection lot

4 4.1 1 1 Cranial shields An inspection lot size shall be expressed in units of one front or back, as applicable, of the cranial shields of one color made essentially under the same conditions and from the same materials and components or shall consist of all the cranial shields of one color received by the assembled helmet manufacturer at one time. The sample unit shall be one front or back, as applicable, of the cranial shields of one color.

4 4.1 1 2 Pads An inspection lot size shall be expressed in units of one front or back, as applicable, of the foam pads made essentially under the same conditions and from the same materials and components or shall consist of all the pads received by the assembled helmet manufacturer at one time. The sample unit shall be one front or back, as applicable, of the foam pads.

4 4.1 1 3 Cloth helmets An inspection lot size shall be expressed in units of one cloth helmet of one size made essentially under the same conditions and from the same materials and components. The sample unit shall be one cloth helmet of one size.

4 4.1 1 4 Assembled helmets An inspection lot size shall be expressed in units of one assembled helmet of one cloth helmet size and one color of the cranial shield (cloth helmet with the front and back plastic shields and the front and back pads attached) made essentially under the same conditions and from the same materials. The sample unit under the same conditions and from the same materials shall be one assembled helmet of one cloth helmet size and one color of the cranial shield (cloth helmet with the front and back cranial shields and the front and back pads attached).

4 4.1 1 5 Sample unit An inspection lot size shall be expressed in units of one fully prepared shipping container, containing front or back of the cranial shields of one color, front or back of the pads, cloth helmets of one size, or assembled helmets of one cloth helmet size and one color of the cranial shield (cloth helmets with the front and back cranial shields and the front and back pads attached), see 323AS100, fully prepared for delivery from essentially the same materials and components. The sample unit shall be one shipping container containing front or back of the cranial shields of one color, front or back of the pads, cloth helmets of one size, or assembled helmets of one cloth helmet size and one color (cloth helmets with the front and back cranial shields and the front and back pads attached) fully prepared for delivery with the exception that it need not be sealed.

4 4.1 2 Sampling for the examinations and tests of the cranial shields, pads, cloth helmets, assembled helmets, and packaging The sample size, acceptance criteria, examinations and tests required for the cranial shields, pads, cloth helmets, assembled helmets, or packaging shall be as specified in table III.

4 5 Inspection methods

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4 5 1 Visual examination

4 5 1 1 Cranial shields, pads, cloth helmets, and assembled helmets. Each front or back cranial shields of one color, each front or back of the pads, each cloth helmet of one size, or each assembled helmet of one cloth helmet size and one color of the cranial shield (cloth helmet with the front and back cranial shields and the front and back pads attached) selected as a sample unit from the lot, shall be thoroughly checked dimensionally and examined visually to determine conformance to this specification. Each front and back cranial shield and foam pad, in a set of the cranial shields or the pads, and the cloth helmet shall be visually examined and dimensionally checked, when they are components of the assembled helmet and when they are purchased individually. The classification and list of defects, tables IV and V, as applicable, shall be used to classify and enumerate the defects found.

4 5 1.2 Shipping container Each of the fully prepared shipping containers containing fronts or backs of the cranial shields of one color, fronts or backs of the pads, cloth helmets of one size or assembled helmets of one cloth helmet size and one color of the cranial shield (cloth helmets with the front and back cranial shields and the front and back pads attached) selected as a sample unit from the lot, shall be visually examined to determine that the packaging, packing, and marking conform to this specification. The list of defects, table VI, shall be used to enumerate the defects found.

4 5 1 3 Palletization examination An examination shall be made to determine that the palletization complies with section 5. Defects shall be scored in accordance with table VII. The sample unit shall be one palletized unit load fully packaged. The lot size shall be the number of palletized unit loads in the end item inspection lot. The inspection level shall be S-1 and the AQL, expressed in terms of defects per hundred units, shall be 6.5 in accordance with MIL-STD-105.

## 5 PACKAGING

5 1 Preservation Preservation shall be level A or C, as specified (see 6.2j).

5 1 1 Level A

5 1 1 1 Cranial shields Each front or back cranial shield shall be inserted into a commercially acceptable, square style, popular weight paper bag, with the open end sealed with gummed paper tape. The label of 5.3.1.1 shall be marked or applied to the outer surface of the bag, and shall be legible after sealing of the bag. Each individual front or back bagged shield of one color shall be packaged within a snug fitting fiberboard box conforming to PPP-B-636, Type CF, Domestic Class, Variety SW, Grade 275. The weight of the contents in each package shall not exceed 40 pounds. Each container shall be constructed and closed in accordance with the appendix to PPP-B-636. The body joint and the top and bottom flaps shall be firmly glued together as specified in PPP-B-636. The fiberboard container shall be sealed with 3 inch minimum wide tape conforming to PPP-T-45, Type III, Grade A, B or C.

5 1 1 2 Pads Each front or back pad shall be inserted in a commercially acceptable, square style, popular weight bag, with the open end sealed with gummed paper tape. The label of 5.3.1.2 shall be marked or applied to the outer surface of the bag, and shall be legible after sealing of the bag. The individual front or



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back bagged pads shall be packaged within a snug fitting fiberboard box conforming to PPP-B-636, Type CF, Domestic Class, Variety SW, Grade 275. The weight of the contents in each package shall not exceed 40 pounds. Each container shall be constructed and closed in accordance with the appendix to PPP-B-636. The body joint and the top and bottom flaps shall be firmly glued together as specified in PPP-B-636. The fiberboard container shall not contain any metal fastenings or stitches. All the seams and joints shall be sealed with 3 inch minimum wide tape conforming to PPP-T-45, Type III, Grade A, B or C.

5 1 1 3 Cloth helmets. The tunnel shall be snapped closed and each cloth helmet shall be folded along the central seam and then folded in half again so that the size of the folded helmet shall be approximately 6 by 11 inches. The chin strap shall be neatly placed on the helmet. Each cloth helmet shall be inserted in a commercially acceptable, square style, popular weight paper bag, with the open end sealed with gummed paper tape. The label of 5 3 1 3 shall be marked or applied to the outer surface of the bag, and shall be legible after sealing of the bag. Twenty bagged helmets of one size shall be packaged within a fiberboard container conforming to PPP-B-636, Type CF, Domestic Class, Variety SW, Grade 275. Every other helmet shall be in reverse position to the one on top of it. Each container shall be constructed and closed in accordance with the appendix to PPP-B-636. The body joint and the top and bottom flaps shall be firmly glued together as specified in PPP-B-636. The fiberboard container shall not contain any metal fastening or stitches. All the seams and joints shall be sealed with 3 inch minimum wide tape conforming to PPP-T-45, Type III, Grade A, B or C.

5 1 2 Level C. The cranial shields of one color, pads, cloth helmets of one size, or assembled helmets of one size of the cloth helmet and one color of the cranial shield, as applicable, shall be packaged to afford the minimum degree of protection necessary to prevent deterioration or damage during shipment under normal environmental conditions and commercial modes of transportation.

5 2 Packing. Packing shall be level A, B or C as specified (see 6 2j). Shipping containers, insofar as possible, shall be uniform in size and shape and of minimum cube and tare weight. Each shipping container shall contain cranial shields of one color, cloth helmets of one size, or assembled helmets of one size of the cloth helmet and one color of the cranial shield, as applicable. Except for the assembled helmets, the fronts and backs of the cranial shields or pads, as applicable, shall not be packed in the same container.

#### 5 2 1 Level A

5 2 1 1 Cranial shields. Two intermediate packages containing cranial shields, packaged as specified in 5 1 1 1, shall be packed as specified in 5 2 2.1, except that the fiberboard containers shall be Weather-Resistant Class, Variety SW, Grade V3c or V3s. In addition, each container shall be reinforced in accordance with the appendix to PPP-B-636, except that metal strapping or banding shall not be used.

5 2 1 2 Pads. Two intermediate packages containing pads, packaged as specified in 5 1.1 2, shall be packed as specified in 5 2 2.2, except that the fiberboard container shall be Weather-Class, Variety SW, Grade V3c or V3s. In addition, each container shall be reinforced in accordance with the appendix to PPP-B-636, except that metal strapping or banding shall not be used.

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5 2 1 3 Cloth helmets Twelve intermediate packages containing 240 cloth helmets, packaged as specified in 5 1 1 3, shall be packed as specified in 5 2 2 3, except that the fiberboard container shall be Weather-Resistant Class, Variety SW, Grade V3c or V3s. In addition, each container shall be reinforced in accordance with the appendix to PPP-B-636, except that metal strapping or banding shall not be used.

5 2 2 Level B

5 2 2 1 Cranial shields Two intermediate packages 24 x 16 x 7 1/2 inches containing 60 back shields or 120 front shields each, packaged as specified in 5 1 1 1, shall be packed within a snug fitting fiberboard container conforming to PPP-B-636, Type CF or SF, Domestic Class, Variety SE, Grade 275. Each container shall be constructed and closed in accordance with the appendix to PPP-B-636. The approximate outside dimensions shall be 24 1/2 x 16 1/2 x 15 1/2 inches. Toward the end of the contract or when there are less than the specified amount for the fronts, backs, or the same color per container, fronts, backs, and mixed colors may be packed within the same shipping container (see 5 3 2).

5 2 2 2 Pads Two-hundred packages containing pads, packaged as specified in 5 1 1.2, shall be packed within a snug fitting fiberboard container conforming to PPP-B-636, Type CF or SF, Domestic Class, Variety SW, Grade 275. Each container shall be constructed and closed in accordance with the appendix to PPP-B-636. Toward the end of the contract or when there are less than the specified amount for the fronts or backs per container, fronts or backs may be packed within the same shipping container (see 5 3 2).

5 2 2 3 Cloth helmets 240 cloth helmets, packaged as specified in 5 1 1 3, shall be packed within a fiberboard container conforming to PPP-B-636, Type CF or SF, Domestic Class, Variety DW, Grade 275. The fiberboard for the liner shall conform to Type CF, Domestic Class, Variety DW, Grade 275. Each container shall be constructed and closed in accordance with the appendix to PPP-B-636. The approximate outside dimensions shall be 30 x 17 x 17 inches. Toward the end of the contract or when there are less than the specified amount for the same size per container, mixed sizes may be packed within the same shipping container (see 5 3 2).

5 2 3 Level C The packaged cranial shields, pads, cloth helmets, or assembled helmets which require packing for acceptance by the carrier, shall be packed within the exterior type shipping containers in a manner that shall ensure safe transportation, at the lowest rate, to the point of delivery. The shipment shall conform to the minimum requirements of the rules and regulations applicable to the mode of transportation selected.

5 3 Marking In addition to any special marking required by the contract or order (see 6 21), the interior and exterior fiberboard containers shall be marked in accordance with MIL-STD-129 and shall include the color of the cranial shield and the size of the cloth helmet and the date of manufacture (month and year).

5 3 1 Paper bag marking The label shall be marked or affixed to the outside of the paper bag. The marking shall be legible and durable.



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5 3 1.1 Cranial shields The label for the cranial shields shall contain the following

FRONT OR BACK CRANIAL SHIELD, as applicable  
 IMPACT RESISTANT FLIGHT DECK CREWMAN'S HELMETS  
 COLOR MIL-H-81735B(AS)  
 CONTRACT OR ORDER NUMBER  
 NAME OF MANUFACTURER  
 DATE OF MANUFACTURE (Month and Year)  
 NSN

5 3 1 2 Pads The label for the pads shall contain the following

FRONT OR BACK PAD, as applicable  
 IMPACT RESISTANT FLIGHT DECK CREWMAN'S HELMETS  
 MIL-H-81735B(AS)  
 CONTRACT OR ORDER NUMBER  
 NAME OF MANUFACTURER  
 DATE OF MANUFACTURE (Month and Year)  
 NSN

5.3 1 3 Cloth helmets The label for the cloth helmets shall contain the following

CLOTH HELMET  
 IMPACT RESISTANT FLIGHT DECK CREWMAN'S HELMETS  
 MIL-H-81735B(AS)  
 SIZE  
 CONTRACT OR ORDER NUMBER  
 NAME OF MANUFACTURER  
 DATE OF MANUFACTURE (Month and Year)  
 NSN

5 3 2 Mixed sizes container A white paper label, with legible black letters and numerals approximately 5 by 4 inches, shall be securely attached to the end and side of each fiberboard container containing fronts, backs and mixed colors of the cranial shields, front and backs of the pads, mixed sizes of the cloth helmets, or mixed sizes of the cloth helmets and mixed colors of the cranial shields. The label shall contain the following information

MIXED FRONTS AND BACKS, MIXED COLORS, MIXED SIZES,  
 OR MIXED SIZES AND COLORS, as applicable  
 Colors, sizes and quantity of each color and size,  
 and quantity of the fronts and backs, as  
 applicable

5 4 Palletization When specified (see 6 2k) items packed as specified shall be palletized on a 4-way entry pallet in accordance with load type 1A of MIL-STD-147. Each prepared load shall be bonded with primary and secondary straps in accordance with bonding means C, K, and L or O or P. Pallet pattern shall be in accordance with the appendix of MIL-STD-147. The pallet shall be 4-way, Type IV, V, or VIII, Class 1, Style A, Size 2, wood group I, II, III, or IV, Grade A of NN-P-71 or 4-way, Style 1, Size A, Type I, Class I wood group I, II, III or IV, Grade A of MIL-P-15011. Interlocking of loads shall be effected by reversing the pattern of

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each course. If the container is of a size which does not conform to any of the patterns specified in MIL-STD-147, the pallet pattern used shall be approved by the contracting officer.

## 6 NOTES

(This section contains information of a general or explanatory nature that may be helpful, but is not mandatory)

6.1 Intended use. The impact resistant flight deck crewman's helmets covered by this specification are intended for protection to the cranium and for identification of personnel on flight decks of carrier or landing strips of air stations, and for use by passengers on Carrier On Board Delivery (COD) aircraft.

6.2 Acquisition requirements. Acquisition documents shall specify the following:

- a. Title, number, and date of this specification, including amendments.
- b. Item desired, i.e., assembled helmets (cloth helmets, with the front and back cranial shields and pads attached), cloth helmets, front or back cranial shields, or front and back pads (see 1.1).
- c. Size of the cloth helmets (see 1.2.1) and the color of the cranial shields (see 1.2.2), as applicable.
- d. Issue of DODISS to be cited in the solicitation, and if required, the specific issue of individual documents referenced (see 2.1.1 and 2.2).
- e. Applicable drawings (see 3.4).
- f. Applicable National Stock Number.
- g. Quantity required.
- h. Whether first article inspection is required (see 4.3.1).
- i. Name and address of the first article inspection facility (see 4.3.1) and the name and address of the Government activity responsible for conducting the first article inspection program (see 4.3.2).
- j. Selection of applicable levels of preservation, packaging and packing (see 5.1 and 5.2).
- k. When palletization is required (see 5.4).
- l. Whether any special markings are required (see 5.3).

6.3 Consideration of data requirements. The following data requirements should be considered when this specification is applied on a contract. The applicable Data Item Description (DID's) should be reviewed in conjunction with the specific acquisition to ensure that only essential data are requested/provided and that the DID's are tailored to reflect the requirements of the specific acquisition. To ensure correct contractual application of the data requirements, a Contract Data Requirement List (DD Form 1423) must be prepared to obtain the data,

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except where DOD FAR Supplement 27 475-1 exempts the requirement for a DD Form 1423

<u>Reference Paragraph</u>	<u>DID Number</u>	<u>DID Title</u>	<u>Suggested Tailoring</u>
4.3 2	DI-NDIT-80809A	Test/Inspection Reports	Use contractor format

The above DID's were those cleared as of the date of this specification. The current use of DOD 5010 12-L Acquisition Management Systems and Data Requirements Control List (AMSDL), must be researched to ensure that only current, cleared DID's are cited on the DD Form 1423

6.4 First article When first article inspection is required, the contracting officer should provide specific guidance to offerors whether the item(s) should be a preproduction sample, a first article sample, a first production item, a sample selected from the first production items, a standard production item from the contractor's current inventory, and the number of items to be tested as specified in 4.3.1. The contracting officer should also 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 requirement 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. Bidders should not submit alternate bids unless specifically requested to do so in the solicitation.

6.5 Samples, patterns and drawings For access to samples, patterns and drawings, address the acquiring activity issuing the invitation for bids.

6.6 Subject term (Key word listing)

- Aircraft handling
- Aural protection
- Cloth helmets
- Color coded shields
- Communications
- Cranium protection
- Head protection
- Shields

6.7 Changes from previous issue Asterisks are not used in this revision to identify changes with respect to the previous issue due to the extensiveness of the changes.

Preparing activity  
Navy - AS

(Project No 8415-N873)

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TABLE I. Component parts

Material	Nomenclature of Component Parts	Cut Parts
Cloth, twill, cotton (CCC-C-461, Type IV)	Headband cover, upper section	2
	Headband Cover	2
	Crown Section, front	2
	Crown Section, center	2
	Crown Section, back	2
	Side Panel Section	2
	Side Section Reinforcement	2
	Chin Strap	2
	Chin Strap "D" Ring	2
	Ear Opening Section	2
Cloth, coated (MIL-C-19002, Type I)	Reinforcement Patch	4
Foam, plastic (MIL-P-15280, Forms S)	Center Section, back pad	1
	Side Section, back pad	2
	Front pad	1

TABLE II Front and back cranial shield colors

TCA Cable Number (see 2 2)	Color
70001	White
70042	Pimento Red
70060	Purple
70087	Royal Blue
70168	Irish Green
70192	Cocoa Brown
70205	Lemon Yellow

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TABLE III Quality conformance inspection

INSPECTION	METHOD	SAMPLE SIZE	ACCEPTANCE CRITERIA
Visual examination <u>1/</u>	4 5 1 1 and	Inspection Level II	An acceptable quality level 2 5 defects per 100 units for major defects and 6 5 defects per 100 units for total (major and minor combined) defects
Dimensional check <u>1/</u>	4 5 1 1 and Table V	Inspection Level S-3	An acceptable quality level of 4 0 defects per 100 units
Packaging <u>2/</u>	4 5 1 2 and Table VI	Inspection Level S-2	An acceptable quality level of 2 5 defects per 100 units

1/ This inspection is applicable to the cranial shields, pads, and cloth helmets, when they are purchased individually and when they are a component of the assembled helmets

2/ This inspection is applicable to the assembled helmets and to the cranial shields, pads, and cloth helmets, when they are purchased individually

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TABLE IV Classification of defects for the visual examination of the cranial shields, pads, cloth helmets, and assembled helmets

DEFECT	MAJOR	MINOR
<u>GENERAL</u>		
A Any non-specified hole, dent, scissors or knife cut tear, mend, burn, or weakening defect such as smash, multiple float, loose slub, needle chew, or abraded area	X	
B Color of any fibrous component not as specified, not uniform, or contains one or more shade bars		X
C Two or more thread ends not trimmed to a maximum length of 3/8 inch or two or more thread scraps not removed from the cloth helmet		X
D Any seam in the foam pad separating	X	
E Any spot or stain	<u>1/</u>	
F Any shade identification or size marking visible on the exterior		X
G Any discoloration of the cloth caused by the removal of the shade and size marking ticket, any shade and size marking adhesive mass adhering to the cloth, any shade or size marking tickets not removed, or any unsightly slub		X
H Any metal fastening device or sewn-on shade and size marking ticket	X	
I Any portion of any cloth component stiffened, hardened, or scorched by any process of manufacturing	X	
<u>FASTENER TAPE</u>		
A Less than 25 percent of the hooks or pile flattened or missing from any tape		X
B 25 percent or more of the hooks or pile flattened or missing from any tape	X	
C Any not of specified size	<u>2/</u>	

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TABLE IV Classification of defects for the visual examination of the cranial shields, pads, cloth helmets, and assembled helmets - Continued

DEFECT	MAJOR	MINOR
D Any misplace, not serving the intended purpose	X	
E Any area of any hook tape, one inch or more in length, that contains thread scraps, lint or other fibrous impurities affecting use		X
<u>METALLIC COMPONENTS</u>		
A Any surface rough, misaligned, distorted or contains any nick, sliver, burr, sharp edge, or crack	X	
B Any loose, detached or otherwise not securely retained	<u>2/</u>	
C Any surface unclean or contains embedded foreign matter		X
D Any malformed, corroded, fractured, broken, chipped, bent, or distorted	X	
E Snap fasteners <u>3/</u>	X	
1 Any mismatched or misplaced	X	
2 Any improperly clinched resulting in cutting of the tape, cloth, or cranial shield, as applicable, or loosely clinched with ends of components not completely rolled back	X	
3 Any not centered on any tape	X	
4 Any snap fastener stud not aligned with any tunnel socket causing a noticeable bulge or twist, when the tunnel is snapped closed	X X	
5 Any not black chemically finished, finish missing, or not uniformly finished		X
6 Any snap fastener with more than two splits per	X	
<u>CRANIAL SHIELD</u>		
A Color of any cranial shield not as specified, not homogeneous or uniform throughout, or achieved through the use of surface application	X	
B Any seam or mend, any warped, distorted, chipped, splintered, dented, or contains any crack, sharp edge, nick or burr	X	



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TABLE IV Classification of defects for the visual examination of the cranial shields, pads, cloth helmets, and assembled helmets - Continued

DEFECT	MAJOR	MINOR
C Any surface finish not as specified or any flash not removed		X
D Cementing		X
1 Cement on the cranial shield interior surfaces, along any hook fastener tape edge, not visible or in excess of 1/2 inch		X
2 Cement on the front cranial shield exterior surface, along any pile fastener tape edge, not visible or in excess of 1/16 inch		X
3 Any tape not located as specified	X	
4 Faulty adhesion, i.e., any portion of any tape separating	X	
5 Any trapped air, wrinkles, or channels in any cemented tape		X
6 Any adhesive on the surface of any hook or pile fastener tape	2/	
<u>PADS</u>		
A Any component not cut in accordance with applicable drawings	X	
B Back pad components not cemented as specified in applicable drawings	X	
C Cementing		
1 Cement on the pads surfaces, along any pile fastener tape edge, not visible or in excess of 1/2 inch		X
2 Any tape not located as specified	X	

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TABLE IV Classification of defects for the visual examination of the cranial shields, pads, cloth helmets, and assembled helmets - Continued

DEFECT	MAJOR	MINOR
3 Faulty adhesion, i e , any portion of any tape separating	X	
4 Any trapped air, wrinkles, or channels in any cemented tape		X
5 Any adhesive on the surface of any pile fastener tape	<u>2</u> /	
<u>COMPONENTS AND ASSEMBLY</u>		
A Any component not as specified or any defect of a component or defect of assembly, not herein classified	<u>2</u> /	
B Any component, component part, or required operation omitted, or any operation improperly performed, not herein classified	<u>2</u> /	
C Any component part not cut in accordance with the patterns (see 3 4 1), not herein classified	X	
<u>SEAMS AND STITCHING</u>		
A Accuracy of seaming		
1 Any seam, hem, or attachment of any component twisted, puckered, pleated, any part of the helmet or component caught in an unrelated operation or stitching, any seam edge not properly forced out or contains any fold		X
2 Ends of stitching that are not caught in other seams or stitching		
a Any not securely backstitched	X	
b Any secure but backstitched for a distance less than 1/2 inch or the backstitching is not overlapped on itself	X	

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TABLE IV Classification of defects for the visual examination of the cranial shields, pads, cloth helmets, and assembled helmets - Continued

DEFECT	MAJOR	MINOR
3 Thread breaks		
a Any not securely overstitched	X	
b Any secure but overstitched for a distance less than one inch	X	
B Gage of stitching <u>4/</u>		
1 Any stitching irregular, unevenly gaged, or not uniform		X
C Open seams <u>5/</u>		
1 Any 1/4 inch or less		X
2 Any more than 1/4 inch	X	
D Raw edges <u>6/</u>		
1 Any more than 1/4 inch but not more than 1/2 inch		X
2 Any more than 1/2 inch	X	
E Seam and stitch type		
1 Not specified seam or stitch type	<u>2/</u>	
F Stitch tension <u>7/</u>		
1 Any loose stitching or tight stitching, resulting in breaking of the stitches, when normal pull is applied	X	
G Stitches per inch <u>8/</u>		
1. Stitches more or less than specified		
a One or two		X
b More than two	X	

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TABLE IV Classification of defects for the visual examination of the cranial shields, pads, cloth helmets, and assembled helmets - Continued

DEFECT	MAJOR	MINOR
<u>LABEL</u>		
A Size missing, incomplete, incorrect, or illegible	X	
B Other than size information missing, incomplete, incorrect or illegible		X
C Improperly located		X
D Stitching omitted on one or more edges		X

- 1/ The defect shall be classified as major if it is on the outside of any cranial shield, otherwise it is to be classified as a minor defect
- 2/ The defect shall be classified as major when it seriously affects the serviceability or appearance, otherwise it is to be classified as a minor defect
- 3/ The snap fasteners shall be checked for proper function and attachment by snapping closed and unsnapping each of the snap fasteners at least three times
- 4/ The gage of stitching defect shall be scored only when the condition exists for more than 2 inches on any row of stitching
- 5/ A seam shall be classified as open when one or more stitches joining a seam are broken or when two or more continuous skipped stitches or runoffs occur. On double stitched seams, a seam shall be classified as open when either one or both sides of the seam contain any of the aforementioned for a single stitched seam
- 6/ Any edge that should be turned under and is not, but is securely caught in the stitching, shall be classified as a raw edge. Any raw edge that is not securely caught in the stitching shall be classified as an open seam. Any raw edge visible in any joining seam of the helmet shall be classified as a raw edge defect
- 7/ Puckering is evidence of tight tension or gathering of the material. When puckering is evident and is not caused by gathering of the material, the stitching shall be inspected by exerting normal pull in the lengthwise direction of the stitching, by pulling taut, to straighten out the seam. The gathering of the material shall be classified as an accuracy of seaming defect
- 8/ The stitches per inch defect shall be scored only when condition exists for more than 3 inches on any row of stitching

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TABLE V. List of defects for the dimensions of the assembled cranial shields, pads, cloth helmets and assembled helmets

EXAMINE	DEFECT
Measure each front and back cranial shield, each front and back foam pad, and the cloth helmet	Any measurement deviating from the dimensions and tolerances as specified in applicable drawings (see 3 4), shall be enumerated as a dimensional defect

TABLE VI List of defects for packaging

ITEM	DEFECT
Exterior and Interior Markings	Missing, incorrect, incomplete, illegible, of improper size, location, sequence or method of application; markings not the same on the interior and exterior fiberboard containers or on the label marked or affixed to the outside of the bag, information on the label marked or affixed to the outside of the bag not readable or no label on the bag
Materials	Any non-conforming component, any component or component part missing, damaged or otherwise defective
Workmanship	Inadequate application of the components such as incomplete closure of any unit package, container flap, or loose strappings, bulging or distortion of any container, any unit container contains any metal fastening or stitches
Exterior and Interior Weight or Content	Gross or net weight exceeds the requirement, more than one color of the cranial shields or size of the cloth helmets in the same container not individually sealed within the paper bag, any portion of any cranial shield, pad, cloth helmet in the paper bag, any portion on any cranial shield, pad, cloth helmet, or assembled helmet distorted, bent, or deformed in the bagged condition; any portion of the shield, pad, shield, pad, helmet, or assembled helmet caught in any sealed seam, front and backs of the cranial shields or pad in the same container

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TABLE VII List of defects for palletization

EXAMINE	DEFECT
Finished dimensions	Length, width, or height exceeds specified maximum requirements
Palletization	Pallet pattern not as specified Interlocking of loads not as specified Load not bonded with required straps as specified
Weight	Exceeds maximum load limits
Marking	Omitted, incorrect, illegible, of improper size, location, sequence, or method of application

Commanding Officer  
Naval Air Warfare Center Aircraft Division Lakehurst  
Systems Requirements Department (Code SR3)  
Lakehurst, NJ 08733-5100



# STANDARDIZATION DOCUMENT IMPROVEMENT PROPOSAL

## INSTRUCTIONS

1. The preparing activity must complete blocks 1, 2, 3, and 8. In block 1, both the document number and revision letter should be given.
2. The submitter of this form must complete blocks 4, 5, 6, and 7.
3. The preparing activity must provide a reply within 30 days from receipt of the form.

NOTE: This form may not be used to request copies of documents, nor to request waivers, or clarification of requirements on current contracts. Comments submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or to amend contractual requirements.

### I RECOMMEND A CHANGE:

1. DOCUMENT NUMBER  
MIL-H-81735B (AS)

2. DOCUMENT DATE (YYMMDD)  
1992 July 30

### 3. DOCUMENT TITLE

Helments, Flight Deck Crewman's Impact Resistant

### 4. NATURE OF CHANGE (Identify paragraph number and include proposed rewrite, if possible. Attach extra sheets as needed.)

### 5. REASON FOR RECOMMENDATION

### 6. SUBMITTER

a. NAME (Last, First, Middle Initial)

b. ORGANIZATION

c. ADDRESS (Include Zip Code)

d. TELEPHONE (Include Area Code)  
(1) Commercial  
(2) AUTOVON  
(if applicable)

7. DATE SUBMITTED  
(YYMMDD)

### 8. PREPARING ACTIVITY

a. NAME COMMANDING OFFICER, NAVAL AIR  
WARFARE CENTER AIRCRAFT DIVISION LAKEHURST  
SYSTEMS REQUIREMENTS DEPARTMENT

b. TELEPHONE (Include Area Code)  
(1) Commercial (2) AUTOVON  
(908) 323-7488 624-7488

c. ADDRESS (Include Zip Code)  
CODE SR3  
LAKEHURST, NJ 08733-5100

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Defense Quality and Standardization Office  
5203 Leesburg Pike, Suite 1403, Falls Church, VA 22041-3466  
Telephone (703) 756-2340 AUTOVON 289-2340