

MIL-STD-849A

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SUPERSEDING

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MILITARY STANDARD  
INSPECTION REQUIREMENTS, DEFINITIONS  
AND CLASSIFICATION OF DEFECTS  
FOR PARACHUTES



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DEPARTMENT OF DEFENSE  
WASHINGTON DC 20301

INSPECTION REQUIREMENTS, DEFINITIONS AND CLASSIFICATION  
OF DEFECTS FOR PARACHUTES MIL-STD-849

1. This Military Standard is approved for use by all Departments and Agencies of the Department of Defense.
2. Recommended corrections, additions, or deletions should be addressed to SAAMA/MMEO, Kelly AFB, Texas 78241.

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## 1. SCOPE

1.1 Scope. This standard establishes the inspection requirements and a standard classification of manufacturing and final assembly defects for parachutes.

1.2 Purpose. The purpose of this standard is to:

a. Provide a uniform standard of quality for determining the acceptability of parachutes and their components.

b. Standardize the inspection requirements for all parachute manufacturers.

c. Consolidate, into a single document, definitions of all parachute terms.

1.3 Application. This standard shall apply when it is referenced in the specification or contract provisions.

## 2. REFERENCE DOCUMENTS

2.1 The issues of the following documents in effect on the date of invitation for bids form a part of this standard to the extent specified herein.

### STANDARD

#### Military

MIL-STD-105

Sampling Procedures And Tables For  
Inspection By Attributes

MIL-STD-109

Quality Assurance Terms And Definitions

(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. DEFINITIONS

3.1 General definitions. Definitions of MIL-STD-105 and MIL-STD-109 are applicable. The terms Critical Defect and Major Defect will be considered synonymous for the purpose of this standard.

### 3.2 Specific definitions of parachute terms.

3.2.1 Adapter. A rectangular metal fitting with a crossbar, incorporated in a parachute harness to permit proper adjustment of harness.

3.2.2 Adapter, harness quick fit. An adapter in which floating friction grip is used in lieu of a fixed crossbar.

3.2.3 Apex. The center and top most point of parachute canopy.

3.2.4 Back pad. A pad attached to the inside of the harness to provide comfort for the wearer and help keep the harness in place.

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3.2.5 Back strap. Part of the harness webbing extending across the back of the wearer. It may or may not be adjustable.

3.2.6 Bag, deployment. A type of container made of fabric and webbings in which a parachute canopy is packed.

3.2.7 Band, lateral. A webbing inserted in hem of parachute canopies to reinforce edges of fabric and distribute load. The lower lateral band is inserted in the skirt hem and the upper lateral band is inserted in the vent hem.

3.2.8 Band, pocket. A piece of textile tape or line attached at the outside of the skirt across main seams, in such a manner as to cause the gores to be pulled outward at inflation.

3.2.9 Band, reinforcement. A tape or a ribbon inserted in various positions to reinforce weak points in a canopy.

3.2.10 Band, retainer. A rubber band used to hold folded suspension lines or static lines to deployment bags or parachute packs.

3.2.11 Bias. A cut or seam running obliquely across the threads of a fabric.

3.2.12 Binding. A piece of tape or fabric folded over and stitched to a raw edge of the fabric to prevent raveling or fraying.

3.2.13 Bottom, false. A piece of fabric sewed to the inside of a pack to retain the frame; it also serves as a base for stitching the suspension line retaining loops.

3.2.14 Breakcord. A thread or tape tied between parachute components that is intended to break under desired load during deployment.

3.2.15 Bridle. The cord attaching the pilot chute to the vent of a parachute canopy or to the deployment bag.

3.2.16 Burns, friction. Result of rapid rubbing together of two textile surfaces, generating frictional heat, which reduces tensile strength of the textile and causes the deterioration of individual threads.

3.2.17 Cable, ripcord. A flexible cable, usually made of corrosion resistant steel, joining the locking pins and the ripcord grip.

3.2.18 Canopy. The portion of a parachute consisting of the drag producing surface and the suspension lines extended to one or more mutual confluence points.

3.2.18.1 Canopy, extended skirt. A canopy made from cloth having a flat circular center to which an annular ring is added.

3.2.18.2 Canopy, flat circular. A canopy made from cloth and constructed as a flat circular surface with a center orifice (vent) and consisting of a number of gores stitched together laterally, the joints forming the radial seams.

3.2.18.3 Canopy, guide surface. This canopy made from cloth similar to flat circular canopy except the alternate roof panels are extended to provide guide surfaces.

3.2.18.4 Canopy, ribbon. This canopy is of flat circular design and composed of concentric cloth ribbons, supported by a number of radial ribbons and smaller supporting tapes.

3.2.18.5 Canopy, ring sail. A canopy of annular ring type developed on a spherical surface by a unique system of gore coordinates, basic shaped as a quarter sphere wherein slots in gore are crescent-shaped rather than trapezoidal (except on the crown).

3.2.18.6 Canopy, ring slot. A canopy of flat circular design made from wide concentric cloth strips with intervening air slots. Number of slots vary, depending upon canopy diameter.

3.2.19 Channel canopy. The space or opening through which the suspension lines are passed. It is formed by the overlapping of the fabric in the main seams, or by the addition of cover tape to the drag producing surface.

3.2.20 Chest protector. A pad fastened to the inside of the harness to absorb shock.

3.2.21 Chest strap. A harness strap secured across the chest to prevent the wearer from falling out of the harness.

3.2.22 Chute. The term used interchangeably for the word "Parachute."

3.2.23 Chimney effect. A change in the gradual tapering of the gores of canopy resulting in constriction between hem and vent.

3.2.24 Clevis. A "U" shaped metal fitting with a hole in each end to receive a pin or bolt.

3.2.25 Clip, safety. A special shaped metal fitting used to prevent the accidental opening of the parachute harness release.

3.2.26 Cluster. Two or more parachutes that are attached to a single load and designed to open simultaneously.

3.2.27 Cone, pack. A small cone shaped metal post, sewn to one of the side flaps of the pack, containing a drill hole through the cone near the top. Grommets positioned on opposite flap of pack are placed over cones and ripcord pins are inserted in cone hole to keep the pack closed.

3.2.28 Cord, arming. The cord that pulls the firing wire out of a reefing line cutter or other actuating device, thereby arming the device.

3.2.29 Corner, flap. A rectangular tab used on packs to add protection to canopy when packed.

3.2.30 Cross seam. The sewn seam between adjacent main seams holding sections of canopy gore together.

3.2.31 Crown. A fabric panel used to close or cover apex vent in certain types of parachute canopies.

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3.2.32 Cutter, reefing line. A device designed to cut through the reefing line of a canopy, normally incorporating a delay device (mechanical or pyro-technical), a power device (mechanical or pyro-technical) and a knife-edge cutter.

3.2.33 Dart. A short tapered seam.

3.2.34 Diameter, constructed. The designation of the size of a parachute canopy, based upon design dimensions, ( $D_c$ ).

3.2.35 D-ring. An item of hardware shaped like a "D" into which connector snaps are hooked.

3.2.36 Drogue. A fabric surface shaped like a cone, sometimes used as the name for a small, first-stage, parachute canopy in a system.

3.2.37 Elastics, pack-opening. Rubber or metal springs with a means of attaching at each end, installed on pack under tension and used to separate end flaps from side flaps when the parachute ripcord is pulled.

3.2.38 Eye. A small steel-wire loop attached to the pack, into which is fastened a hook of a pack opening elastic.

3.2.39 Eyelet. Small metal reinforcement for a hole in fabrics. It is thinner and smaller than a grommet and has no washer.

3.2.40 Flap, bag or pack. A fabric extension, on a side or end of the pack, designed to enclose and protect the canopy.

3.2.41 Flap, locking pin protector. A flap that covers the locking pins and cones to prevent the pack from being opened by any means other than pulling the rip cord.

3.2.42 Flaring. Method of splitting, taping and stitching the end of webbing to widen it and prevent it from slipping through an adapter.

3.2.43 Gore. The portion of a canopy between two adjacent suspension lines or radial seams.

3.2.44 Grommet. A metal eyelet and washer used as a reinforcement around a hole in fabric.

3.2.45 Handle, rip cord. A metal loop that provides a grip for pulling locking pins from the locking cones on rip cord actuated parachutes.

3.2.46 Hardware. All metal fittings used on parachutes, parachute systems and suspended loads.

3.2.47 Harness. An arrangement of webbings and hardware designed to conform to the shape of the load in order to secure it properly and to distribute the stress from the opening shock and the weight of the load.



- 3.2.48 Hem. Fabric folded back upon itself and sewn in this position to form both the peripheral edge and the vent of the canopy.
- 3.2.49 Hem-rigged canopy. A canopy whose suspension lines are attached to the skirt hem and do not pass over the drag producing surface.
- 3.2.50 Hesitator, skirt. A device that restricts the skirt of canopy, thus preventing inflation until completion of snatch force, at which time hesitator line breaks and allows inflation of canopy.
- 3.2.51 Hook, pack-opening elastic. A small formed steel-wire device attached to each end of a pack opening elastic which hooks into eyes sewn on the pack.
- 3.2.52 Housing rip cord. Flexible metal tube in which the rip cord is placed.
- 3.2.53 Keeper. Length of webbing sewed on a pack or around suspension lines or risers, and adjusted to hold the pack firmly to the harness or the load on which it is used, or to form a confluence point for suspension lines or risers to prevent relative movement of lines or risers.
- 3.2.54 Knot, clove, or half hitch. A type of knot commonly used for attaching the suspension lines of parachute to the connector links.
- 3.2.55 Knot, overhand. A simple knot tied in each running end of a piece of cord above a square knot or surgeon's knot to prevent the ends from slipping back through the knot.
- 3.2.56 Knot, square. A strong knot for joining two cords or lines, which does not slip or loosen easily
- 3.2.57 Knot, surgeon's. A type of knot commonly used for tying nylon threads or cords in place of a square knot to prevent mis-tying.
- 3.2.58 Leg strap. The retention strap which is part of the harness used to secure the harness to the wearer's legs.
- 3.2.59 Lift web. The main harness webbing.
- 3.2.60 Line, guide or control. One or more parachute lines that run from a slot or orifice in a steerable canopy to the harness providing better steerability. When such lines are under tension during parachute opening or descent, they are classed as suspension lines.
- 3.2.61 Line, reefing. A length of cord or line passed through rings on skirt of the drag-producing surface to delay or control opening of the canopy.
- 3.2.62 Line, static. A line, webbing or cable, one end of which is fastened to the pack, canopy or deployment bag, and the other to some part of the launching vehicle and used to open a pack or to deploy the canopy.
- 3.2.63 Line, suspension. Cords or webbing that connect the drag-producing surface to the harness or the load.
- 3.2.63.1 Line, suspension, flat. Line made of tape or webbing.

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- 3.2.64 Lines, vent. The lines that cross the vent of a canopy.
- 3.2.65 Line reinforcement (V tabs or butterfly). A tape wrapped tightly about the suspension line and sewn to the suspension line and skirt hem.
- 3.2.66 Link, connector. Item of hardware used to connect suspension lines at the load attaching point.
- 3.2.67 Link, connector, separable. A readily separated link to facilitate assembly of risers to suspension lines.
- 3.2.68 Loop-locking. A loop sewn to deployment bag or canopy to sequence the opening of the parachute assembly.
- 3.2.69 Loop, retaining. Loop of webbing or tape used to hold folded lines or excess webbing in position.
- 3.2.70 Loop, stow. A tape, webbing or elastic band on a pack or deployment bag to hold suspension lines in position during packing and opening process.
- 3.2.71 Lug. Flat metal fitting attached to ends of harness webbing to provide attachment to the harness release.
- 3.2.72 Main seam. The seam sewn from skirt to vent holding gores together and used as guide for suspension line.
- 3.2.73 Nominal tension. One percent of the minimum breaking strength of the main strength bearing material. A maximum pull for nominal tension shall be 30 pounds.
- 3.2.74 Pack or container. The container which encloses the canopy or deployment bag in a packed condition and which provides a means of opening to allow deployment of the canopy.
- 3.2.75 Pack cover. A piece of duck or canvas with static line attached, used to cover a packed canopy.
- 3.2.76 Pack frame. A rigid or flexible frame used to maintain the shape of the pack.
- 3.2.77 Pack, opening spring, band. A cloth-covered steel spring assembly with a hook at each end which rapidly pulls flaps away from canopy allowing quick opening of pack.
- 3.2.77.1 Panel. The portion of a canopy between two adjacent suspension lines or radial seams.
- 3.2.78 Parachute. An assembly consisting of canopy, risers, or bridles, deployment bag and, in some cases, a pilot chute. Pack and attaching webbings (harnesses) are a part of the parachute when they are built into the suspended load as an integral part of the load.
- 3.2.78.1 Parachute, air-drop (cargo chute). A parachute designed to deliver equipment or supplies from aircraft in flight.

- 3.2.78.2 Parachute, approach, landing. A parachute used in flight to improve jet aircraft flight characteristics during normal landing approach, or in approach under marginal weather conditions.
- 3.2.78.3 Parachute, back-type. A parachute designed for attachment to the wearer's back.
- 3.2.78.4 Parachute, chest-type. A parachute designed for attachment to the wearer's chest.
- 3.2.78.5 Parachute, deceleration (drag). A parachute used on jet aircraft to decrease landing roll.
- 3.2.78.6 Parachute, extraction. A parachute used to extract cargo from aircraft in flight and to deploy cargo parachutes.
- 3.2.78.7 Parachute, personnel. A parachute used to lower personnel from aircraft in flight.
- 3.2.78.8 Parachute recovery system. Normally, these systems are comprised of static lines, pilot chute, deployment bags, first stage parachute (used to decelerate and stabilize the load), intermediate parachute (used to further decelerate the load), final recovery parachute (used for final delivery of load to earth), and controlling/actuating devices.
- 3.2.78.9 Parachute, reserve. A second parachute, usually worn on chest of personnel making a premeditated jump, to be used in the event main parachute fails.
- 3.2.78.10 Parachute, seat-type. A parachute designed for attachment to the saddle of the harness and may serve as a seat cushion in certain types of aircraft.
- 3.2.78.11 Parachute, troop. A parachute used by paratroopers for a premeditated jump over a designated area.
- 3.2.78.12 Pilot chute. A small parachute used to accelerate deployment of main parachute. Some pilot chutes are equipped with a metal spring device to open canopy when released from the pack.
- 3.2.79 Pilot chute frame. Wire frame or spring used in pilot chute to initiate opening action of chute upon release from pack.
- 3.2.80 Pin, locking (ripcord) Short metal pins attached to the ripcord cable that are inserted into pack cones to secure flaps as a function of closing a parachute pack.
- 3.2.81 Pocket, log record. A small patch pocket sewn to pack or riser for carrying the parachute log record
- 3.2.82 Radial seam. Identical to main seam; however on ribbon-type parachutes this term normally used in lieu of main seam.

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3.2.83 Reefing rings. The rings sewn to skirt of canopy at suspension line attaching points through which the reefing line is passed.

3.2.84 Reinforcement tapes. Any tape or webbing sewn to pack or canopy at point of high load to distribute load and strengthen fabric.

3.2.85 Release, canopy. A device that is designed to permit rapid separation of canopy and risers from the suspended load.

3.2.86 Release, harness. A device that is designed to permit rapid release of the harness from the wearer.

3.2.87 Rib pocket. A pocket made by sewing lengths of tape to the pilot chute to contain the ends of the frame.

3.2.88 Rip cord. The device consisting of rip cord grip cable and locking pins used to secure the folded parachute in the pack and to release the canopy for deployment.

3.2.89 Riser. A webbing connecting the harness or the suspended load and the suspension lines of a canopy.

3.2.90 Saddle. That part of the main lift web of the harness which provides a seat or sling for the wearer.

3.2.91 Searing. A method of cutting and/or sealing ends of nylon cord, tape or webbing by melting them to prevent raveling.

3.2.92 Section. One of the pieces of cloth making up the gore of a canopy.

3.2.93 Serving. A method of wrapping or binding the ends of lines or cords to prevent raveling.

3.2.94 Shoulder strap. The harness webbing which crosses the shoulders of the wearer.

3.2.95 Skirt. The reinforced hem forming the periphery of the canopy.

3.2.96 Vent. The opening at the top of a parachute canopy.

### 3.3 Specific definitions of parachute hardware terms and conditions.

3.3.1 Bend test. A prescribed method used to test rip cord pins for rigidity.

3.3.2 Crack. A clear crystalline break caused by localized stresses exceeding the rupture strength.

3.3.3 Hardness. The resistance to indentation or an indirect measure of tensile strength.

3.3.4 Laps. Folds in hot metal that have been rolled or forged into the surface but not welded to it.

3.3.5 Seam. An opening on the surface of metal which has been closed but not welded.

- 3.3.6 Soldering. The use of low-melting-point alloys to join metal parts.
- 3.3.7 Swaging. The joining of metal parts by pressure, such as in attaching rip cord locking pins to rip cord cable.
- 3.4 Specific definitions of parachute sewing terms and conditions.
- 3.4.1 Backstitch or backtack. The finishing of a row of stitching by sewing back over the original stitching a short distance to retard raveling.
- 3.4.2 Bartack. A concentrated series of zig zag-like stitches used to reinforce points of stress.
- 3.4.3 Basting. Temporary stitching usually with long, loose stitches.
- 3.4.4 Broken stitch. A break in sewing thread.
- 3.4.5 Bunched stitching. Stitches too close or more stitches per inch than required.
- 3.4.6 Cross box. A sewing pattern.
- 3.4.7 Double W or 4 point. A sewing pattern.
- 3.4.8 Folder. A device used as an attachment to a sewing machine to guide and fold fabric.
- 3.4.9 Gauge. The space between needles on a sewing machine and also referred to as the capacity of a folder.
- 3.4.10 Hand tack. A stitch produced by hand sewing.
- 3.4.11 Loose stitches. Thread that does not lie smoothly on the surface of the fabric.
- 3.4.12 Margin. The space from the outer row of stitching to edge of the fabric or fold of the fabric.
- 3.4.13 Missing stitches. A space between stitches in same row in which there is no thread.
- 3.4.14 Needle damage. Where needle penetrations damage the thread of basic fabric.
- 3.4.15 Overedge. The stitching around the outer edges of fabric to prevent the edges from raveling or fraying.
- 3.4.16 Overfold. An excess of material causing edge of inner fold to double, wrinkle, or pleat.
- 3.4.17 Overlap. The distance one material, thread or cord extends over another material, cord or thread.
- 3.4.18 Pleat. A fold sewn in fabric.

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- 3.4.19 Runoff. Sewing not on seam or fabric.
- 3.4.20 Skipped stitches. Threads that are not interlocked.
- 3.4.21 Stitches per inch. The number of needle penetrations where threads are interlaced, per linear inch.
- 3.4.22 Stitching. Sewing, normally by machine, to join two or more pieces of fabric by thread.
- 3.4.23 Tight stitches. Thread under excess tension causing one sewing thread to lie on surface of fabric or causing puckering of fabric.
- 3.4.24 Uneven stitching. Stitching wavy or number of stitches varying.
- 3.4.25 Tucks. A shortening of material caused by pulling fabric up in folds and stitching across the gathered fabric.
- 3.4.26 Underfold. Insufficient material folded inside a seam.

## 4. GENERAL REQUIREMENTS

4.1 Limitation of use. Conditions described in the defect listing herein are in addition to tolerances given in applicable drawings and specification. These conditions will not be used for manufacturing purposes to extend specified tolerances of drawing requirements. Items should meet drawing requirements, therefore, immediate corrective action will be taken to correct the causes of all defects. This document is not intended to cover all defects which may be encountered during the manufacture of parachutes and components. When deviations from the drawings or specifications are encountered that are not covered by this standard final disposition by the procuring activity shall be required.

4.2 Interpretation of classification of defect tables. Conditions listed in tables apply only in the direction of tolerance specified in the applicable drawings, specification or standard. When the tolerance is called out in one direction, i.e., Plus 1, Minus 0, the variation shall apply only in the plus direction. When the tolerance is called out plus or minus, the variation may be taken in either direction. Notes are included as necessary under description of defects to insure clarity and preclude the misinterpretation of requirements.

## 5. DETAIL REQUIREMENTS

5.1 Inspections and test.

5.1.1 Component and material inspection. Components and materials shall be inspected as specified in the applicable end item specification.

5.1.2 In process inspection of product.

5.1.2.1 Material cutting. Controls shall be established to assure the accuracy and serviceability of patterns and the accuracy of webbing and cord cutting tables.

5.1.2.2 Manufacturing. Inspection will be performed at the inspection stations established by the contractor to control the quality of parachute systems and components during manufacture. Defects found during inspection will be classified in accordance with the Classification of Defect Tables herein. Any major defect found during these inspections will be cause for rejecting the product and preclude its use in the end item if the defect cannot be repaired. Discrepant products may be made serviceable by repair or rework in accordance with Government approved method. A record will be made of all defects found to insure that the total quantity in the completed parachute system or any components does not exceed the quantity permitted in Table I or II of this standard.

5.1.3 Final inspection of product.

5.1.3.1 Examination of items. Each parachute assembly or component thereof will be inspected for all manufacturing operations and material requirements which have not been previously inspected and accented through in-process inspection. The misassembly of any components or individual parachute system will be cause for rejection. The acceptance number for major defects shall be zero and the number of minor defects shall not exceed the quantities set forth in Tables I or II.

5.1.3.2 Examination of cloth, tape and webbing. The cloth, tape and webbing shall be examined visually to detect holes, snags, strains, stains, or other defects. Unless otherwise specified herein, encountered defects shall be classified in accordance with the Classification of Defect Tables in the applicable material specification. Any material defects in the finished canopy (regardless of cause) which are Minor will be acceptable, and any Major or Critical Defect will be cause for the canopy to be rejected.

5.1.3.3 Examination of seams, hems and stitching. The seams of canopies and pilot chutes will be examined for conformance with drawing details by projection of a 40 watt minimum fluorescent light through the canopy. Canopies made from the tape and webbing shall be examined visually. Seams and hems shall be examined for the proper number of stitches per inch, broken or missing stitches and proper construction. Defects discovered during these examinations will be classified in accordance with the Classification of Defect Tables herein.

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TABLE I - PERSONNEL PARACHUTES - ACCEPTANCE

ITEM	ACCEPTABLE NUMBER OF DEFECTS	
	MAJOR	MINOR
1. Canopies (Solid, Extended Skirt)		
Troop and Rescue	0	8
Emergency 24 ft	0	5
Emergency 28 ft	0	6
2. Pilot Chute	0	3
3. Deployment Bag	0	3
4. Pack/Container		
Troop and Rescue (Excluding Static Line)	0	4
Emergency (Except Chest Style)	0	5
Chest Style (Including Reserve)	0	3
5. Harness	0	5
6. Riser	0	1
7. Static Line	0	2
8. Integrated Pack and Harness	0	8
9. Bridle Lines, Straps, Lanyards and Pockets	0	2



TABLE II

CARGO, DECELERATION, EXTRACTION, RECOVERY,  
AND SPECIAL WEAPON PARACHUTES - ACCEPTANCE

ITEM	ACCEPTABLE NUMBER OF DEFECTS	
	MAJOR	MINOR
1. Canopies (Solid & Extended Skirt)		
Up to 25 ft in Diameter	0	10
25 to 50 ft in Diameter	0	20
50 to 75 ft in Diameter	0	30
75 ft in Diameter and Over	0	40
2. Canopies (Ribbon and Ring Slot)		
Up to 25 ft in Diameter	0	10
25 ft in Diameter and Over	0	20
3. Canopies (Guide Surface)	0	5
4. Pilot Chute	0	3
5. Deployment Bags and Packs	0	10
6. Risers, Static Lines, Bridles, Straps, Retainers and Adapter Webs	0	5

NOTE: In all of the following tables all reference, i.e., "Up To" are inclusive.

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TABLE III  
CLASSIFICATION OF DEFECTS - SOLID PARACHUTE CANOPIES

NO.	DEFECTS	CLASSIFICATION	
		MAJOR	MINOR
1.	Vent Reinforcement Band, Improper Assembly	X	
2.	Vent Reinforcement Band Overlap		
	Up to 1/4 inch minus		X
	Over 1/4 inch minus	X	
	Over 1 inch plus		X
3.	Vent Hem Outside Stitching Margin From Edge of Webbing		
	1/16 to 3/16 inch		X
	Over 3/16 inch	X	
	All rows of stitching not through reinforcement webbing	X	
4.	Vent Loop Length (Finished Dimension)		
	Up to 1/2 inch Plus		X
	Over 1/2 inch Plus	X	
	Minus Direction Any Length	X	
5.	Vent Line Length (Finished Dimension)		
	Up to 1/4 inch		X
	Over 1/4 inch	X	
6.	Variation in Vent Line Length per Set		
	Up to 1 percent		X
	Over 1 percent	X	
7.	Twisted Vent Line (Flat), Any	X	
8.	Twisted Vent Line (Cord or Coreless Braid)		
	Over 360 degrees, causing kinks in line when relaxed	X	
9.	Gore Width at Vent, Centerline to Centerline (C/L)		
	on Main Seam		
	Up to 1/4 inch		X
	Over 1/4 inch	X	
10.	Gore Width at Skirt, Centerline to Centerline (C/L)		
	on Main Seam		
	Up to 1/2 inch		X
	Over 1/2 inch	X	
11.	Cross and Main Seams, Improper Type or Misassembly	X	
12.	Open Seams	X	
	(Note: Seams will be classified as open when one or more stitches joining a seam are broken or when two or more skipped stitches occur. Conditions repaired by either restitching or over stitching as specified will not be scored a defect.)		

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TABLE III

## CLASSIFICATION OF DEFECTS - SOLID PARACHUTE CANOPIES (Cont'd)

NO.	DEFECTS	CLASSIFICATION	
		MAJOR	MINOR
13.	Underfold (Raw Edge in Main or Cross Seams)	X	
14.	Overfold in Main Seam extended into center channel	X	
15.	Underfold in Main Seam (4 needle seams) not caught by three rows of stitches by at least 1/16 inch	X	
	Three intermittent underfolds (2 needle seam) up to 2 inches long and less than 12 inches apart		X
	More than three intermittent underfolds, up to 2 inches long and less than 12 inches apart	X	
	Any underfold more than 4 inches in length	X	
16.	Overfold and Underfold in Cross Seam Underfolds from 1/8 to 3/16 inch and up to 8 inches long		X
	Any underfold over 8 inches long	X	
	Up to three intermittent underfolds up to 3/16 inch and up to 2 inches long over 12 inches apart		X
	More than three intermittent underfolds up to 3/16 inch and up to 2 inches long and less than 12 inches apart	X	
	Overfolds 1/8 to 1/4 inch, full length of seam		X
	Overfolds over 1/4 inch any length	X	
17.	Fullness in Seam Width Main Seam 1/8 to 1/2 inch		X
	Over 1/2 inch	X	
	Cross Seam 1/8 to 1/4 inch		X
	Over 1/4 inch	X	
18.	Wrinkles and Pleats in Cross and Main Seams Cross Seams 1/16 to 1/8 inch and one per seam		X
	1/16 inch and more than one per seam	X	
	1/16 inch and more than six per canopy	X	
	Any over 1/8 inch	X	
	Main Seams (Canopies up to 35 ft in Diameter) 1/16 to 1/8 inch and one per seam		X
	1/16 to 1/8 inch and more than one per seam	X	
	1/16 to 1/8 inch and more than six per canopy	X	
	Any over 1/8 inch	X	

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TABLE III

## CLASSIFICATION OF DEFECTS - SOLID PARACHUTE CANOPIES (Cont'd)

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
	Main Seams (Canopies over 35 and up to 65 ft in Diameter)		
	1/16 to 1/8 inch and two per seam		X
	1/16 to 1/8 inch and more than two per seam	X	
	1/16 to 1/8 inch and more than nine per canopy	X	
	Any over 1/8 inch	X	
	Main Seams (Canopies over 65 ft in Diameter)		
	1/16 to 1/8 inch and three per seam		X
	1/16 to 1/8 inch and more than three per seam	X	
	1/16 to 1/8 inch and more than 12 per canopy	X	
	Any over 1/8 inch	X	
19.	Vent and skirt hems improperly formed		
	Raw Edge	X	
	Intermittent underfolds where edge is caught with two rows of stitching		X
	Underfolds where edge is caught with one row of stitching	X	
20.	Vent hem fold over main seam around webbing not straight		X
21.	Matching of centerlines of seams when folded		
	1/8 to 1/4 inch		X
	over 1/4 inch	X	
22.	Wrinkles, pleats or folds in skirt and vent hems that do not extend into the gore fabric		
	1/4 to 1/2 inch and one per gore		X
	Over 1/2 inch and more than one per gore	X	
	Over 1/2 inch and more than 12 per canopy up to 35 ft	X	
	Over 1/2 inch and more than 14 per canopy over 35 feet and up to 65 feet	X	
	Over 1/2 inch and more than 18 per canopy over 65 feet	X	
23.	Wrinkles, pleats or folds in skirt and vent hems Extending into gore fabric		
	1/16 to 1/8 inch and one per gore		X
	Over 1/16 inch and more than one per gore	X	
	Over 1/16 inch and more than six per canopy up to 35 feet in diameter	X	
	Over 1/16 inch and more than 12 per canopy over 35 feet and up to 65 feet in diameter	X	
	Over 1/16 inch and more than 18 per canopy over 65 feet in diameter	X	
	Any over 1/8 inch	X	

TABLE III

## CLASSIFICATION OF DEFECTS - SOLID PARACHUTE CANOPIES (Cont'd)

NO.	DEFECTS	CLASSIFICATION	
		MAJOR	MINOR
24.	Skirt hem - Outside stitching margin from edge of webbing 1/16 to 3/16 inch Over 3/16 inch All rows of stitching not through skirt band webbing	X X	X
25.	Fold over of main seam around skirt webbing not straight		X
26.	Matching of centerline of seams when folded 1/8 inch to 1/4 inch Over 1/4 inch	X	X
27.	Skirt hem formed by more than two pieces of tape or webbing (Personnel parachute canopy)	X	
28.	Skirt hem formed by more than two pieces of tape or webbing unless otherwise specified on the applicable drawing	X	
29.	Each piece of tape or webbing used to form skirt hem does not extend across a minimum of four gores	X	
30.	Tucks, wherein section of gore fabric caught in stitching of seams or hems	X	
31.	Mismatching of cross seams First seam from vent over 2 inches but under 2-1/2 inches First seam from vent over 2-1/2 inches All other seams over 2-1/2 inches but under 3 inches All other seams over 3 inches	X X X	X X
32.	Vent lines out of sequence	X	
33.	Suspension and vent line overlap on canopy Up to 1/8 inch minus Over 1/8 inch minus Over 1/4 inch plus	X	X X
34.	Suspension lines not in proper channel or lines crossed	X	
35.	Cut, frayed or damaged suspension or vent lines	X	
36.	Variation in suspension line length per set, between vent and skirt Up to 1/2 percent Over 1/2 percent	X	X

TABLE III  
CLASSIFICATION OF DEFECTS - SOLID PARACHUTE CANOPIES (Cont'd)

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
37.	Suspension line length between vent and skirt Up to 1 percent Over 1 percent	X	X
38.	Twisted suspension line, between vent and skirt (flat) In channel, up to 360 degrees In channel, over 360 degrees	X	X
39.	Twisted suspension line between vent and skirt cord or coreless braid Over 180 degrees up to 360 degrees Over 360 degrees	X	X
40.	Twist between line reinforcement at skirt and 3 inch zig-zag stitching above when suspension lines are continuous through canopy. (Measured by pulling line under 5 pounds of tension between vent and line reinforcement and observing the rotation of zig-zag stitching) 90 degrees to 180 degrees Over 180 degrees Line not placed between two plys of material	X X	X
41.	Suspension line length between skirt and attaching point Up to 1 percent Over 1 percent	X	X
42.	Variation in suspension line length per set between skirt and attaching point Up to 1/2 percent Over 1/2 percent	X	X
43.	Twisted suspension line between skirt and attaching point (flat) (Any except hem rigged canopy)	X	
44.	Twisted suspension line (flat) hem rigged canopy 180 to 360 degrees Over 360 degrees	X	X
45.	Twisted suspension line between skirt and attaching point (cord and coreless braid) Over 360 degrees Over 360 degrees causing kinks in line	X	X

TABLE III

## CLASSIFICATION OF DEFECTS - SOLID PARACHUTE CANOPIES (Cont'd)

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
46.	Stitching on canopy		
	One stitch per inch over or under number specified, up to 2 inches long and one place per seam (size 3 through 6 thread)		X
	One stitch per inch over or under number specified, over 2 inches long (size 3 thru 6 thread)	X	
	More than one stitch per inch over or under number of stitches specified (size 3 thru 6 thread)	X	
	Two stitches per inch over or under number specified, up to 2 inches long and one place per seam (size B thru FF thread)		X
	Two stitches per inch over or under the number specified, over 2 inches long (size B thru FF thread)	X	
	More than two stitches per inch over or under number of stitches specified (size B thru FF thread)	X	
	(Note: For B or E size thread only, up to 14 stitches, type 301 or 401 will be allowed for a length not over 2 inches in any one place with a minimum distance between locations of 12 inches. Over 14 stitches, or 14 stitches more than 2 inches long or closer than 12 inches apart shall be classified a Major Defect.)		
	(Note: When a double or more thickness occurs in fabric being sewn or where pressure must be applied by an operator to sew over reinforcement tapes and webbings, the number of stitches per inch defects will be classified as follows: Within the Major Defect category, Minor Defect; and within the Minor Defect category, no defect.)		
	NOTE: When the end item specifications forbid repair to defective stitching, they shall be classified as major defects.)		
	Broken or missing stitches	X	
	Two or more consecutive skipped stitches	X	
	Missing or incomplete stitch pattern (bartack, zig-zag, etc)	X	
	Back stitch missing	X	
	Back stitch short (less than 1/4 inch)		X
	(more than 1/4 inch)	X	
	Runoff two or more stitches into single cloth or beyond seam or hem margins	X	
	Zig-zag stitches - less than 85 percent penetration through suspension lines	X	
	Tension too loose or too tight, up to 3 inches per seam		X
	Tension too loose or too tight, over 3 inches per seam	X	
	Kinks, intermittent, closer than 2 inches apart		X

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TABLE III

## CLASSIFICATION OF DEFECTS - SOLID PARACHUTE CANOPIES (Cont'd)

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
	Stitch pattern lengths not as specified (Up to 5 inch stitch patterns)		
	Up to 1/8 inch		X
	Over 1/8 inch	X	
	Stitch pattern lengths not as specified (Stitch patterns over 5 inches long)		
	Up to 1/4 inch		X
	Over 1/4 inch	X	
47.	Frequency of repair to stitching and splicing on canopies regardless of the number of rows of stitching in the seams in excess of that specified below shall be classified a major defect	X	
	<u>Length of seams (inches)</u> <u>Splices</u> <u>Repairs</u>		
	0-2	0	0
	3-12	0	1
	13-72	0	2
	73-240	1	3
	241-360	2	4
	361-480	3	5
	481-600	4	6
	Skirt Band      1 per 600 in      1 per 100 in		
48.	Length of splices and repairs to stitches		
	Overlap less than 2 inches	X	
	Overlap from 4 inches to 7 inches		X
	Overlap more than 7 inches	X	
49.	Needle damage (cuts or chews)		
	Up to 1/8 inch long and one per canopy, up to 35 ft in diameter		X
	Any over 1/8 inch long or more than one per canopy up to 35 ft in diameter	X	
	Up to 1/8 inch long and two per canopy, 35 ft in diameter and over		X
	Any over 1/8 inch long or more than two per canopy, 35 ft in diameter and over	X	
50.	Holes, darns and repairs		
	Holes up to 1/8 inch in diameter or up to 1/4 in long	X	
	Darns, over 1 per section	X	
	Darns, over 3 per canopy, up to 50 ft in diameter	X	
	Darns, over 10 per canopy, from 50 ft in diameter to 75 ft in diameter	X	
	Darns, over 15 per canopy, 75 ft in diameter and over	X	



TABLE III

## CLASSIFICATION OF DEFECTS - SOLID PARACHUTE CANOPIES (Cont'd)

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
51.	Ends of webbing, tape and cords not seared or waxed as specified		X
52.	Pocket band free length		
	Up to 1/8 inch		X
	Over 1/8 inch	X	
53.	Pocket depth, center line main seam to stitch		
	Pattern on skirt band		
	Up to 1/8 inch		X
	Over 1/8 inch	X	
54.	Suspension line attaching loop, length, up to 2 inches in length		
	Up to 1/8 inch		X
	Over 1/8 inch	X	
55.	Suspension line attaching loop, length, 2 to 4 inches in length		
	Up to 1/4 inch		X
	Over 1/4 inch	X	
56.	Location of reefing line cutter bracket from edge of skirt		
	Up to 1/8 inch		X
	Over 1/8 inch	X	
57.	Location of reefing line arming cord from edge of skirt		
	Up to 1/8 inch		X
	Over 1/8 inch	X	
58.	Improper assembly or any component missing	X	
59.	Identification marking illegible, incorrect or missing		X
60.	Incorrect or defective material	X	
61.	Dark identification threads not removed or markings not yellow (for special weapon parachutes, other than those identified as training units)	X	
62.	Material unclean	X	
63.	Searing over stitching	X	

TABLE IV

## CLASSIFICATION OF DEFECTS - RING SLOT AND RIBBON PARACHUTE CANOPIES

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
1.	Vent reinforcement band overlap		
	Up to 1/4 inch minus		X
	Over 1/4 inch minus	X	
	Over 1/2 inch plus		X
2.	Vent reinforcement band, improper assembly	X	
3.	Vent loop length (finished dimension)		
	Up to 1/2 inch		X
	Over 1/2 inch	X	
4.	Vent line length (finished dimension)		
	Up to 1/4 inch		X
	Over 1/4 inch	X	
5.	Variation in vent line length per set		
	Up to 1 percent		X
	Over 1 percent	X	
6.	Twisted vent line (flat), any	X	
7.	Twisted vent line (cord or coreless braid)		
	Over 360 degrees		X
	Over 360 degrees causing kinks in line	X	
8.	Gore width at vent, measured C/L to C/L on adjacent radial seams		
	Up to 1/4 inch		X
	Over 1/4 inch	X	
9.	More or less than the required number of ribbons per gore	X	
10.	Spacing of horizontal ribbons (ribbon canopy)		
	Up to 3/16		X
	Over 3/16 inch	X	
11.	Spacing of verticals		
	Up to 1/4 inch		X
	Over 1/4 inch	X	
12.	Slot width (ring slot canopy)		
	Up to 1/8 inch		X
	Over 1/8 inch	X	

TABLE IV

## CLASSIFICATION OF DEFECTS RING SLOT AND RIBBON PARACHUTE CANOPIES (Cont'd)

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
13.	Leading and trailing edge of section hems (ring slot canopies only)		
	1. Underfolds where gore fabric is not butted flush with fold of hem and caught with two rows of stitches (when specified by drawing).	X	
	Intermittent underfolds up to 2 inches long		X
	Any underfold over 2 inches long	X	
	2. Fullness between lines of stitching		
	Up to 1/8 inch		X
	Over 1/8 inch	X	
14.	Gore width at skirt, measured C/L to C/L on adjacent radial seams		
	Up to 1/4 inch		X
	Over 1/4 inch	X	
15.	Skirt reinforcement band overlap		
	Up to 1/4 inch minus		X
	Over 1/4 inch minus	X	
	Over 1/2 inch plus		X
16.	Skirt reinforcement band improper assembly	X	
17.	Underfold (raw edge) skirt hem	X	
	(Note: When raw edge is the result of overfolding, the edge extending more than 1/2 inch but less than 1 inch, raw edge may be trimmed and will not be scored a defect. If the condition extends more than 1 inch from the inside edge of the skirt hem, the stitching will be removed and the hem refolded and re-stitched.)		
18.	Pleats (all hems)		
	1/8 to 1/4 inch and one per gore		X
	over 1/8 inch and over one per gore	X	
	over 1/8 inch and over six per canopy	X	
	any over 1/4 inch	X	
19.	Tucks, wherein section of gore fabric caught in stitching of hems	X	
20.	Vent lines out of sequence	X	
21.	Suspension lines crossed	X	
22.	Cut, frayed or damaged suspension or vent lines	X	

TABLE IV

## CLASSIFICATION OF DEFECTS - RING SLOT AND RIBBON PARACHUTE CANOPIES (Cont'd)

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
23.	Radial and vertical seam length Up to 1 percent Over 1 percent	X	X
24.	Variation in radial seam length per canopy Up to 1/2 percent Over 1/2 percent	X	X
25.	Twist in radial seam, any	X	
26.	Suspension line length Up to 1 percent Over 1 percent	X	X
27.	Variation in suspension line length per set Up to 1/2 percent Over 1/2 percent	X	X
28.	Twisted suspension line (flat) (any except hem rigged canopy)	X	
29.	Twisted suspension line (flat) (hem rigged canopy) 180 to 360 degrees Over 360 degrees	X	X
30.	Vertical tape(s) not equally spaced From 1/2 to 1 inch Over 1 inch	X	X
31.	Twisted suspension line (cord and coreless braid) Over 360 degrees Over 360 degrees causing kinks in line	X	X
32.	Pocket band free length Up to 1/8 inch Over 1/8 inch	X	X
33.	Pocket depth, center line of radial seam to stitch Pattern on skirt band Up to 1/8 inch Over 1/8 inch	X	X
34.	Stitching on canopy One stitch per inch over or under number specified, under 2 inches long and one place per seam (Size 3 through 6 thread)		X

TABLE IV

## CLASSIFICATION OF DEFECTS - RING SLOT AND RIBBON PARACHUTE CANOPIES (Cont'd)

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
	More than one stitch per inch over or under number of stitches specified (size 3 through 6 thread)	X	
	Two stitches per inch over or under number specified, under 2 inches long and one place per seam (size E through FF thread)		X
	More than two stitches per inch over or under number of stitches specified (size E through FF thread)	X	
	Variation in stitches per inch because of change in material thickness		
	Specified stitches per inch for not more than 3 inches on not more than two places per seam or not less than 36 inches apart or both		X
	Specified stitches per inch for more than 3 inches on more than two places per seam or less than 36 inches apart or both	X	
	Broken, skipped or missing over 1/2 inch in any one row of 4-needle stitching	X	
	Open seams	X	
	(Note: Seams will be classified as open when one or more stitches joining a seam are broken or where two or more skipped stitches occur. Repairs of open seams will not be scored as defects.)		
	Missing or incomplete stitch pattern (bartack, zig-zag, etc)	X	
	Back stitch missing	X	
	Back stitch short		
	Less than 1/4 inch		X
	More than 1/4 inch	X	
	Runoff, two or more stitches into single cloth or beyond seam or hem margins	X	
	Zig-zag stitches less than 85 percent penetration through suspension lines	X	
	Tension too loose or too tight, up to 3 inches per seam		X
	Tension too loose or too tight, over 3 inches per seam	X	
	Kinks, intermittent closer than 2 inches apart		X
	Stitch pattern lengths not as specified (Up to 5 inch stitch patterns)		
	Up to 1/8 inch		X
	Over 1/8 inch	X	

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TABLE IV

## CLASSIFICATION OF DEFECTS - RING SLOT AND RIBBON PARACHUTE CANOPIES (Cont'd)

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
35.	Needle damage (cuts or chews)		
	Up to 1/8 inch long and one per canopy, up to 35 ft in diameter		X
	Any over 1/8 inch long or more than one per canopy, up to 35 ft in diameter	X	
	Up to 1/8 inch long and two per canopy, 35 ft in diameter and over		X
	Any over 1/8 inch long or more than two per canopy, 35 ft in diameter and over	X	
36.	Holes, darns and repairs		
	Holes, over 1/8 inch or over one per canopy	X	
	Holes, one per canopy under 1/8 inch		X
	Darns, over 1 per gore	X	
	Darns, over ten per canopy up to 50 ft in diameter	X	
	Darns, over 15 per canopy from 50 ft in diameter to 75 ft in diameter	X	
	Darns, over 20 per canopy, 75 ft in diameter and over	X	
37.	Frequency of repair to stitching and splicing on canopies regardless of the number of rows of stitches in the seam in excess of that specified below shall be classified a major defect	X	
	<u>Length of Seams (inches)</u> <u>Splices</u> <u>Repairs</u>		
	0-2                                      0                      0		
	3-12                                     0                      1		
	13-72                                   0                      2		
	73-240                                  1                      3		
	241-360                                2                      4		
	361-480                                3                      5		
	481-600                                4                      6		
	Skirt band                      1 per 600 in      1 per 100 in		
38.	Foldback of suspension lines at connector link or skirt attachment loop		
	Up to 1/4 inch minus		X
	Over 1/4 inch minus	X	
	Over 1/2 inch plus		X
39.	Misalignment of cutter pockets	X	
40.	Ends of webbing, tape and cords not seared or waxed as specified		X

<b>SPECIFICATION ANALYSIS SHEET</b>		Form Approved Budget Bureau No. 22-R255
<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. Comments and suggestions submitted on this form do not constitute or imply authorization to waive any portion of the referenced document(s) or serve to amend contractual requirements.		
SPECIFICATION		
ORGANIZATION		
CITY AND STATE	CONTRACT NUMBER	
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 - Optional)		DATE

DD FORM 1426

REPLACES EDITION OF 1 OCT 64 WHICH MAY BE USED.

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TABLE IV

## CLASSIFICATION OF DEFECTS - RING SLOT AND RIBBON PARACHUTE CANOPIES (Cont'd)

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
41.	Loop length, up to 2 inches in length Up to 1/8 inch Over 1/8 inch	X	X
42.	Loop length, 2 to 4 inches in length Up to 1/4 inch Over 1/4 inch	X	X
43.	Any improper assembly	X	
44.	Any component missing	X	
45.	Identification marking illegible, incorrect or missing		X
46.	Incorrect or defective material	X	
47.	Dark identification threads Not removed or markings not yellow (For special weapon parachutes, other than those identified as training units)	X	
48.	Material unclean	X	
49.	Searing over stitching	X	



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TABLE V

## CLASSIFICATION OF DEFECTS - PILOT CHUTES

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
1.	Inertia plate buffer, missing	X	
2.	Inertia plate tape, length		
	Up to 1/8 inch		X
	Over 1/8 inch	X	
3.	Impact tape, improper construction or assembly	X	
4.	Radial seam length		
	Up to 1/4 inch		X
	Over 1/4 inch	X	
5.	Gore width at skirt, C/L to C/L on radial seam		
	Up to 1/8 inch		X
	Over 1/8 inch	X	
6.	Skirt webbing overlap		
	Up to 1/4 inch minus		X
	Over 1/4 inch minus	X	
	Over 1/4 inch plus		X
7.	Seam folding (raw edge) any	X	
8.	Pleats		
	1/16 to 1/8 inch and one per gore		X
	Over 1/8 inch or over one per gore	X	
9.	Suspension line length		
	Up to 1/2 percent		X
	Over 1/2 percent	X	
10.	Suspension line twisted		
	Over 360 degrees		X
	Over 360 degrees causing kinks in line	X	
11.	Suspension lines fold back or overlap at skirt		
	Up to 1/8 inch minus		X
	Over 1/8 inch minus	X	
	Over 1/4 inch plus		X
12.	Loop length		
	Up to 1/8 inch minus		X
	Over 1/8 inch minus	X	
	Over 1/4 inch plus		X

TABLE V  
CLASSIFICATION OF DEFECTS - PILOT CHUTES (Cont'd)

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
13.	Suspension line out of sequence at the loop collar	X	
14.	Spring tension below required loading	X	
15.	Spring not hand stitched to pilot chute cone	X	
16.	Stitching on pilot chute		
	Open seam (seam will be classified as open when one or more stitches joining a seam are broken or where two or more skipped stitches occur. Repair of open seams will not be scored as defects.)	X	
	Two stitches per inch over or under number specified, one place per seam		X
	More than two per inch over or under number specified	X	
	Missing or incomplete stitch pattern	X	
	Back stitch missing or short		X
	Runoff, three or more stitches into single cloth or beyond seam or hem margins	X	
	Tension too loose or too tight up to 4 inches per seam		X
	Tension too loose or too tight over 4 inches per seam	X	
	Kinks, intermittent, closer than 2 inches apart		X
	Stitch pattern lengths not as specified		
	(Up to 5 inch stitch patterns)		
	Up to 1/8 inch		X
	Over 1/8 inch	X	
	Stitch pattern lengths not as specified		
	(Stitch patterns over 5 inches long)		
	Up to 1/4 inch		X
	Over 1/4 inch	X	
17.	Any misassembly or missing component	X	
18.	Identification marking illegible, incorrect or missing		X
19.	Incorrect or defective material	X	
20.	Material unclean	X	
21.	Searing over stitching	X	



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TABLE VI

CLASSIFICATION OF DEFECTS - PERSONNEL PARACHUTE PACKS/CONTAINERS AND  
DEPLOYMENT BAGS (Cont'd)

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
	Stitch pattern lengths not as specified (Stitch patterns over 5 inches long)		
	Up to 1/4 inch		X
	Over 1/4 inch	X	
7.	Needle damage (cuts or chews)		
	Up to 1/4 inch and one per pack		X
	Any over 1/4 inch or over one per pack	X	
8.	Holes, darns and repairs		
	Any holes over 3/16 inch in diameter or 1/4 inch long	X	
	Holes, two per pack under 3/16 inch diameter or less than 1/4 inch long		X
	Holes, more than two per pack	X	
	Darns, more than 3 per pack	X	
9.	Any misassembly or any component missing	X	
10.	Ends of webbing or tapes not seared or waxed		X
11.	Pleats over 1/16 inch		X
12.	Stow loop dimensions		
	23/32 and 25/32 dimensions		
	From 1/32 to 1/16 inch plus and up to 5 per bag		X
	From 1/32 to 1/16 inch plus and more than 5 per bag	X	
	Any over 1/8 inch plus	X	
	Any over 1/16 inch minus	X	
	2 5/8 inches dimension between zig-zag stitching		
	Up to 1/8 inch plus and 5 per bag		X
	Up to 1/8 inch plus and more than 5 per bag	X	
	Any over 1/8 inch plus	X	
	Any over 1/16 inch minus	X	
13.	Identification marking illegible, incorrect or missing		X
14.	Searing over stitching	X	

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TABLE VII

CLASSIFICATION OF DEFECTS - PERSONNEL PARACHUTE  
HARNESSES, RISERS, STATIC LINES, BRIDLE LINES, STRAPS, LANYARDS AND POCKETS

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
1.	Variations in lengths (finished dimensions leg strap, diagonal back straps and risers		
	Up to 1 inch		X
	Over 1 inch	X	
	Static lines		
	Up to 1-1/2 inches		X
	Over 1-1/2 inches	X	
2.	Incorrect or defective material	X	
3.	Twisted back, chest or leg straps	X	
4.	Any item or hardware missing	X	
5.	Ends of webbing or tapes not seared or waxed		X
6.	Stitching		
	One stitch per inch over or under number specified, up to 2 inches in length		X
	One stitch per inch over or under number specified over 2 inches in length	X	
	More than one stitch per inch over or under number specified and over 2 inches in length	X	
	Broken, missing or skipped up to 1/2 inch in any one place		X
	(Note: None permitted in risers, leg and chest straps. Broken stitches caused by needle penetrations by an over stitching pattern (Cross box, bartack, etc) will not be scored as defects).		
	Loops in stitching due to stitching over varying thickness of webbings		
	3/16 to 3/8 inch in length		X
	Over 3/8 inch in length	X	
	Missing or incomplete stitch pattern (bartack, box, etc)	X	
	Runoff, two or more stitches off webbing	X	
	Missing back stitch	X	
	Back stitch short		X
	Tension too loose or too tight, in any one row		
	Up to 2 inches		X
	Over 2 inches	X	
	Kinks, intermittent, closer than 2 inches apart		X
	Stitch length pattern not as specified		
	(Up to 5 inches stitch patterns)		
	Up to 1/8 inch		X
	Over 1/8 inch	X	

TABLE VII

CLASSIFICATION OF DEFECTS - PERSONNEL PARACHUTE  
 HARNESSSES, RISERS, STATIC LINES, BRIDLE LINES, STRAPS, LANYARDS AND POCKETS  
 (Cont'd)

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
	Stitch lengths pattern not as specified (Stitch patterns over 5 inches)		
	Up to 1/4 inch		X
	Over 1/4 inch	X	
7.	Needle damage (cuts or chews)		
	One cut warp end		X
	Over one cut warp end	X	
	Damage to filling thread over 3/8 inch	X	
	(Note: Damage to over one fill thread not allowed in risers, leg and chest straps.)		
8.	Repairs		
	Broken or missing stitching not reinforced by restitching	X	
	(Note: Repairs in risers and leg straps not permitted.)		
9.	Any misassembly	X	
10.	Partial assembly or components missing	X	
11.	Marking illegible, incorrect or missing		X
12.	Searing over stitching	X	

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TABLE VIII

CLASSIFICATION OF DEFECTS - DEPLOYMENT BAGS AND PACKS  
(OTHER THAN PERSONNEL)

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
1.	Incorrect or defective material	X	
2.	Seam folding Improperly formed seam or hem exposing raw edge of fabric	X	
3.	Binding tapes Splicing of binding tape not turned under 1/4 inch Improperly attached, exposing raw edge of fabric	X	X
4.	Finished dimensions, overall outside including bag circumference Up to 1/4 inch Over 1/4 inch	X	X
5.	Grommet or snap fastener spacing Up to 1/8 inch Over 1/8 inch	X	X
6.	Loose, broken or sharp edges on grommets, snaps or eyelets	X	
7.	Improper method of grommet installation, base hole in fabric too large	X	
8.	Stitching on bags 2 stitches per inch over or under number specified up to 2 inches in length 2 stitches per inch over or under number specified over 2 inches in length More than 2 stitches per inch over or under number specified and over 2 inches in length Broken, skipped or missing over 1/2 inch in length in any one place or over 1-1/2 inch total length per bag Missing or incomplete stitch pattern (bartack, box stitch, etc) Back stitch short Less than 1/4 inch More than 1/4 inch Runoff, on edge binding, over 1/2 inch in length or over 1 inch in length per pack	X  X X  X X  X X  X	           X

TABLE VIII  
CLASSIFICATION OF DEFECTS - DEPLOYMENT BAGS AND PACKS  
(OTHER THAN PERSONNEL) (Cont'd)

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
	Tension too loose or too tight, up to 4 inches per seam		X
	Tension too loose or too tight, over 4 inches per seam	X	
	Kinks, intermittent, closer than 2 inches apart		X
	Stitch pattern lengths not as specified (Up to 5 inch stitch patterns)		
	Up to 1/8 inch		X
	Over 1/8 inch	X	
	Stitch pattern lengths not as specified (Stitch patterns over 5 inches long)		
	Up to 1/4 inch		X
	Over 1/4 inch	X	
9.	Pleats, over 1/16 inch	X	
10.	Needle damage		
	Up to 1/4 inch and two per bag		X
	Any over 1/4 inch or over two per bag	X	
11.	Holes, darns and repairs		
	Any holes over 1/8 inch diameter	X	
	Holes, 3 per bag under 1/16 inch diameter		X
	Holes, more than 3 per bag	X	
	Darns and repairs		
	From 1/4 inch to 1/2 inch		X
	Over 1/2 inch	X	
	Darns, more than 4 per bag	X	
12.	Partial assembly or any component missing	X	
13.	Misassembly - components incorrectly installed	X	
14.	Ends of webbing or tape not seared or waxed		X
15.	Marking illegible, incorrect or missing		X
16.	Searing over stitching	X	



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TABLE IX

CLASSIFICATION OF DEFECTS - RISERS, STATIC LINES, BRIDLES, STRAPS,  
ADAPTER WEBS AND RETAINERS (OTHER THAN PERSONNEL)

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
1.	Length (finished dimensions)		
	Up to 1 percent		X
	Over 1 percent	X	
2.	Incorrect or defective material	X	
3.	Twisted or malformed part	X	
4.	Spacing dimensions		
	Up to 1 percent		X
	Over 1 percent	X	
5.	Loop length, up to 2 inches in length		
	Up to 1/8 inch		X
	Over 1/8 inch	X	
6.	Loop length, 2 inches to 4 inches in length		
	Up to 1/4 inch		X
	Over 1/4 inch	X	
7.	Any misassembly or any component missing	X	
8.	Components incorrectly installed	X	
9.	Stitching		
	2 stitches per inch over or under number specified and up to 4 inches in length		X
	2 stitches per inch over or under number specified over 2 inches in length	X	
	More than 2 stitches per inch over or under number specified and over 4 inches in length	X	
	Broken, missing or skipped over 1/2 inch in length	X	
	Loops in stitching due to varying thickness of webbings		
	1/8 to 1/4 inch in length		X
	Over 1/4 inch in length	X	
	Stitch length pattern not as specified (Up to 5 inch stitch pattern)		
	Up to 1/8 inch		X
	Over 1/8 inch	X	
	Stitch length pattern not as specified (Stitch patterns over 5 inches long)		
	Up to 1/4 inch		X
	Over 1/4 inch	X	

TABLE IX

CLASSIFICATION OF DEFECTS - RISERS, STATIC LINES, BRIDLES, STRAPS,  
ADAPTER WEBS AND RETAINERS (OTHER THAN PERSONNEL) (Cont'd)

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
	Missing or incomplected stitch pattern (bartack, box, etc)	X	
	Runoff, over 1/2 inch in any one place	X	
	Back stitch short		
	Less than 1/4 inch		X
	More than 1/4 inch	X	
	Tension too loose or tight in any one row		
	Up to 4 inches		X
	Over 4 inches	X	
	Kinks, intermittent, closer than 2 inches apart		X
10.	Ends of webbing or tapes not seared or waxed		X
11.	Identification marking illegible, incorrect or missing		X
12.	Materials unclean, dark identification threads not removed, or markings not yellow (for special weapon parachute systems, other than those identified as training units)	X	
13.	Searing over stitching	X	

TABLE X

CLASSIFICATION OF DEFECTS - PERSONNEL PARACHUTE INTEGRATED  
PACK AND HARNESS

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
1.	Incorrect or defective material	X	
2.	Seam folding Improperly formed seam or hem exposing raw edge of fabric	X	
3.	Binding tapes Splicing of binding tape not turned under 1/4 inch		X
	End of binding tape improperly finished		X
	Corners of binding tape improperly formed fold not stitched down		X
4.	Grommet, cones and snap fasteners		
	Spacing		
	1/16 to 1/8 inch		X
	Over 1/8 inch	X	
	Loose, broken or sharp edges	X	
	Improper method of installation; base hole in fabric too large	X	
	Location of lift-a-dot less than 10 degrees		X
	Location of lift-a-dot more than 10 degrees	X	
5.	Slide fasteners; installed wrong side out	X	
	Opens in wrong direction	X	
6.	Loop length, up to 2 inches in length		
	Up to 1/8 inch		X
	Over 1/8 inch	X	
7.	Loop length over 2 inches in length		
	Up to 3/16 inch		X
	Over 3/16 inch	X	
8.	Location of deployment gun attachment point		
	Up to 1/16		X
	Over 1/16 inch	X	
9.	Location of clevis assembly on flap		
	Up to 1/32 inch		X
	Over 1/32 inch	X	
10.	Location of rip cord housing clamp		
	Up to 1/16 inch		X
	Over 1/16 inch	X	

TABLE X

CLASSIFICATION OF DEFECTS - PERSONNEL PARACHUTE INTEGRATED  
PACK AND HARNESS (Cont'd)

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
11.	Holes, darns and repairs (bag, flap or pad)		
	Any hole over 1/8 inch	X	
	Holes, 3 under 1/16 inch		X
	Holes, more than 3	X	
	Darns or repairs more than 4	X	
	1 darn or repair 1/4 inch to 1/2 inch		X
	Darns or repairs over 1/2 inch	X	
12.	Ends of webbing or tape not seared or waxed		
	Reinforcement and binding		X
	Harness webbing, chest and leg straps	X	
13.	Variation in length		
	Leg straps		
	Up to 1 inch		X
	Over 1 inch	X	
14.	Any item of hardware missing	X	
15.	Twisted chest or leg straps	X	
16.	Lanyard length		
	Up to 1/4 inch		X
	Over 1/4 inch	X	
17.	Stitching		
	One stitch per inch over or under number specified, up to 2 inches in length		X
	One stitch per inch over or under number specified, over 2 inches in length	X	
	More than one stitch per inch over or under number specified and over 2 inches in length	X	
	Broken, missing or skipped up to 1/2 inch in any one place (Note: None permitted in risers, leg and chest straps)		X
	Broken stitches caused by needle penetrations by an over stitching pattern (cross box, bartack, etc) will not be scored as defects)		
	Loops in stitching due to stitching over varying thickness of webbings		
	3/16 to 3/8 inch in length		X
	Over 3/8 inch in length	X	
	Missing or incomplete stitch pattern (bartack, box, etc)	X	
	Runoff, two or more stitches off webbing	X	
	Missing back stitch	X	

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TABLE X

CLASSIFICATION OF DEFECTS - PERSONNEL PARACHUTE INTEGRATED  
PACK AND HARNESS (Cont'd)

NO.	DEFECT	CLASSIFICATION	
		MAJOR	MINOR
	Back stitch short		X
	Tension too loose or too tight, in any one row		
	Up to 2 inches		X
	Over 2 inches	X	
	Kinks, intermittent, closer than 2 inches apart		X
	Stitch length pattern not as specified (up to 5 inch stitch patterns)		
	Up to 1/8 inch		X
	Over 1/8 inch	X	
	Stitch length pattern not as specified (Stitch patterns over 5 inches)		
	Up to 1/4 inch		X
	Over 1/4 inch	X	
18.	Needle damage (cuts or chews)		
	One cut warp end		X
	Over one cut warp end	X	
	Damage to filling thread over 3/8 inch	X	
	(Note: Damage to over one fill thread not allowed in risers, leg and chest straps)		
19.	Repairs		
	Broken or missing stitching nor reinforced by restitching	X	
	(Note: Repairs in risers and leg straps not permitted)		
20.	Any component incorrectly assembled	X	
21.	Partial assembly or components missing	X	
22.	Marking illegible, incorrect or missing		X
23.	Searing over stitching	X	
24.	Thread ends not trimmed		X

## Custodians:

Air Force - 82

Army - GL

## Preparing Activity:

Air Force - 82

## Review Activities:

Air Force - 11

Army GL, AV, TE

Project No. 1670-0483

## User Activity:

Navy - MC

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