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**SUPERSEDING**

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# **DEPARTMENT OF DEFENSE STANDARD PRACTICE**

## **INSPECTION REQUIREMENTS, DEFINITIONS AND CLASSIFICATION OF DEFECTS FOR PARACHUTES**



Comments, suggestions or questions on this document should be addressed to: Defense Supply Center Richmond, ATTN: DSCR-VEB, 8000 Jefferson Davis Highway, Richmond VA 23297. Since contact information can change, you may want to verify the currency of this address information using the ASSIST database at <http://assist.daps.dla.mil>.

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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 should apply when it is referenced in the specification or contract provisions.

## 2. APPLICABLE DOCUMENTS

2.1 General. The documents listed in this section are specified in the tables of this standard. This section does not include documents cited in other sections of this standard or recommended for additional information or as examples. While every effort has been made to ensure the completeness of this list, document users are cautioned that they must meet all specified requirements documents cited in sections 3, 4, and 5 of this standard, as well as those cited in the tables, whether or not they are listed.

2.2 Non-Government publications. The following document forms a part of this document to the extent specified herein. Unless otherwise specified, the issue of this document is the issue cited in the solicitation or contract.

## AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM)

ASTM D 6193

Standard Practice for Stitches and Seams  
(DoD adopted).

(Copies of this document are available online at <http://www.astm.org/> or from ASTM International, 100 Barr Harbor Drive, P.O. Box C700, West Conshohocken, PA 19428-2959.)

2.3 Order of precedence. Unless otherwise noted herein or in the contract, in the event of a conflict between the text of this standard and the reference cited herein, the text of this standard takes precedence. Nothing in this standard, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

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## 3. DEFINITIONS

3.1 General definitions. The following are the definitions for the two classifications of defects used in this standard. Note that some definitions may apply primarily to only round/ballistic type parachutes or only to gliding/ram-air type parachutes or to both.

3.1.1 Major/Critical defect. A defect that is likely to result in failure or to reduce the usability of the unit of product for its intended purpose. A major/critical defect is also defined as a dimension out of tolerance, component and or construction deviation which may adversely affect the fit, form or function of the parachute assembly.

3.1.2 Minor defect. A defect that is not likely to reduce the usability of the unit of product for its intended purpose or is a departure from established standards having little bearing on the effective use or the operation of the unit.

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 a floating friction grip is used in lieu of a fixed crossbar.

3.2.3 Apex. The center and top most point of an inflated round 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.

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. Webbing inserted in the hem of parachute canopies to reinforce edges of fabric and distribute the 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.

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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. A 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. A canopy 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, basically shaped as a quarter sphere wherein slots in the 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. The number of slots vary, depending upon canopy diameter.

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3.2.19 Cap seam. The top seam of the pilot chute, which joins the gores and the duck cloth disk together.

3.2.20 Cascade. The junction of two groups of suspension lines before attachment to the risers on gliding type parachutes.

3.2.21 Cell. Two adjacent air intake passages between two adjacent groups of suspension lines on ram-air or similar gliding type parachutes.

3.2.22 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, generally on round type parachutes.

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

3.2.24 Chordwise. The direction in which the ribs are attached on the upper and lower glide surfaces of gliding type parachutes.

3.2.25 Chordwise seams. The seams that attach the rib panels to the upper and lower glide surfaces of gliding type parachutes.

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

3.2.27 Chute. The term used interchangeably for the word "parachute."

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

3.2.29 Clevis. A u-shaped metal fitting with a hole in each end to receive a pin or bolt.

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

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

3.2.32 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 the opposite flap of the pack are placed over the cones and ripcord pins are inserted in the cone hole to keep the pack closed.

3.2.33 Control lines. Used to steer and maneuver canopy, also known as steering or brake lines.

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3.2.34 Control line, continuity. Free and clear routing to certain areas on canopy to ensure proper steering of canopy.

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

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

3.2.37 Cross port vent holes. The vent holes cut in the rib panels of ram-air type gliding parachutes.

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

3.2.39 Crown. A fabric panel used to close or cover the apex vent in certain types of parachute canopies. Also may refer to the upper portion of a canopy, particularly a round type parachute.

3.2.40 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.

3.2.41 Dart. A short tapered seam.

3.2.42 Diameter, constructed (Dc). The designation of the size of a parachute canopy, based upon design dimensions typically used for round type parachutes.

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

3.2.44 Drogue. A fabric surface shaped like a cone, more often a small first-stage parachute canopy in a system used for initial deceleration and stabilization.

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

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

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

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



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3.2.49 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 ripcord.

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

3.2.51 Glide surfaces, upper and lower. The spanwise panels that form the top and bottom glide surfaces of gliding type parachutes.

3.2.52 Gore. The portion of a canopy between two adjacent suspension lines or radial seams on a round type parachute.

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

3.2.54 Handle, ripcord. A loop/handle, generally of metal or rigid material, that provides a grip for pulling manual actuated ripcord cables on ripcord actuated parachutes.

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

3.2.56 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.

3.2.57 Hem. Fabric folded back upon itself and sewn in this position to form both the peripheral edge and the vent of the canopy.

3.2.58 Hem rigged canopy. A canopy whose suspension lines are attached to the skirt hem and do not pass over the drag-producing surface, generally in reference to round type parachutes.

3.2.59 Hesitator, skirt. A device that restricts the skirt of the canopy, thus preventing inflation until completion of snatch force, at which time the hesitator line breaks and allows inflation of the canopy.

3.2.60 Hook, pack opening, elastic. A small formed steel-wire device attached to each end of a pack-opening elastic that hooks into eyes sewn on the pack.

3.2.61 Housing, ripcord. A flexible metal tube in which the ripcord cable is placed.

3.2.62 Junction. The physical attachment of groups of suspension lines or control lines to each other.

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3.2.63 Keeper. A length of webbing sewn 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.

3.2.64 Knot, clove or half hitch. A type of knot commonly used for attaching the suspension lines of a parachute to the connector links.

3.2.65 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.

3.2.66 Knot, square. A strong knot for joining two cords or lines that does not slip or loosen easily.

3.2.67 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.

3.2.68 Lanyard. A length of cord, webbing, or other material used to retain parachute subassemblies to each other or a device used to activate the deployment of a parachute system.

3.2.69 Leading edge. The front area in which the air enters the canopy, generally for gliding type parachutes but sometimes used for round type parachutes. May also refer to edge facing upstream into the airflow of a ribbon or cloth section for ribbon and ring slot parachutes.

3.2.70 Leading edge seams. The two seams sewn on the leading edge in the spanwise direction on gliding type parachutes.

3.2.71 Leg strap. The retention strap, which is part of the harness, used to secure the harness to the wearer's legs.

3.2.72 Lift web. The main harness webbing.

3.2.73 Line, guide or control. Two or more parachute lines that run from a slot or orifice in a steerable canopy to the risers. Control lines for a gliding parachute are connected from the trailing edge to a cascade and routed to the risers.

3.2.74 Line, reefing. A length of cord or line passed through rings on the skirt of the drag-producing surface to delay or control opening of the canopy.

3.2.75 Line, spreader. X pattern webbing used in the LCADS HV as a deployment aid to ensure that the suspension lines maintain continuity.

3.2.76 Line, static. A line, webbing, or cable used to open a pack or to deploy the canopy, one end of which is fastened to the pack, canopy, or deployment bag, and the other to some part of the launching vehicle.

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3.2.77 Line, suspension. Cords or webbing that connect the drag-producing surface to the harness or the load.

3.2.77.1 Line, suspension, flat. A line made of tape or webbing.

3.2.78 Lines, vent. The lines that cross the vent of a canopy.

3.2.79 Line reinforcement (V tabs or butterfly). A tape wrapped tightly about the suspension line and sewn to the suspension line and skirt hem.

3.2.80 Link, connector. An item of hardware used to connect suspension lines at the load attaching point.

3.2.81 Link, connector, separable. A readily separated link to facilitate assembly of risers to suspension lines.

3.2.82 Loop, locking. A loop sewn to the deployment bag or canopy to sequence the opening of a parachute assembly.

3.2.83 Loop, retaining. A loop of webbing or tape used to hold folded lines or excess webbing in position.

3.2.84 Loop, stow. A tape, webbing, or elastic band on a pack or deployment bag that holds suspension lines in position during the packing and opening process.

3.2.85 Lower cascade. The junction of control lines closest to the risers on gliding type parachutes.

3.2.86 Lug. A flat metal fitting attached to the ends of the harness webbing to provide attachment to the harness release.

3.2.87 Main seam. The seam sewn from skirt to vent holding gores together and used as a guide for the suspension line on a round type parachute.

3.2.88 Nominal tension. One percent of the minimum breaking strength of the main strength-bearing material. A maximum pull for nominal tension should be 30 pounds.

3.2.89 Pack or container. The container that encloses the canopy or deployment bag in a packed condition and which provides a means of opening to allow deployment of the canopy.

3.2.90 Pack cover. A piece of duck or canvas material with a static line attached used to cover a packed canopy.

3.2.91 Pack frame. A rigid or flexible frame used to maintain the shape of the pack.

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3.2.92 Pack, opening spring, band. A cloth covered steel spring assembly with a hook at each end that rapidly pulls the flaps away from the canopy allowing quick opening of the pack.

3.2.93 Panel. The portion of a canopy between two adjacent suspension lines or radial seams.

3.2.94 Parachute. An assembly consisting of canopy, risers, 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.

3.2.94.1 Parachute, airdrop (cargo chute). A parachute designed to deliver equipment or supplies from aircraft in flight.

3.2.94.2 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.

3.2.94.3 Parachute, back-type. A parachute designed for attachment to the wearer's back.

3.2.94.4 Parachute, chest-type. A parachute designed for attachment to the wearer's chest.

3.2.94.5 Parachute, deceleration (drag). A parachute used on jet aircraft to decrease landing roll.

3.2.94.6 Parachute, extraction. A parachute used to extract cargo from aircraft in flight and to deploy cargo parachutes.

3.2.94.7 Parachute, gliding: A parachute specifically designed to glide, generally of the ram-air type configured as a rectangular or elliptical wing, sometimes referred to as a square parachute.

3.2.94.8 Parachute, personnel. A parachute used to lower personnel from aircraft in flight.

3.2.94.9 Parachute, recovery system. Normally these systems are comprised of static lines, a pilot chute, deployment bag(s), 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.

3.2.94.10 Parachute, reserve. A second parachute, usually worn on chest of personnel making a premeditated jump, to be used in the event that the main parachute fails.

3.2.94.11 Parachute, round. A parachute in a generally round configuration that has no or very minimal glide capability and is generally considered to have a ballistic trajectory. May refer to a number of round configurations or to any non-gliding configuration.

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3.2.94.12 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.

3.2.94.13 Parachute, troop. A parachute used by paratroopers for a premeditated jump over a designated area.

3.2.94.14 Pilot chute. A small parachute used to accelerate deployment of the main parachute. Some pilot chutes are equipped with a metal spring device to open the canopy when released from the pack.

3.2.95 Pilot chute frame. A wire frame or spring used in the pilot chute to initiate the opening action of the chute upon release from the pack.

3.2.96 Pin, locking (ripcord). A short metal pin attached to the ripcord cable that is inserted into a pack cone or other device to secure the flaps as a function of closing a parachute pack.

3.2.97 Pocket, log record. A small patch pocket sewn to the pack or riser for carrying the parachute log record.

3.2.98 Radial seam. The seam sewn from skirt to vent holding gores together and used as a guide for the suspension lines for round type parachutes. This term is normally used in lieu of main seam for ribbon-type parachutes.

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

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

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

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

3.2.103 Release, 3-ring. The rings and webbing that compose a riser/canopy release mechanism consisting of three interlocked rings of graduated size..

3.2.104 Ribs. The airfoil shaped panels that are attached to the upper and lower gliding surfaces in the chordwise direction, generally for a ram-air gliding type parachute but may refer to internal structure of some round type parachutes.

3.2.105 Rib panel reinforcements. The tapes that are sewn on the ribs.

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

3.2.107 Ripcord. The device consisting of a ripcord grip, cable, and locking pins used to secure the folded parachute in the pack and to release the canopy for deployment.

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

3.2.109 Saddle. The part of the main lift web of the harness that provides a seat or sling for the wearer.

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

3.2.111 Section. One of the pieces of cloth making up the gore of a round type canopy.

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

3.2.113 Shoulder strap. The harness webbing that crosses the shoulders of the wearer.

3.2.114 Skirt. The reinforced hem forming the edge of the canopy.

3.2.115 Sleeve, deployment. A type of deployment device using fabric and webbing enclosing the entire full length of the canopy.

3.2.116 Slider. A reefing device that controls the opening of a canopy by sliding down the suspension lines during canopy inflation.

3.2.117 Slider reinforcements. The webbing and tapes that are sewn on the slider.

3.2.118 Spanwise. The direction of the leading and trailing edges, perpendicular to the direction of flight on gliding type parachutes.

3.2.119 Spanwise seams. The seams that join the spanwise panels of the upper and lower glide surfaces of gliding type parachutes..

3.2.120 Spring assembly, ejector. A device that assists the deployment of the pilot chute.

3.2.121 Trailing edge. The rear edge of the canopy to which the control lines are attached on a gliding type parachute May also refer to the edge down-stream of the airflow on a ribbon or section of cloth for ribbon and ring slot parachutes.

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3.2.122 Trailing edge seams. The seams sewn on the trailing edge in the spanwise direction on gliding type parachutes.

3.2.123 Upper cascade. Any junction of control lines before the lower cascade.

3.2.124 Vent. The opening at the top of a parachute canopy, generally referring to round type parachutes.

3.3 Specific definitions of parachute hardware terms and conditions.

3.3.1 Bend test. A prescribed method used to test ripcord 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 that 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 ripcord locking pins to ripcord 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 zigzag-like stitches used to reinforce points of stress.

3.4.3 Basting. A 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 that consists of a stitched box with an X sewn from corner to corner, usually at the end of a row of stitching to reinforce the seam.

3.4.7 Double W or 4-point. A sewing pattern that consists of two parallel rows of stitching with three equally spaced points between the parallel rows forming a double W or 4-point.

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3.4.8 Folder. A device used as an attachment to a sewing machine to guide and fold fabric.

3.4.9 Gage. The measured distance between needles on a sewing machine. 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. Space between stitches in the same row in which there is no thread.

3.4.14 Needle damage. The partial or complete yarn severance or fiber fusing caused by the needle passing through a fabric during sewing.

3.4.15 Overedge. The stitching around the outer edges of fabric that prevents the edges from raveling or fraying.

3.4.16 Overfold. An excess of material causing the edge of an inner fold to double, wrinkle, or pleat.

3.4.17 Overlap. The distance one material, thread, or cord extends over another material, thread, or cord.

3.4.18 Pleat. A fold sewn in fabric.

3.4.19 Runoff. Stitching not on seam or fabric.

3.4.20 Skipped stitches. Threads that are not interlocked.

3.4.21 Stitch splicing. Used when a bobbin has run out or similar during sewing; characterized by stitch overlap on one end

3.4.22 Stitch repair. A section of stitching is removed and replaced due to defective stitching; characterized by stitch overlap on each end

3.4.23 Stitches per inch. The number of needle penetrations per linear inch where the threads are interlocked.

3.4.24 Stitching. Sewing, normally by machine, to join two or more pieces of fabric by thread.



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3.4.25 Tight stitches. Thread under excess tension causing one sewing thread to lie on surface of fabric or causing puckering of fabric.

3.4.26 Uneven stitching. Inconsistent stitch length within a measured distance.

3.4.27 Tucks. A shortening of material caused by pulling fabric up in folds and stitching across the gathered fabric.

3.4.28 Underfold. Insufficient material folded inside a seam.

#### 4. GENERAL REQUIREMENTS

4.1 Limitation of use. The conditions described in the defect listing herein will not be used for manufacturing purposes to extend specified tolerances of drawing requirements. Items should meet drawing requirements, therefore, immediate action will be taken to correct the causes of all defects. This document is not intended to cover all defects that 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 III through XIX apply only in the direction of tolerance specified in the applicable drawings, specification, or standard. When the tolerance is called out in one direction, for example, minus 1, the variation shall apply only in the minus 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 ensure clarity and preclude the misinterpretation of requirements.

#### 5. DETAILED REQUIREMENTS

##### 5.1 Inspections and tests.

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 the 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 the parachute systems and components during manufacture. Any defects found during in-process inspection are to be repaired in accordance with applicable manufacturing specification.

##### 5.1.3 Final inspection of the product.

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

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) that are minor will be acceptable, and any major/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 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.

## 6. NOTES

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

6.1 Intended use. This document is intended for defining the major/critical and minor classifications necessary to determine the acceptability of various parachutes for Government procurement purposes.

6.2 Past usage. Definitions of defects were previously provided in MIL-STD-105, "Sampling Procedures and Tables for Inspection by Attributes". General quality assurance terms were specified in MIL-STD-109, "Quality Assurance Terms and Definitions". These standards are no longer referred to in this document.

### 6.3 Subject term (key word) listing.

canopy	harness	MC6	seams
cargo	hems	MRPS	skirt
cascade	LCADS	pack	stitching
chute	LCLA	personnel	T11R
deployment	main	reserve	tape
gliding	MC-4	ripcord	webbing

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

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TABLE I. Personnel parachutes – guideline for maximum allowable errors per canopy.

No.	Item	Classification	
		Major/Critical	Minor
1.	Canopies (solid cloth, round, extended skirt)		
	Troop and rescue	0	8
	Emergency 24 feet	0	5
	Emergency 26 feet	0	6
	Emergency 28 feet	0	6
	Canopies (square, gliding type, main and reserve)	0	8
2.	Pilot chute and drogue	0	3
3.	Deployment bag and diaper	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
	Container (integrated main and reserve) without harness – MC-4 only	0	5
5.	Harness	0	5
6.	Riser	0	1
7.	Static line	0	2
8.	Integrated pack and harness	0	8
	Container (integrated main and reserve) with harness – MC-4 only	0	9
9.	Bridle lines, straps, lanyards and pockets	0	2
10.	Spring assembly, ejector	0	3

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TABLE II. Cargo, deceleration, extraction, recovery, special weapon, and low cost parachute systems and containers – guideline for maximum allowable errors per canopy.

No.	Item	Classification	
		Major/Critical	Minor
A. Cargo			
1.	Canopies (solid cloth, round, extended skirt)		
	Up to 25 feet in diameter	0	10
	Over 25 feet in diameter	0	20
	Over 50 feet in diameter	0	30
	Over 75 feet in diameter	0	40
2.	Canopies (ribbon and ring slot)		
	Up to 25 feet in diameter	0	10
	Over 25 feet in diameter	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
B. Low Cost and/or Low Cost Low Altitude aerial delivery systems (LCADS, LCLA)			
1.	Canopies:		
	High velocity (HV) Spider parachute (without slider)	0	25
	Low velocity (LV) BAT parachute	0	40
	Stalker, cross parachute	0	25
	Low cost container (LCC)	0	10
2.	Deployment bag assemblies	0	10
3.	Bridle assembly, Slider, Line spreader, Static line, Strap assembly (all 4 straps)	0	5

NOTE: In all of the following tables, all references in the form of "up to" are inclusive.

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TABLE III. Classification of defects – solid and extended skirt parachute canopies – personnel.

No.	Defect	Classification	
		Major/Critical	Minor
1.	Improper assembly of vent reinforcement band	101	
2.	Vent reinforcement band overlap		
	Up to 1/4 inch minus		201
	Over 1/4 inch minus	102	
	Over 1 inch plus		202
3.	Vent hem outside stitching margin from edge of webbing		
	1/16 to 3/16 inch		203
	Over 3/16 inch	103	
	All rows of stitching not through reinforcement webbing	104	
4.	Vent loop length (finished dimension)		
	Up to 1/2 inch plus		204
	Over 1/2 inch plus	105	
	Minus direction any length	106	
5.	Vent line length (finished dimension)		
	Up to 1/4 inch		205
	Over 1/4 inch	107	
6.	Variation in vent line length per set		
	Up to 1 percent		206
	Over 1 percent	108	
7.	Twisted vent line (flat)	109	
8.	Twisted vent line (core or coreless braid)		
	Over 360 degrees		207
	Over 360 degrees, causing kinks in line when relaxed	110	
9.	Gore width at vent, centerline to centerline on main seam or as stated in TDP		
	Up to 1/4 inch		208
	Over 1/4 inch	111	
10.	Gore width at skirt, centerline to centerline on main seam or as stated in TDP		
	Up to 1/2 inch		209
	Over 1/2 inch	112	

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TABLE III. Classification of defects – solid and extended skirt parachute canopies – personnel – Continued.

No.	Defect	Classification	
		Major/Critical	Minor
11.	Cross and main seams, improper type or improper assembly	113	
12.	Open seams 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 re-stitching or overstitching as specified will not be scored as a defect.	114	
13.	Overfold in main seam Up to 1/2 inch or extended into center channel Over 1/2 inch	115	210
14.	Underfold in main seam A 4-needle seam not caught by 3 rows of stitches by at least 1/16 of an inch 3 intermittent underfolds of a 2-needle seam up to 2 inches long and less than 12 inches apart More than 3 intermittent underfolds, up to 2 inches long and less than 12 inches apart Underfold more than 4 inches in length	116 117 118	211
15.	Overfold and underfold in cross seam Underfold 1/8 to 3/16 inch and up to 8 inches long Underfold over 8 inches long Up to 3 intermittent underfolds, 3/16 inch and up to 2 inches long, over 12 inches apart More than 3 intermittent underfolds, 3/16 inch and up to 2 inches long, and less than 12 inches apart Overfold 1/8 to 1/4 inch, full length of seam Overfold over 1/4 inch any length	119 120 121	212 213 214
16.	Fullness in seam width Main seam 1/8 to 1/2 inch Over 1/2 inch Cross seam 1/8 to 1/4 inch Over 1/4 inch	122 123	215 216

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TABLE III. Classification of defects – solid and extended skirt parachute canopies – personnel – Continued.

No.	Defect	Classification	
		Major/Critical	Minor
17.	Fullness not evenly distributed along radial tape (SF10A)		217
18.	Wrinkles and pleats in cross and main seams		
	Cross seams		
	1/16 to 1/8 inch and 1 per seam		218
	1/16 inch and more than 1 per seam	124	
	1/16 inch and more than 6 per canopy	125	
	Over 1/8 inch	126	
	Main seams (canopies up to 35 feet in diameter)		
	1/16 to 1/8 inch and 1 per seam		219
	1/16 to 1/8 inch and more than 1 per seam	127	
	1/16 to 1/8 inch and more than 6 per canopy	128	
	Over 1/8 inch	129	
	Main seams (canopies over 35 feet and up to 65 feet in diameter)		
	1/16 to 1/8 inch and 2 per seam		220
	1/16 to 1/8 inch and more than 2 per seam	130	
	1/16 to 1/8 inch and more than 9 per canopy	131	
	Over 1/8 inch	132	
	Main seams (canopies over 65 feet in diameter)		
	1/16 to 1/8 inch and 3 per seam		221
	1/16 to 1/8 inch and more than 3 per seam	133	
	1/16 to 1/8 inch and more than 12 per canopy	134	
	Over 1/8 inch	135	
19.	Vent and skirt hems improperly formed		
	Raw edge showing	136	
	Intermittent underfold where edge is caught with 2 rows of stitching		222
	Underfold where edge is caught with 1 row of stitching	137	
20.	Vent hem fold over main seam around webbing not straight		223
21.	Matching of centerlines of seams when folded		
	1/8 to 1/4 inch		224
	Over 1/4 inch	138	
22.	Wrinkles, pleats, or folds in skirt and vent hems that do not extend into the gore fabric		



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TABLE III. Classification of defects – solid and extended skirt parachute canopies – personnel – Continued.

No.	Defect	Classification	
		Major/Critical	Minor
	1/4 to 1/2 inch and 1 per gore		225
	Over 1/2 inch and more than 1 per gore	139	
	Over 1/2 inch and more than 12 per canopy up to 35 feet	140	
	Over 1/2 inch and more than 14 per canopy over 35 feet and up to 65 feet	141	
	Over 1/2 inch and more than 18 per canopy over 65 feet	142	
23.	Wrinkles, pleats, or folds in skirt and vent hems extending into the gore fabric		
	1/16 to 1/8 inch and 1 per gore		226
	Over 1/16 inch and more than 1 per gore	143	
	Over 1/16 inch and more than 6 per canopy up to 35 feet in diameter	144	
	Over 1/16 inch and more than 12 per canopy over 35 feet and up to 65 feet in diameter	145	
	Over 1/16 inch and more than 18 per canopy over 65 feet in diameter	146	
	Over 1/8 inch	147	
24.	Skirt hem outside stitching margin from edge of webbing		
	1/16 to 3/16 inch		227
	Over 3/16 inch	148	
	Any row of stitching not through skirt band webbing	149	
25.	Fold over of main seam around skirt webbing not straight		228
26.	Matching of centerline of seams when folded		
	1/8 inch to 1/4 inch		229
	Over 1/4 inch	150	
27.	Skirt hem formed by more than 2 pieces of tape or webbing unless otherwise specified on the applicable drawing	151	
28.	Tape or webbing used to form skirt hem does not extend across a minimum of 4 gores	152	
29.	Tucks, where section of gore fabric caught in stitching of seams or hems		
	Up to 1/4 inch wide and up to 1/2 inch long		230

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TABLE III. Classification of defects – solid and extended skirt parachute canopies – personnel – Continued.

No.	Defect	Classification	
		Major/Critical	Minor
	Over 1/4 inch wide regardless of length	153	
	Over 1/2 inch wide regardless of width	154	
30.	Mismatching of cross seams		
	First seam from vent over 2 inches and up to 2-1/2 inches		231
	First seam from vent over 2-1/2 inches	155	
	All other seams over 2-1/2 inches and up to 3 inches		232
	All other seams over 3 inches	156	
	All seams on SF10A greater than 1/2 inch	157	
31.	Vent lines out of sequence	158	
32.	Suspension and vent line overlap on canopy		
	Up to 1/8 inch minus		233
	Over 1/8 inch minus	159	
	Over 1/4 inch plus		234
33.	Suspension lines not in proper channel or lines crossed	160	
34.	Cut, frayed, or damaged suspension, control or vent lines	161	
35.	Variation in suspension line length per set, between vent and skirt		
	Up to 1/2 percent		235
	Over 1/2 percent	162	
36.	Variation in suspension line length between vent and skirt		
	Up to 1 percent		236
	Over 1 percent	163	
37.	Twisted suspension line, between vent and skirt (flat)		
	In channel, up to 360 degrees		237
	In channel, over 360 degrees	164	
38.	Twisted suspension line between vent and skirt (core or coreless braid)		
	Over 180 degrees to 360 degrees		238
	Over 360 degrees	165	

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TABLE III. Classification of defects – solid and extended skirt parachute canopies – personnel – Continued.

No.	Defect	Classification	
		Major/Critical	Minor
39.	Twist between line reinforcement at skirt and 3-inch zigzag stitching above the skirt, 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 zigzag stitching)		
	90 to 180 degrees		239
	Over 180 degrees	166	
	Line not placed between 2 ply's of material	167	
40.	Variation in suspension line length between skirt and attaching point		
	Up to 1 percent		240
	Over 1 percent	168	
41.	Variation in suspension line length per set between skirt and attaching point		
	Up to 1/2 percent		241
	Over 1/2 percent	169	
42.	Twisted suspension line between skirt and attaching point (flat), except hem rigged canopy		170
43.	Twisted suspension line (flat), hem rigged canopy		
	180 to 360 degrees		242
	Over 360 degrees	171	
44.	Twisted suspension line between skirt and attaching point (core and coreless braid)		
	Over 360 degrees		243
	Over 360 degrees causing kinks in the line	172	
45.	Twisted suspension line between suspension line loop and attaching point (SF10A)		
	Over 180 degrees	173	
46.	Suspension line length, main seams, extended gore trailing edge length and break slots out of symmetry (SF10A)	174	
47.	Stitching on canopy		
	1 stitch per inch over or under the number specified, up to 2 inches long and one place per seam (size 3 through 6 thread)		244

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TABLE III. Classification of defects – solid and extended skirt parachute canopies – personnel – Continued.

No.	Defect	Classification	
		Major/Critical	Minor
	1 stitch per inch over or under the number specified, over 2 inches long (size 3 through 6 thread)	175	
	More than 1 stitch per inch over or under the number specified (size 3 through 6 thread)	176	
	2 stitches per inch over or under the number specified, up to 2 inches long and one place per seam (size B through FF thread)		245
	2 stitches per inch over or under the number specified, over 2 inches long (size B through FF thread)	177	
	More than 2 stitches per inch over or under the number specified (size B through FF thread)	178	
	NOTE: For B or E size thread only, up to 14 stitches per inch, type 301 or 401 stitches in accordance with ASTM D 6193, 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 less than 12 inches apart, shall be classified a major defect.		
	NOTE: When a double thickness or more 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 specification forbids repair to defective stitching, it shall be classified as a major defect.		
	Broken or missing stitches		
	Up to 1/4 inch	179	
	Over 1/4 inch	180	
	2 or more consecutive skipped stitches	181	
	Missing or incomplete stitch pattern (for example, bartack or zigzag)	182	
	Backstitch missing	183	
	Backstitch short		
	Less than 1/4 inch		246
	More than 1/4 inch	184	
	Runoff, 2 or more stitches into single cloth or beyond seam or hem margins	185	
	Up to 1/4 inch		247

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TABLE III. Classification of defects – solid and extended skirt parachute canopies – personnel – Continued.

No.	Defect	Classification	
		Major/Critical	Minor
	Over 1/4 inch	186	
	Zigzag stitches where less than 85 percent of the stitches penetrate through suspension lines	187	
	Tension too loose or too tight, up to 3 inches per seam		248
	Tension too loose or too tight, over 3 inches per seam	188	
	Kinks, intermittent, less than 2 inches apart		249
	Stitch pattern lengths not as specified (stitch patterns up to 5 inches long)		
	Up to 1/8 inch longer or shorter		250
	Over 1/8 inch shorter	189	
	Over 1/8 inch longer		251
	Stitch pattern lengths not as specified (stitch patterns over 5 inches long)		
	Up to 1/4 inch longer or shorter		252
	Over 1/4 inch shorter	190	
	Over 1/4 inch longer		253
48.	Frequency of repair to stitching and splicing on canopy shall be classified according to the following table.		
	More than the number of splices and repairs in the table	191	
	Up to and including the number of splices and repairs in the table		254
	<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 inches	1 per 100 inches
49.	Length of splices and repairs to stitches		
	Overlap less than 2 inches	192	
	Overlap from 4 inches to 7 inches		255
	Overlap more than 7 inches	193	
50.	Needle damage (cuts or chews)		
	Up to 1/8 inch long and 1 per canopy up to 35 feet in diameter		256

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TABLE III. Classification of defects – solid and extended skirt parachute canopies – personnel – Continued.

No.	Defect	Classification	
		Major/Critical	Minor
	Over 1/8 inch long or more than 1 per canopy up to 35 feet in diameter	194	
	Up to 1/8 inch long and 2 per canopy 35 feet in diameter and over		257
	Over 1/8 inch long or more than 2 per canopy 35 feet in diameter and over	195	
51.	Holes, darns and repairs		
	Holes over 1/8 inch in diameter or over 1/4 inch long	196	
	Darns, more than 1 per section	197	
	Darns, more than 3 per canopy up to 50 feet in diameter	198	
	Darns, more than 10 per canopy from 50 feet in diameter to 75 feet in diameter	199	
	Darns, more than over 15 per canopy 75 feet in diameter and over	101a	
52.	Ends of webbing, tape, and cord not seared, scissor cut, waxed or serged as specified		258
53.	Improper routing of control line grouping	102a	
54.	Pocket band free length		
	Up to 1/8 inch		259
	Over 1/8 inch	103a	
55.	Pocket depth, centerline main seam to stitch pattern on skirt band		
	Up to 1/8 inch		260
	Over 1/8 inch	104a	
56.	Suspension line attaching loop, up to 2 inches in length		
	Note: On SF10A this refers to loop at bottom of line attachment loop		
	Up to 1/8 inch		261
	Over 1/8 inch	105a	
57.	Suspension line attaching loop, over 2 inches and up to 4 inches in length		
	Up to 1/4 inch		262
	Over 1/4 inch	106a	
58.	Location of reefing line cutter bracket from edge of skirt		
	Up to 1/8 inch		263

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TABLE III. Classification of defects – solid and extended skirt parachute canopies – personnel – Continued.

No.	Defect	Classification	
		Major/Critical	Minor
	Over 1/8 inch	107a	
59.	Location of reefing line arming cord from edge of skirt		
	Up to 1/8 inch		264
	Over 1/8 inch	108a	
60.	Improper assembly, construction detail or viewer note per TDP	109a	
61.	Component missing per TDP	110a	
62.	Identification marking illegible, incorrect or missing	111a	
63.	Incorrect or defective material	112a	
64.	Dark identification threads not removed or markings not yellow (for special weapon parachutes, other than those identified as training units)		266
65.	Material unclean	113a	
66.	Searing over stitching	114a	
67.	Thread ends not clipped		
	Up to 2 inches		267
	Over 2 inches	115a	
	Over 1/2 inch at anti-inversion net	116a	

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TABLE III. Classification of defects – solid and extended skirt parachute canopies – personnel – Continued.

No.	Defect	<u>Classification</u>	
		Major/Critical	Minor



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TABLE IV. Classification of defects – ring slot and ribbon parachute canopies.

No.	Defect	Classification	
		Major/Critical	Minor
1.	Improper assembly of vent reinforcement band	101	
2.	Vent reinforcement band overlap		
	Up to 1/4 inch minus		201
	Over 1/4 inch minus	102	
	Over 1/2 inch plus		202
3.	Vent loop length (finished dimension)		
	Up to 1/2 inch		203
	Over 1/2 inch	103	
4.	Vent line length (finished dimension)		
	Up to 1/4 inch		204
	Over 1/4 inch	104	
5.	Variation in vent line length per set		
	Up to 1 percent		205
	Over 1 percent	105	
6.	Twisted vent line (flat)	106	
7.	Twisted vent line core or coreless braid		
	Over 360 degrees		206
	Over 360 degrees causing kinks in line when relaxed	107	
8.	Gore width at vent, measured centerline to centerline on adjacent radial seams		
	Up to 1/4 inch		207
	Over 1/4 inch	108	
9.	More or less than the required number of ribbons per gore	109	
10.	Spacing of horizontal ribbons (ribbon canopy)		
	Up to 3/16 inch		208
	Over 3/16 inch	110	
11.	Spacing of verticals		
	Up to 1/4 inch		209
	Over 1/4 inch	111	

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TABLE IV. Classification of defects – ring slot and ribbon parachute canopies – Continued.

No.	Defect	Classification	
		Major/Critical	Minor
12.	Slot width (ring slot canopy)		
	Up to 1/8 inch		210
	Over 1/8 inch	112	
13.	Leading and trailing edge of section hems (ring slot canopies only)		
	Underfolds where gore fabric is not butted flush with fold of hem and caught with 2 rows of stitches (when specified by drawing)	113	
	Intermittent underfolds up to 2 inches along seam length		211
	Underfold over 2 inches along seam length	114	
	Fullness between lines of stitching		
	Up to 1/8 inch		212
	Over 1/8 inch	115	
14.	Gore width at skirt, measured centerline to centerline on adjacent radial seams		
	Up to 1/4 inch		213
	Over 1/4 inch	116	
15.	Skirt reinforcement band overlap		
	Up to 1/4 inch minus		214
	Over 1/4 inch minus	117	
	Over 1/2 inch plus		215
16.	Improper assembly of skirt reinforcement band	118	
17.	Underfold (raw edge) skirt hem	119	
	NOTE: When raw edge is the result of overfolding, the edge extending more than 1/2 inch but less than 1 inch, the raw edge may be trimmed and will not be scored as 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 restitched.		
18.	Pleats (all hems)		
	1/8 to 1/4 inch and 1 per gore		216
	Over 1/8 inch and over 1 per gore	120	
	Over 1/8 inch and over 6 per canopy	121	
	Over 1/4 inch	122	

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TABLE IV. Classification of defects – ring slot and ribbon parachute canopies – Continued.

No.	Defect	Classification	
		Major/Critical	Minor
19.	Tucks, where section of gore fabric is caught in stitching of hems	123	
20.	Vent lines out of sequence	124	
21.	Suspension lines crossed	125	
22.	Cut, frayed, or damaged suspension or vent lines	126	
23.	Radial and vertical seam length		
	Up to 1 percent		217
	Over 1 percent	127	
24.	Variation in radial seam length per canopy		
	Up to 1/2 percent		218
	Over 1/2 percent	128	
25.	Twist in radial seam	129	
26.	Variation in suspension line length		
	Up to 1 percent		219
	Over 1 percent	130	
27.	Variation in suspension line length per set		
	Up to 1/2 percent		220
	Over 1/2 percent	131	
28.	Twisted suspension line (flat), except hem rigged canopy	132	
29.	Twisted suspension line (flat), hem rigged canopy		
	180 to 360 degrees		221
	Over 360 degrees	133	
30.	Vertical tapes not equally spaced		
	From 1/2 to 1 inch		222
	Over 1 inch	134	
31.	Twisted suspension line (core and coreless braid)		
	Over 360 degrees		223
	Over 360 degrees causing kinks in line	135	

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TABLE IV. Classification of defects – ring slot and ribbon parachute canopies – Continued.

No.	Defect	Classification	
		Major/Critical	Minor
32.	Pocket band free length		
	Up to 1/8 inch		224
	Over 1/8 inch	136	
33.	Pocket depth, centerline of radial seam to stitch pattern on skirt band		
	Up to 1/8 inch		225
	Over 1/8 inch	137	
34.	Stitching on canopy		
	1 stitch per inch over or under the number specified, under 2 inches long and one place per seam (size 3 through 6 thread)		226
	More than 1 stitch per inch over or under the number specified (size 3 through 6 thread)	138	
	2 stitches per inch over or under the number specified, under 2 inches long and one place per seam (size E through FF thread)		227
	More than 2 stitches per inch over or under the number specified (size E through FF thread)	139	
	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		228
	Specified stitches per inch for more than 3 inches on more than two places per seam or less than 36 inches apart, or both	140	
	Broken, skipped, or missing stitches over 1/2 inch in any one row of 4-needle stitching	141	
	Open seams	142	
	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 (for example, bartack or zigzag)	143	
	Backstitch missing	144	

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TABLE IV. Classification of defects – ring slot and ribbon parachute canopies – Continued.

No.	Defect	Classification	
		Major/Critical	Minor
	Backstitch short		
	Less than 1/4 inch		229
	More than 1/4 inch	145	
	Runoff, 2 or more stitches into single cloth or beyond seam or hem margins	146	
	Zigzag stitches with less than 85 percent penetration through suspension lines	147	
	Tension too loose or too tight, up to 3 inches per seam		230
	Tension too loose or too tight, over 3 inches per seam	148	
	Kinks, intermittent, less than 2 inches apart		231
	Stitch pattern lengths not as specified (stitch patterns up to 5 inches long)		
	Up to 1/8 inch		232
	Over 1/8 inch minus	149	
	Over 1/8 inch plus		233
35.	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 as a major defect	150	
	<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 inches	1 per 100 inches
36.	Needle damage (cuts or chews)		
	Up to 1/8 inch long and 1 per canopy up to 35 feet in diameter		234
	Over 1/8 inch long or more than 1 per canopy up to 35 feet in diameter	151	
	Up to 1/8 inch long and 2 per canopy 35 feet in diameter and over		235
	Over 1/8 inch long or more than 2 per canopy 35 feet in diameter and over	152	

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TABLE IV. Classification of defects – ring slot and ribbon parachute canopies – Continued.

No.	Defect	Classification	
		Major/Critical	Minor
37.	Holes, darns, and repairs		
	Holes, 1 per canopy under 1/8 inch	153	
	Holes, over 1/8 inch or more than 1 per canopy	154	
	Darns, more than 1 per gore	155	
	Darns, more than 10 per canopy up to 50 feet in diameter	156	
	Darns, more than 15 per canopy from 50 feet in diameter to 75 feet in diameter	157	
	Darns, more than 20 per canopy 75 feet in diameter and over	158	
38.	Foldback of suspension lines at connector link or skirt attachment loop		
	Up to 1/4 inch minus		236
	Over 1/4 inch minus	159	
	Over 1/2 inch plus		237
39.	Misalignment of cutter pockets	160	
40.	Ends of webbing, tape, and cord not seared, waxed, scissor cut or serged as specified		238
41.	Loop, up to 2 inches in length		
	Up to 1/8 inch		239
	Over 1/8 inch	161	
42.	Loop, 2 to 4 inches in length		
	Up to 1/4 inch		240
	Over 1/4 inch	162	
43.	Improper assembly per TDP	163	
44.	Component missing per TDP	164	
45.	Identification marking illegible, incorrect or missing		241
46.	Incorrect or defective material	165	
47.	Dark identification threads not removed or markings not yellow (for special weapon parachutes, other than those identified as training units)	166	

## MIL-STD-849B

TABLE IV. Classification of defects – ring slot and ribbon parachute canopies – Continued.

No.	Defect	Classification	
		Major/Critical	Minor
48.	Material unclean	167	
49.	Searing over stitching	168	
50.	Thread ends not clipped		242
	Up to 2 inches		243
	Over 2 inches	169	

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TABLE V. Classification of defects – pilot chutes and drogues.

No.	Defect	Classification	
		Major/Critical	Minor
1.	Inertia plate buffer missing	101	
2.	Inertia plate tape length		
	Up to 1/8 inch		201
	Over 1/8 inch	102	
3.	Impact tape, improper construction or assembly	103	
4.	Radial seam length		
	Up to 1/4 inch		202
	Over 1/4 inch	104	
5.	Gore width at skirt, centerline to centerline on radial seam		
	Up to 1/8 inch		203
	Over 1/8 inch	105	
6.	Skirt webbing overlap		
	Up to 1/4 inch minus		204
	Over 1/4 inch minus	106	
	Over 1/4 inch plus		205
7.	Seam folding (raw edge)	107	
8.	Pleats		
	1/16 to 1/8 inch and 1 per gore		206
	Over 1/8 inch or more than 1 per gore	108	
9.	Variation in suspension line length		
	Up to 1/2 percent		207
	Over 1/2 percent	109	
10.	Suspension line twisted		
	Over 360 degrees		208
	Over 360 degrees causing kinks in line	110	
11.	Suspension lines fold back or overlap skirt		
	Up to 1/8 inch minus		209
	Over 1/8 inch minus	111	
	Over 1/4 inch plus		210



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TABLE V. Classification of defects – pilot chutes and drouges – Continued.

No.	Defect	Classification	
		Major/Critical	Minor
12.	Loop length		
	Up to 1/8 inch minus		211
	Over 1/8 inch minus	112	
	Over 1/4 inch plus		212
13.	Suspension line out of sequence at the loop collar	113	
14.	Spring tension less than required loading	114	
15.	Spring not hand tacked to pilot chute cone	115	
16.	Stitching on pilot chute		
	Open seam		
	NOTE: 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.	116	
	2 stitches per inch over or under number specified, one place per seam		213
	More than 2 per inch over or under number specified	117	
	Missing or incomplete stitch pattern	118	
	Backstitch missing or short		214
	Runoff, 3 or more stitches into single cloth or beyond seam or hem margins	119	
	Tension too loose or too tight up to 4 inches per seam		215
	Tension too loose or too tight over 4 inches per seam	120	
	Kinks, intermittent, less than 2 inches apart		216
	Stitch pattern lengths not as specified (stitch patterns up to 5 inches long)		
	Up to 1/8 inch		217
	Over 1/8 inch minus	121	
	Over 1/8 inch plus		218
	Stitch pattern lengths not as specified (stitch patterns over 5 inches long)		
	Up to 1/4 inch		219
	Over 1/4 inch minus	122	
	Over 1/4 inch plus		220
17.	Improper assembly per TDP	123	
18.	Component missing per TDP	124	

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TABLE V. Classification of defects – pilot chutes and drouges – Continued.

No.	Defect	Classification	
		Major/Critical	Minor
19.	Identification markings illegible, incorrect or missing		221
20.	Incorrect or defective material	125	
21.	Material unclean	126	
22.	Searing over stitching	127	
23.	Thread ends not clipped		222
	Up to 2 inches		223
	Over 2 inches	128	

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TABLE VI. Classification of defects – personnel parachute packs or containers, and deployment bags.

No.	Defect	Classification	
		Major/Critical	Minor
1.	Incorrect or defective material	101	
2.	Seam folding Improperly formed seam or hem exposing raveled edge of fabric	102	
3.	Binding tapes Splicing of binding tape raw edge not turned under 1/4 inch Improperly attached, exposing raw edge of fabric	103	201
4.	Finished dimensions Up to 1/4 inch more or less than tolerance Over 1/4 inch more or less than tolerance	104	202
5.	Grommet, cone and snap fastener spacing 1/16 to 1/8 inch Over 1/8 inch Loose, broken, burrs or sharp edges Improper method of installation (for example, base hole in fabric too large)	105 106 107	203
6.	Assembly of grommets Improperly set, 2 or more exposed teeth (except where grommet is set as specified but is in an area of unequal thickness that prevents uniform clinching) Clinched loosely, allowing grommet to rotate in hole Clinched excessively tight, cutting fabric Insecurely clinched, where grommet or washer may become disengaged Roll of grommet contains splits, burrs or sharp edges	105 106 107 108 109	
7.	Snap Location of lift-a-dot less than 10 degrees Location of lift-a-dot more than 10 degrees	110	205
8.	Stitching Up to 2 stitches per inch over or under the number specified, up to 2 inches in length Up to 2 stitches per inch over or under the number specified, over 2 inches in length	111	204

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TABLE VI. Classification of defects – personnel parachute packs or containers, and deployment bags - Continued.

No.	Defect	Classification	
		Major/Critical	Minor
	More than 2 stitches per inch over or under the number specified and over 2 inches in length	112	
	Broken, skipped, missing, or runoff over 1/2 inch in length in any one place or over 1-1/2 inch total length per pack	113	
	Missing or incomplete stitch pattern (for example, bartack or cross box)	114	
	Backstitch short		
	Less than 1/4 inch		205
	More than 1/4 inch	115	
	Runoff on edge binding, over 1/2 inch in any one place or over 1 inch in length per pack	116	
	Tension too loose or too tight, up to 4 inches per seam		206
	Tension too loose or too tight, over 4 inches per seam	117	
	Kinks, intermittent, less than 2 inches apart		207
	Stitch pattern lengths not as specified (stitch patterns up to 5 inches long)		
	Up to 1/8 inch		208
	Over 1/8 inch minus	118	
	Over 1/8 inch plus		209
	Stitch pattern lengths not as specified (stitch patterns over 5 inches long)		
	Up to 1/4 inch		210
	Over 1/4 inch minus	119	
	Over 1/4 inch plus		211
9.	Needle damage (cuts or chews)		
	Up to 1/4 inch and 1 per pack		212
	Over 1/4 inch or more than 1 per pack	120	
10.	Holes, darns, and repairs		
	Holes, 2 per pack under 3/16 inch diameter or less than 1/4 inch long		213
	Holes over 3/16 inch in diameter or 1/4 inch long	121	
	Holes, more than 2 per pack	122	
	Darns, more than 3 per pack	123	
11.	Improper assembly per TDP	124	
12.	Component missing per TDP	125	

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TABLE VI. Classification of defects – personnel parachute packs or containers, and deployment bags - Continued.

No.	Defect	Classification	
		Major/Critical	Minor
13.	Ends of webbing, tape, and cord not seared, waxed, scissor cut or serged as specified		214
14.	Pleats over 1/16 inch		215
15.	Stow loop dimensions		
	23/32 and 25/32 dimensions		
	From 1/32 to 1/16 inch over tolerance and up to 5 per bag		216
	From 1/32 to 1/16 inch over tolerance and more than 5 per bag	126	
	Over 1/8 inch over tolerance	127	
	Over 1/16 inch below tolerance	128	
	2-5/8 inch dimension between stitching		
	Up to 1/8 inch over tolerance and 5 per bag		217
	Up to 1/8 inch over tolerance and more than 5 per bag	129	
	Over 1/8 inch over tolerance	130	
	Over 1/16 inch under tolerance	131	
16.	Identification marking illegible, incorrect or missing		218
17.	Searing over stitching	132	
18.	Thread ends not clipped		219
	Up to 2 inches		220
	Over 2 inches	133	

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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/Critical	Minor
1.	Variations in lengths (finished dimensions leg strap, diagonal back straps and risers)		
	Up to 1 inch		201
	Over 1 inch	101	
	Static lines		
	Up to 1-1/2 inches		202
	Over 1-1/2 inches	102	
2.	Incorrect or defective material	103	
3.	Twisted back, chest, or leg straps	104	
4.	Ends of webbing, tape, and cord not seared, waxed, scissor cut or serged as specified		203
5.	Stitching		
	1 stitch per inch over or under the number specified, up to 2 inches in length		204
	1 stitch per inch over or under the number specified, over 2 inches in length	105	
	More than 1 stitch per inch over or under the number specified and over 2 inches in length	106	
	Broken, missing, or skipped stitches up to 1/2 inch in any one place		205
	NOTE: None permitted in risers or leg and chest straps. Broken stitches caused by needle penetrations by an over stitching pattern (for example, bartack or cross box) 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		206
	Over 3/8 inch in length	107	
	Missing or incomplete stitch pattern (for example, bartack or cross box)	108	
	Runoff, 2 or more stitches off webbing	109	
	Missing backstitch	110	
	Backstitch short up to 50%		207
	Tension too loose or too tight in any one row		
	Up to 2 inches		208
	Over 2 inches	111	

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TABLE VII. Classification of defects – personnel parachute harnesses, risers, static lines, bridle lines, straps, lanyards, and pockets - Continued.

No.	Defect	Classification	
		Major/Critical	Minor
	Kinks, intermittent, less than 2 inches apart		209
	Stitch pattern length not as specified (stitch patterns up to 5 inches long)		
	Up to 1/8 inch		210
	Over 1/8 inch minus	112	
	Over 1/8 inch plus		211
	Stitch lengths pattern not as specified (stitch patterns over 5 inches long)		
	Up to 1/4 inch		212
	Over 1/4 inch minus	113	
	Over 1/4 inch plus		213
6.	Needle damage (cuts or chews)		
	1 cut warp end		214
	More than 1 cut warp end	114	
	Damage to filling thread over 3/8 inch	115	
	NOTE: Damage to more than 1 fill thread not allowed in risers or leg and chest straps.		
7.	Repairs		
	Broken or missing stitching not reinforced by restitching	116	
	NOTE: Repairs in risers and leg straps not permitted.		
8.	Improper assembly per TDP	117	
9.	Component(s) missing per TDP	118	
10.	Identification marking illegible, incorrect or missing		215
11.	Searing over stitching	119	
12.	Thread ends not clipped		216
	Up to 2 inches		217
	Over 2 -inches	120	

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TABLE VIII. Classification of defects – deployment bags and packs  
(other than personnel)

No.	Defect	Classification	
		Major/Critical	Minor
1.	Incorrect or defective material	101	
2.	Seam folding improperly formed or hem exposing raw edge of fabric	102	
3.	Binding tapes		
	Splicing of binding tape raw edge not turned under 1/4 inch		201
	Improperly attached, exposing raw edge of fabric	103	
4.	Finished dimensions, overall outside, including bag circumference		
	Up to 1/4 inch		202
	Over 1/4 inch	104	
5.	Grommet or snap fastener spacing		
	Up to 1/8 inch		203
	Over 1/8 inch	105	
6.	Loose, broken, or sharp edges on grommets, snaps or eyelets	106	
7.	Improper method of grommet installation (for example, base hole in fabric too large)	107	
8.	Stitching on bags		
	2 stitches per inch over or under the number specified, up to 2 inches in length		204
	2 stitches per inch over or under the number specified, over 2 inches in length	108	
	More than 2 stitches per inch over or under the number specified and over 2 inches in length	109	
	Broken, skipped, or missing stitches over 1/2 inch in length in any one place or over 1-1/2 inch total length per bag	110	
	Missing or incomplete stitch pattern (for example, bartack or cross box)	111	
	Backstitch short		
	Less than 1/4 inch		205
	More than 1/4 inch	112	
	Runoff on edge binding, over 1/2 inch in length or over 1 inch in length per pack	113	



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TABLE VIII. Classification of defects – deployment bags and packs  
(other than personnel) – Continued.

No.	Defect	Classification	
		Major/Critical	Minor
	Tension too loose or too tight, up to 4 inches per seam		206
	Tension too loose or too tight, over 4 inches per seam	114	
	Kinks, intermittent, less than 2 inches apart		207
	Stitch pattern lengths not as specified (stitch patterns up to 5 inches long)		
	Up to 1/8 inch		208
	Over 1/8 inch minus	115	
	Over 1/8 inch plus		209
	Stitch pattern lengths not as specified (stitch patterns over 5 inches long)		
	Up to 1/4 inch		210
	Over 1/4 inch minus	116	
	Over 1/4 inch plus		211
9.	Pleats over 1/16 inch	117	
10.	Needle damage		
	Up to 1/4 inch and 2 per bag		212
	Over 1/4 inch or more than 2 per bag	118	
11.	Holes, darns, and repairs		
	Holes over 1/8 inch diameter	119	
	Holes, less than 1/16 inch diameter, up to 3 per bag		213
	Holes, more than 3 per bag, any size	120	
	Darns and repairs		
	From 1/4 inch to 1/2 inch		214
	Over 1/2 inch	121	
	Darns, more than 4 per bag, any size	122	
12.	Improper assembly per TDP	123	
13.	Component(s) missing per TDP	124	
14.	Ends of webbing, tape, and cord not seared, waxed, scissor cut or serged as specified		215
15.	Identification marking illegible, incorrect or missing		216

## MIL-STD-849B

TABLE VIII. Classification of defects – deployment bags and packs  
(other than personnel) – Continued.

No.	Defect	<u>Classification</u>	
		Major/Critical	Minor
16.	Searing over stitching	125	
17.	Thread ends not clipped		
	Up to 2 inches		217
	Over 2 inches	126	

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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/Critical	Minor
1.	Length (finished dimensions) Up to 1 percent Over 1 percent	101	201
2.	Incorrect or defective material	102	
3.	Twisted or malformed part	103	
4.	Spacing dimensions Up to 1 percent Over 1 percent	104	202
5.	Loop, up to 2 inches in length Up to 1/8 inch Over 1/8 inch	105	203
6.	Loop, over 2 inches up to 4 inches in length Up to 1/4 inch Over 1/4 inch	106	204
7.	Improper assembly per TDP	107	
8.	Component(s) missing per TDP	108	
9.	Stitching 2 stitches per inch over or under the number specified, up to 4 inches in length 2 stitches per inch over or under the number specified, over 2 inches in length More than 2 stitches per inch over or under the number specified and over 4 inches in length Broken, missing, or skipped stitches over 1/2 inch in length Loops in stitching due to varying thickness of webbings 1/8 to 1/4 inch Over 1/4 inch Stitch pattern length not as specified (stitch patterns up to 5 inches long) Up to 1/8 inch Over 1/8 inch minus	109 110 111  112  113	205    206  207

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TABLE IX. Classification of defects – risers, static lines, bridles, straps, adapter webs, and retainers (other than personnel) - Continued.

No.	Defect	Classification	
		Major/Critical	Minor
	Over 1/8 inch plus		208
	Stitch pattern length not as specified (stitch patterns over 5 inches long)		
	Up to 1/4 inch		209
	Over 1/4 inch minus	114	
	Over 1/4 inch plus		210
	Missing or incomplete stitch pattern (for example, bartack or cross box)	115	
	Runoff, over 1/2 inch in any one place	116	
	Backstitch short		
	Less than 1/4 inch		211
	More than 1/4 inch	117	
	Tension too loose or too tight in any one row		
	Up to 4 inches		212
	Over 4 inches	118	
	Kinks, intermittent, less than 2 inches apart		213
10.	Ends of webbing, tape, and cord not seared, waxed, scissor cut or serged as specified		214
11.	Identification marking illegible, incorrect or missing		215
12.	Dark identification threads not removed or markings not yellow (for special weapon parachute systems other than those identified as training units)	119	
13.	Materials unclean	120	
14.	Searing over stitching	121	
15.	Thread ends not clipped		
	Up to 2 inches		216
	Over 2 inches	122	

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TABLE X. Classification of defects – personnel parachute, integrated pack and harness - Continued.

No.	Defect	Classification	
		Major/Critical	Minor
1.	Incorrect or defective material	101	
2.	Seam folding Improperly formed seam or hem exposing raw edge of fabric	102	
3.	Binding tapes Splicing of binding tape raw edge not turned under 1/4 inch		201
	End of binding tape improperly finished		202
	Corners of binding tape improperly formed, fold not stitched down		203
4.	Grommet, cones and snap fasteners Spacing 1/16 to 1/8 inch		204
	Over 1/8 inch	103	
	Loose, broken or sharp edges	104	
	Improper method of installation (for example, base hole in fabric too large)	105	
	Location of lift-a-dot less than 10 degrees		205
	Location of lift-a-dot more than 10 degrees	106	
5.	Slide fasteners installed wrong side out	107	
	Opens in wrong direction	108	
6.	Loop, up to 2 inches in length Up to 1/8 inch		206
	Over 1/8 inch	109	
7.	Loop, over 2 inches in length Up to 3/16 inch		207
	Over 3/16 inch	110	
8.	Location of deployment gun attachment point Up to 1/16 inch		208
	Over 1/16 inch	111	
9.	Location of clevis assembly on flap Up to 1/32 inch		209
	Over 1/32 inch	112	

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TABLE X. Classification of defects – personnel parachute, integrated pack and harness - Continued.

No.	Defect	Classification	
		Major/Critical	Minor
10.	Location of rip cord housing clamp Up to 1/16 inch Over 1/16 inch	113	210
11.	Holes, darns and repairs (bag, flap or pad) Hole over 1/8 inch in diameter 3 holes under 1/16 inch More than 3 holes More than 4 darns or repairs, any size 1 darn or repair 1/4 inch to 1/2 inch Darns or repairs over 1/2 inch	114 115 116 117	211 212
12.	Ends of webbing, tape, and cord not seared, waxed, scissor cut or serged as specified Used as reinforcement and binding Used in harness webbing, chest and leg straps	118	213
13.	Variation in length of leg straps Up to 1 inch Over 1 inch	119	214
14.	Item of hardware missing	120	
15.	Twisted chest or leg straps	121	
16.	Lanyard length Up to 1/4 inch Over 1/4 inch	122	215
17.	Stitching 1 stitch per inch over or under the number specified, up to 2 inches in length 1 stitch per inch over or under the number specified, over 2 inches in length More than 1 stitch per inch over or under the number specified and over 2 inches in length Broken, missing, or skipped stitches up to 1/2 inch in any one place NOTE: None permitted in risers or leg and chest straps.	123 124	216 217

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TABLE X. Classification of defects – personnel parachute, integrated pack and harness - Continued.

No.	Defect	Classification	
		Major/Critical	Minor
	NOTE: Broken stitches caused by needle penetrations by an over stitching pattern (for example, cross box or bartack) will not be scored as defects.		
	Loops in stitching due to stitching over varying thickness of webbings		
	3/16 to 3/8 inch		218
	Over 3/8 inch	125	
	Missing or incomplete stitch pattern (for example, bartack or cross box)	126	
	Runoff, 2 or more stitches off webbing	127	
	Missing backstitch	128	
	Backstitch short		219
	Tension too loose or too tight in any one row		
	Up to 2 inches		220
	Over 2 inches	129	
	Kinks, intermittent, less than 2 inches apart		221
	Stitch pattern length not as specified (stitch patterns up to 5 inches long)		
	Up to 1/8 inch		222
	Over 1/8 inch minus	130	
	Over 1/8 inch plus		223
	Stitch pattern length not as specified (stitch patterns over 5 inches long)		
	Up to 1/4 inch		224
	Over 1/4 inch minus	131	
	Over 1/4 inch plus		225
18.	Needle damage (cuts or chews)		
	1 cut warp end		226
	More than 1 cut warp end	132	
	Damage to filling thread over 3/8 inch	133	
	NOTE: Damage to more than 1 fill thread not allowed in risers or leg and chest straps.		
19.	Repairs		
	Broken or missing stitching not reinforced by restitching	134	
	NOTE: Repairs in risers and leg straps not permitted.		
20.	Improper assembly per TDP	135	
21.	Component(s) missing per TDP	136	

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TABLE X. Classification of defects – personnel parachute, integrated pack and harness - Continued.

No.	Defect	Classification	
		Major/Critical	Minor
22.	Identification marking illegible, incorrect or missing		227
23.	Searing over stitching	137	
24.	Thread ends not trimmed		228
	Up to 2 inches		229
	Over 2 inches	138	



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TABLE XI. Classification of defects – canopies: square, gliding type – main and reserve.

No.	Defect	Classification	
		Major/Critical	Minor
1.	Component(s) missing per TDP	101	
2.	Improper assembly per TDP	102	
3.	Improper cascade continuity and suspension line routing continuity		
	1 line		201
	2 or more lines	103	
	Lines 4 or 5, A and B cascade not running from link to lower surface without interface	104	
4.	Assembly of grommets		
	Improperly set, 2 or more exposed teeth (except where grommet is set as specified but is in an area of unequal thickness that prevents uniform clinching)	105	
	Clinched loosely, allowing grommet to rotate in hole	106	
	Clinched excessively tight, cutting fabric	107	
	Insecurely clinched, where grommet or washer may become disengaged	108	
	Roll of grommet contains splits, burrs or sharp edges	109	
5.	Seams not constructed as specified		
	1 seam		202
	2 seams	110	
	Raw edge exposed		111
	Open seam	112	
	NOTE: Seams will be classified as open when one or more stitches joining a seam are broken or when 2 or more skipped stitches occur. Conditions repaired by either restitching or over stitching as specified will not be scored as a defect.		
6.	Cut, frayed or damaged suspension lines	113	
7.	Twisted suspension line between canopy and cascade		
	Over 180 degrees to 360 degrees		203
	Over 360 degrees	114	
8.	Twisted suspension line between cascade and connector		
	Over 180 degrees to 360 degrees		204
	Over 360 degrees	115	

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TABLE XI. Classification of defects – canopies: square, gliding type – main and reserve - Continued.

No.	Defect	Classification	
		Major/Critical	Minor
9.	Twisted suspension line between canopy and connector Over 180 degrees to 360 degrees Over 360 degrees	116	205
10.	Twisted control line between canopy trailing edge and upper cascade Over 180 degrees to 360 degrees Over 360 degrees	117	206
11.	Twisted control line between upper and lower cascade over 90 degrees	118	
12.	Twisted control line, between lower cascade and loop (per TDP) Over 180 degrees to 360 degrees Over 360 degrees	119	207
13.	Reinforcement tape on ribs Take-up more than 1/4 inch	120	
14.	Reinforcement tape and suspension line tape, rib panel connection Missing Improperly attached NOTE: The cross box stitch used to secure the reinforcement tape within the seam shall not cross the primary row of double needle seam stitching. The primary row of stitching shall be understood as the immediate stressed row when load is placed upon the seam.	121 122	
15.	Heat sear of cross port vent holes improperly formed 1 per rib More than 6 per canopy	123	208
16.	Splicing On canopy fabric Webbing or tape	124	209
17.	Stitching Bartack stitching not as specified in applicable drawing 301 and 308 stitching not in accordance with ASTM D 6193 More than 1 stitch per inch over or under the number specified	125	

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TABLE XI. Classification of defects – canopies: square, gliding type – main and reserve - Continued.

No.	Defect	Classification	
		Major/Critical	Minor
	Up to 2 inches		210
	Over 2 inches	126	
	Broken or missing stitching	127	
	2 or more consecutive skipped stitches	128	
	Missing of incomplete stitch pattern (for example, bartacks or cross box)	129	
	Backstitch missing	130	
	Backstitch short		
	Less than 1/4 inch		211
	More than 1/4 inch	131	
18.	Runoff, 2 or more stitches into single cloth or beyond seam or hem margins	132	
19.	Tension too loose or too tight, up to 3 inches per seam	133	
20.	Tension too loose or too tight, over 3 inches per seam		212
21.	Kinks, intermittent, less than 2 inches apart		213
22.	Stitch pattern lengths not in accordance with ASTM D 6193 or applicable drawing	134	
23.	Defective stitching repaired incorrectly	135	
24.	Frequency of repairs to stitching exceeding specified limits	136	
25.	Needle damage (cuts or chews)		
	Up to 1/8 inch long and 1 per canopy		214
	Over 1/8 inch long or more than 1 per canopy	137	
26.	Holes (except necessary drill holes), cuts, and tears	138	
27.	Darns		
	More than specified		215
	On slider		216
28.	Ends of webbing, tape, and cord not seared, waxed, scissor cut or serged as specified		217
29.	Identification marking illegible, incorrect or missing		218

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TABLE XI. Classification of defects – canopies: square, gliding type – main and reserve - Continued.

No.	Defect	Classification	
		Major/Critical	Minor
30.	Incorrect or defective material	139	
31.	Material unclean	140	
32.	Searing over stitching	141	
33.	Thread ends not clipped		
	Up to 2 inches		219
	Over 2 inches	142	
34.	Dimension out of tolerance	143	
35.	Canopy out of trim more than		
	±1/2 inch, A to B line	144	
	±1/2 inch, B to C line	145	
	±1/2 inch, C to D line	146	
	±1 inch, D to tail	147	
	±1 inch on the brake loop setting	148	
36.	Deviation between lengths of suspension lines greater than 1/2 inch	149	
37.	Canopy not within the minimum specified cell standards		
	Full cell width less than 48 inches at the top of the canopy	150	
	Full cell width 7/8 – 2-1/2 inches less than top measurement	151	
	Full span measured over the lower surface shall be within a 17 inch differential of the total 7 cell top width	152	
	NOTE: When measuring the top surface leading edge, the cell should be measured from loaded seam to loaded seam using minimal tension. When measuring the bottom surface, measure from outside loaded seam to outside loaded seam using minimal tension.		

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TABLE XII. Classification of defects – pilot chutes for MC-4 and MIRPS and spring assembly, ejector only.

No.	Defect	Classification	
		Major/Critical	Minor
1.	Assembly of grommets		
	Improperly set, 2 or more exposed teeth (except where grommet is set as specified but is in an area of unequal thickness that prevents uniform clinching)	101	
	Clinched loosely, allowing grommet to rotate in hole	102	
	Clinched excessively tight, cutting fabric	103	
	Insecurely clinched, where grommet or washer may become disengaged	104	
	Roll of grommet contains splits, burrs or sharp edges	105	
2.	Seams not constructed as specified in applicable drawing		
	1 seam		201
	2 seams	106	
	Raw edge exposed	107	
	Open seam	108	
	NOTE: Seams will be classified as open when one or more stitches joining a seam are broken or when two or more stitches occur. Conditions repaired by either restitching or over stitching as specified will not be scored as a defect.		
3.	Pleats exceeding 3/16 inch wide	109	
4.	Stitching		
	Bartack stitching not as specified in applicable drawing	110	
	301 and 308 stitching in accordance with ASTM D 6193		
	More than 1 stitch per inch over or under the number specified		
	Up to 2 inches		202
	Over 2 inches	111	
	Broken or missing stitches	112	
	2 or more consecutive skipped stitches	113	
	Missing or incomplete stitch pattern (for example, bartack or cross box)	114	
	Backstitch missing	115	
	Backstitch short		
	Less than 1/4 inch		203
	More than 1/4 inch	116	

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TABLE XII. Classification of defects – pilot chutes for MC-4 and MIRPS and spring assembly, ejector only - Continued.

No.	Defect	Classification	
		Major/Critical	Minor
	Runoff 2 or more stitches into single cloth or beyond seam or hem margins	117	
	Tension too loose or too tight		
	Up to 3 inches per seam		204
	Over 3 inches per seam	118	
	Kinks, intermittent, less than 2 inches apart		205
	Stitch pattern lengths not as specified	119	
	Defective stitching not repaired correctly or exceeding specified limits	120	
	Frequency of repairs to stitching exceeding specified limits	121	
	Resewn stitch patterns and bartacks exceeding specified limits	122	
5.	Needle damage (cuts or chews)		
	Up to 1/8 inch long and 1 per pilot chute		206
	Over 1/8 inch long and more than 1 per pilot chute	123	
6.	Holes (except necessary drill holes), cuts and tears	124	
7.	Darns, any size	125	
8.	Ends of webbing, tape, and cord not seared, waxed, scissor cut or serged as specified		207
9.	Identification marking illegible, incorrect or missing		208
10.	Incorrect or defective material	126	
11.	Material unclean	127	
12.	Searing over stitching	128	
13.	Improper assembly or missing component per TDP	129	
14.	Spring tension less than required loading per TDP	130	
15.	Spring not hand tacked to pilot chute protection cap	131	
16.	Dimension out of tolerance with applicable drawing and/or specification <sup>132</sup>		

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TABLE XIII. Classification of defects – integrated pack and container (without harness), deployment bag and pocket – MC-4 only.

No.	Defect	Classification	
		Major/Critical	Minor
1.	Assembly of grommets		
	Improperly set, 2 or more exposed teeth (except where grommet is set as specified but is in an area of unequal thickness that prevents uniform clinching)	101	
	Clinched loosely, allowing grommet to rotate in hole	102	
	Clinched excessively tight, cutting fabric	103	
	Insecurely clinched, where grommet or washer may become disengaged	104	
	Roll of grommet contains splits, burrs or sharp edges	105	
2.	Seams not constructed as specified in applicable drawing		
	1 seam		201
	2 seams	106	
	Raw edge exposed	107	
	Open seam	108	
	NOTE: Seams will be classified as open when one or more stitches joining a seam are broken or when two or more stitches occur. Conditions repaired by either restitching or overstitching as specified will not be scored as a defect.		
3.	Pleats exceeding 1/16 inch in width		202
4.	Stitching		
	Bartack stitching not as specified in applicable drawing	109	
	301 and 308 stitching not in accordance with ASTM D 6193		
	More than 1 stitch per inch over or under the number specified		
	Up to 2 inches		203
	Over 2 inches	110	
	Broken or missing stitches	111	
	2 or more consecutive skipped stitches	112	
	Missing or incomplete stitch pattern (for example, bartack or cross box)	113	
	Backstitch missing	114	
	Backstitch short		
	Less than 1/4 inch		204
	More than 1/4 inch	115	
	Runoff, 2 or more stitches into single cloth or beyond seam or hem margins	116	
	Tension too loose or too tight		

## MIL-STD-849B

TABLE XIII. Classification of defects – integrated pack and container (without harness), deployment bag and pocket – MC-4 only - Continued.

No.	Defect	Classification	
		Major/Critical	Minor
	Up to 3 inches per seam		205
	Over 3 inches per seam	117	
	Kinks, intermittent, less than 2 inches apart		206
	Stitch pattern lengths not in accordance with ASTM D 6193		
	or applicable drawing	118	
	Defective stitching not repaired correctly or exceeding specified limits	119	
	Frequency of repairs to stitching exceeding specified limits	120	
	Repaired stitch patterns and bartacks exceeding specified limits	121	
5.	Needle damage (cuts or chews)		
	Up to 1/4 inch long and 1 per pack and container		207
6.	Holes (except necessary drill holes), cuts, tears and darns	122	
7.	Ends of webbing, tape, and cord not seared, waxed, scissor cut or serged as specified		208
8.	Identification marking illegible, incorrect or missing		209
9.	Incorrect or defective material	123	
10.	Material unclean	124	
11.	Searing over stitching	125	
12.	Thread ends not clipped		
	Up to 2 inches		210
	Over 2 inches	126	
13.	Improper assembly per TDP	127	
14.	Component(s) missing per TDP	128	
15.	Snap fasteners		
	Loose, broken or sharp edges	129	
	Improper method of installation	130	
	Base hole in fabric too large	131	



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TABLE XIII. Classification of defects – integrated pack and container (without harness), deployment bag and pocket – MC-4 only - Continued.

No.	Defect	Classification	
		Major/Critical	Minor
16.	Cable assembly improperly attached per TDP	132	
17.	Hook and loop fastener tape (for example, Velcro <sup>®</sup> ) improperly assembled according to drawing or specification	133	
18.	Loop dimension out of tolerance	134	
19.	Dimensions out of tolerance per TDP	135	

## MIL-STD-849B

TABLE XIV. Classification of defects – harness, riser, bridle line, strap, and lanyard – MC-4 only.

No.	Defect	Classification	
		Major/Critical	Minor
1.	Assembly of grommets		
	Improperly set 2 or more exposed teeth (except where grommet is set as specified but is in an area of unequal thickness that prevents uniform clinching)	101	
	Clinched loosely, allowing grommet to rotate in hole	102	
	Clinched excessively tight, cutting fabric	103	
	Insecurely clinched, where grommet or washer may become disengaged	104	
	Roll of grommet contains splits, burrs or sharp edges	105	
2.	Stitching		
	1 stitch per inch over or under the number specified		
	Up to 1 inch		201
	Over 1 inch	106	
	More than 1 stitch per inch over or under the number specified	107	
	Broken or missing stitches	108	
	2 or more consecutive skipped stitches	109	
	Missing or incomplete stitch pattern (for example, bartack or cross box)	110	
	Backstitch missing	111	
	Backstitch short		
	Less than 1/4 inch		202
	More than 1/4 inch	112	
	Tension too loose or too tight	113	
3.	Kinks in stitching		
	Less than 1 inch apart		203
	More than specified	114	
4.	Stitch pattern lengths not in accordance with ASTM D 6193 or applicable drawing	115	
5.	Defective stitching not repaired correctly	116	
6.	Needle damage (cuts or chews)		
	1 cut, warp end		204
	More than 1 cut, warp end	117	
7.	Damage to filling thread over 3/8 inch	118	

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TABLE XIV. Classification of defects – harness, riser, bridle line, strap, and lanyard – MC-4 only - Continued.

No.	Defect	Classification	
		Major/Critical	Minor
NOTE: Damage to more than one fill thread not allowed in risers or leg and chest straps.			
8.	Ends of webbing, tape, and cord not seared, waxed, scissor cut or serged as specified		205
9.	Incorrect or defective material	119	
10.	Material unclean	120	
11.	Searing over stitching	121	
12.	Improper assembly per TDP	122	
13.	Component(s) missing per TDP	123	
14.	Snap fasteners		
	Loose, broken or sharp edges	124	
	Improper method of installation	125	
	Base hole in fabric too large	126	
15.	Loop dimension out of tolerance	127	
16.	Hook and loop fastener tape (for example, Velcro®) improperly assembled according to drawing or specification	128	
17.	More than 1/2 inch difference between overall lengths of riser assembly pairs	129	
18.	Twisted back, chest, or leg strap	130	
19.	Hand stitching of tacking not as specified	131	
20.	Loops in stitching due to stretching over varying thickness of webbing		
	3/16 inch to 3/8 inch		206
	Over 3/8 inch	132	
21.	Dimension out of tolerance	133	

## MIL-STD-849B

TABLE XV. Classification of defects – solid and extended skirt parachute canopies – cargo.

No.	Defect	<u>Classification</u>	
		Major/Critical	Minor
1.	Improper assembly of vent reinforcement band	101	
2.	Vent reinforcement band overlap		
	Up to 1/2 inch minus		201
	Over 1/2 inch minus	102	
	Over 1 inch plus		202
3.	Vent hem outside stitching margin from edge of webbing		
	1/16 to 1/4 inch		203
	Over 1/4 inch	103	
	All rows of stitching not through reinforcement webbing	104	
4.	Vent loop length (finished dimension)		
	Up to 3/4 inch shorter		204
	Over 3/4 inch shorter	105	
	Over 1/2 inch longer	106	
5.	Vent line length (finished dimension)		
	Up to 3/8 inch		205
	Over 3/8 inch	107	
6.	Variation in vent line length per set		
	Up to 1 percent		206
	Over 1 percent	108	
7.	Twisted vent line (flat)		
	Up to 180 degrees		207
	Over 180 degrees	109	
8.	Twisted vent line (core or coreless braid)		
	Over 360 degrees, causing kinks in line when relaxed	110	
9.	Gore width at vent, centerline to centerline on main seam		
	Up to 1/4 inch		208
	Over 1/4 inch	111	
10.	Gore width at skirt, centerline to centerline on main seam		
	Up to 1/2 inch		209
	Over 1/2 inch	112	
11.	Improper type of or improper assembly of cross and main seams	113	

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TABLE XV. Classification of defects – solid and extended skirt parachute canopies – cargo – Continued.

No.	Defect	<u>Classification</u>	
		Major/Critical	Minor
12.	Open seam 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 as a defect.	114	
13.	Underfold (raw edge in main or cross seams)	115	
14.	Overfold in main seam Up to 1/2 inch or extended into center channel Over 1/2 inch	116	210
15.	Underfold in main seam A 4-needle seam not caught by 3 rows of stitches by at least 1/16 inch 3 intermittent underfolds of a 2-needle seam up to 2 inches long and less than 12 inches apart More than 3 intermittent underfolds 1/4 inch wide or over 2 inches long and less than 12 inches apart Underfold more than 6 inches in length	117   118 119	  211
16.	Overfold and underfold in cross seam Underfold 1/8 to 3/16 inch regardless of length Overfold more than 1/4 inch regardless of length		212 213
17.	Fullness in seam width Main seam 1/8 to 1/2 inch Over 1/2 inch Cross seam 1/8 to 1/4 inch Over 1/4 inch	  120  121	214  215

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TABLE XV. Classification of defects – solid and extended skirt parachute canopies – cargo – Continued.

No.	Defect	Classification	
		Major/Critical	Minor
18.	Wrinkles and pleats in cross and main seams		
	Cross seams		
	1/16 to 1/4 inch and 1 per seam		216
	1/16 to 1/4 inch and more than 1 per seam	122	
	1/16 to 1/4 inch and more than 6 per canopy	123	
	Over 1/2 inch	124	
	Main seams (canopies up to 100 feet in diameter)		
	1/16 to 1/4 inch and 1 per seam		217
	1/16 to 1/4 inch and more than 1 per seam	125	
	1/16 to 1/4 inch and more than 6 per canopy	126	
	Over 1/2 inch	127	
19.	Vent and skirt hems improperly formed		
	Raw edge	128	
	Underfold where edge is caught with 1 row of stitching		218
20.	Vent hem fold over main seam around webbing not straight		219
21.	Matching of centerlines of seams when folded		
	1/8 to 1/4 inch		220
	Over 1/4 inch	129	
22.	Wrinkles, pleats, or folds in skirt and vent hems that do not extend into the gore fabric		
	1/16 to 1/4 inch and up to 2 per gore		221
	Over 1/4 inch and more than 2 per gore	130	
	Over 1/4 inch and more than 12 per canopy up to 65 feet	131	
	Over 1/4 inch and more than 18 per canopy over 65 feet	132	
23.	Wrinkles, pleats or folds in skirt and vent hems extending into gore fabric		
	1/16 to 1/4 inch and up to 2 per gore		222
	Over 1/4 inch and more than 2 per gore	133	
	Over 1/4 inch and more than 12 per canopy over 65 feet in diameter	134	
	Over 1/4 inch and more than 18 per canopy over 65 feet in diameter	135	
	Over 1/2 inch	136	
24.	Skirt hem outside stitching margin from edge of webbing		
	1/16 to 1/4 inch		223

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TABLE XV. Classification of defects – solid and extended skirt parachute canopies – cargo – Continued.

No.	Defect	<u>Classification</u>	
		Major/Critical	Minor
	Over 1/4 inch	137	
	Rows of stitching not through skirt band webbing	138	
25.	Overfold of main seam around skirt webbing not straight		224
26.	Matching of centerline of seams when folded		
	1/8 inch to 1/4 inch		225
	Over 1/4 inch	139	
27.	Tape or webbing used to form skirt hem does not extend across a minimum of 1 gore	140	
28.	Tucks, where section of gore fabric caught in stitching of seams or hems		
	Up to 1/4 inch wide and up to 1-1/2 inch long		226
	Over 1/4 inch wide regardless of length	141	
	Over 1-1/2 inch long regardless of width	142	
29.	Mismatching of cross seams		
	First seam from vent over 2-1/2 inches and up to 3 inches		227
	First seam from vent over 3 inches	143	
	All other seams over 3 inches and up to 3-1/2 inches		228
	All other seams over 3-1/2 inches	144	
30.	Vent lines out of sequence	145	
31.	Suspension and vent line overlap on canopy		
	Up to 1/4 inch minus		229
	Over 1/4 inch minus	146	
	Over 1 inch plus		230
32.	Suspension lines not in proper channel or lines crossed	147	
33.	Cut, frayed, or damaged suspension or vent lines	148	
34.	Variation in suspension line length per set, between vent and skirt		
	Up to 1/2 percent		231
	Over 1/2 percent	149	
35.	Variation in suspension line length between vent and skirt		

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TABLE XV. Classification of defects – solid and extended skirt parachute canopies – cargo – Continued.

No.	Defect	Classification	
		Major/Critical	Minor
	Up to 1 percent		232
	Over 1 percent	150	
36.	Twisted suspension line between vent and skirt (flat)		
	In channel, up to 360 degrees		233
	In channel, over 360 degrees	151	
37.	Twisted suspension line between vent and skirt (core or coreless braid)		
	In channel, 720 degrees		234
	In channel, any twist causing kinks in line	152	
38.	Twist between line reinforcement at skirt and 3-inch zigzag 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 zigzag stitching)		
	90 to 180 degrees		235
	Over 180 degrees	153	
	Line not placed between 2 plys of material	154	
39.	Variation in suspension line length between skirt and attaching point		
	Up to 1 percent		236
	Over 1 percent	155	
40.	Variation in suspension line length per set between skirt and attaching point		
	Up to 1/2 percent		237
	Over 1/2 percent	156	
41.	Twisted suspension line between skirt and attaching point (flat), except hem rigged canopy	157	
42.	Twisted suspension line (flat), hem rigged canopy		
	180 to 360 degrees		238
	Over 360 degrees	158	
43.	Twisted suspension line between skirt and attaching point, core and coreless braid		
	Over 360 degrees		239



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TABLE XV. Classification of defects – solid and extended skirt parachute canopies – cargo – Continued.

No.	Defect	Classification	
		Major/Critical	Minor
	Over 360 degrees causing kinks in the line	159	
44.	Stitching on canopy		
	1 stitch per inch over or under the number specified, up to 2 inches long and one place per seam (size 3 through 6 thread)		240
	1 stitch per inch over or under the number specified, over 2 inches long (size 3 through 6 thread)	160	
	More than 1 stitch per inch over or under the number of stitches specified (size 3 through 6 thread)	161	
	2 stitches per inch over or under the number specified, up to 2 inches long and one place per seam (size B through FF thread)		241
	2 stitches per inch over or under the number specified, over 2 inches long (size B through FF thread)	162	
	More than 2 stitches per inch over or under number of stitches specified (size B through FF thread)	163	
	NOTE: For B or E size thread only, up to 14 stitches per inch, type 301 or 401 stitches in accordance with ASTM D 6193, 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 less than 12 inches apart, shall be classified a major defect.		
	NOTE: When a double thickness or more 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 specification forbids repair to defective stitching, it shall be classified as a major defect.		
	Broken or missing stitches		
	Up to 1/2 inch		242
	Over 1/2 inch	164	
	2 or more consecutive skipped stitches	165	
	Missing or incomplete stitch pattern (for example, bartack or zigzag)	166	
	Backstitch missing	167	
	Backstitch short		

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TABLE XV. Classification of defects – solid and extended skirt parachute canopies – cargo – Continued.

No.	Defect	<u>Classification</u>	
		Major/Critical	Minor
	Less than 1/2 inch		243
	More than 1/2 inch	168	
	Runoff, 2 or more stitches into single cloth or beyond seam or hem margins		
	Up to 1/2 inch		244
	Over 1/2 inch	169	
	Zigzag stitches with less than 85 percent penetration through suspension lines	170	
	Tension too loose or too tight, up to 6 inches per seam		245
	Tension too loose or too tight, over 6 inches per seam	171	
	Kinks, intermittent, less than 2 inches apart		246
	Stitch pattern lengths not as specified (stitch patterns up to 5 inches long)		
	Up to 1/8 inch minus		247
	Over 1/8 inch minus	172	
	Over 1/4 inch plus		248
	Stitch pattern lengths not as specified (stitch patterns over 5 inches long)		
	Up to 1/4 inch minus		249
	Over 1/4 inch minus	173	
	Over 1/2 inch plus		250
45.	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 as a major defect	174	
	<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 inches	1 per 100 inches
46.	Length of splices and repairs to stitches		
	Overlap less than 2 inches	175	
	Overlap from 4 inches to 7 inches		251
	Overlap more than 7 inches	176	

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TABLE XV. Classification of defects – solid and extended skirt parachute canopies – cargo – Continued.

No.	Defect	Classification	
		Major/Critical	Minor
47.	Needle damage (cuts or chews)		
	Up to 1/4 inch long and 2 per canopy up to 35 feet in diameter		252
	Over 1/4 inch long or more than 2 per canopy up to 35 feet in diameter	177	
	Up to 1/4 inch long and 4 per canopy 35 feet in diameter and over		253
	Over 1/4 inch long or more than 4 per canopy 35 feet in diameter and over	178	
48.	Holes, darns and repairs		
	Holes up to 1/4 inch in diameter or up to 1-1/2 inch long		254
	Holes over 1/4 inch in diameter or up to 1-1/2 inch long	179	
	Darns, more than 2 per section	180	
	Darns, more than 5 per canopy up to 50 feet in diameter	181	
	Darns, more than 10 per canopy from 50 feet in diameter up to 75 feet in diameter	182	
	Darns, more than 15 per canopy over 75 feet in diameter	183	
	Repair (sewn patch) of a maximum damaged area size of 7 X 7 inches, 1 per canopy		255
49.	Ends of webbing, tape, and cord not seared, waxed, scissor cut or serged as specified		256
50.	Pocket band free length		
	Up to 1/4 inch		257
	Over 1/4 inch	184	
51.	Pocket depth, centerline from main seam to stitch pattern on skirt band		
	Up to 1/4 inch		258
	Over 1/4 inch	185	
52.	Suspension line attaching loop, up to 2 inches in length		
	Up to 1/4 inch		259
	Over 1/4 inch	186	
53.	Suspension line attaching loop, 2 to 4 inches in length		
	Up to 3/8 inch		260
	Over 3/8 inch	187	
54.	Location of reefing line cutter bracket from edge of skirt		

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TABLE XV. Classification of defects – solid and extended skirt parachute canopies – cargo – Continued.

No.	Defect	<u>Classification</u>	
		Major/Critical	Minor
	Up to 1/4 inch		261
	Over 1/4 inch	188	
55.	Improper assembly or component missing per TDP	189	
56.	Identification marking illegible, incorrect or missing		262
57.	Incorrect or defective material	190	
58.	Material unclean	191	
59.	Searing over stitching	192	
60.	Thread ends not clipped		
	Up to 2 inches		263
	Over 2 inches	193	
61.	Twisted riser webbing (assembly to links)		
	Up to 180 degrees, up to 10 foot web length		264
	Over 180 degrees, up to 10 foot web length	194	
	180 to 360 degrees, over 10 foot web length		265
	Over 360 degrees, over 10 foot web length	195	
62.	Riser webbing length		
	Up to 1 percent		266
	Over 1 percent	196	

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TABLE XVI. Classification of defects – low cost aerial delivery system (LCADS): High Velocity (HV), Spider Parachute.

No.	Defect	<u>Classification</u>	
		Major/Critical	Minor
1.	Incorrect or defective material	101	
2.	Improper assembly per TDP	102	
3.	Component missing per TDP	103	
4.	Deployment bag data-block identification marking illegible, incorrect or missing	104	
5.	All other parachute marking illegible, incorrect or missing.		201
6.	Suspension line sleeve fold not captured by all rows of Stitching		202
7.	Suspension lines		
	Not routed through the sleeve correctly	105	
	Securing knot incorrect (not applicable to running end knots)	106	
	Crossed	107	
	Cut, frayed or damaged	108	
8.	Bridle not properly attached to canopy	109	
9.	Raw edges of material not seared when required by the TDP		203
10.	Parachute not packed in accordance with TDP	110	
11.	Slider routed improperly	111	
12.	Line Spreader routed improperly	112	
13.	Slider- Grommets		
	Loose, broken or sharp edges	113	
	Improper method of installation (for example, base hole in fabric too large)	114	
14.	Stitching -canopy		
	Broken, skipped, or missing stitches up to 13 1/2 inches, excluding sleeve		204

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TABLE XVI. Classification of defects – low cost aerial delivery system (LCADS): High Velocity (HV), Spider Parachute - Continued.

No.	Defect	<u>Classification</u>	
		Major/Critical	Minor
	Broken, skipped or missing stitching over 13 1/2 inches, excluding sleeve	115	
	Broken, skipped, or missing stitches up to 1 inch, sleeve only		205
	Broken, skipped or missing stitching over 1 inch, sleeve only	116	
15.	Stitching –bridle, deployment bag, static line, slider, line spreader		
	Missing stitches under 1/2 inch in length.		206
	Missing stitches over 1/2 inch in length.	117	
	Broken, looped, kinked or skipped stitches under 1 inch in length.		207
	Broken, looped, kinked or skipped stitches over 1 inch in length.	118	
	Missing stitch pattern (for example, bartack or cross box)	119	
16.	Thread ends not clipped		208
	Up to 2 inches		209
	Over 2 inches	120	

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TABLE XVII. Classification of defects – low cost aerial delivery system (LCADS): Low Velocity (LV), BAT Parachute.

No.	Defect	<u>Classification</u>	
		Major/Critical	Minor
1.	Incorrect or defective material	101	
2.	Improper assembly per TDP	102	
3.	Component missing per TDP	103	
4.	Deployment bag data-block identification marking illegible, incorrect or missing	104	
5.	All other parachute marking illegible, incorrect or missing		201
6.	Suspension line sleeve fold not captured by all rows of stitching		202
7.	Suspension lines		
	Not routed through the sleeve correctly	105	
	Securing double cinch knot missing or incorrect (not applicable to running end knots)	106	
	Crossed	107	
	Cut, frayed or damaged	108	
	Suspension lines not spliced correctly per TDP	109	
	Suspension lines not spliced with a 6 braid minimum and/or connector link not attached per TDP	110	
8.	Snap Connector		
	Not passing proof load test	111	
	Burrs and sharp edges	112	
9.	Deployment bag Ring		
	Not passing proof load	113	
	Burrs and sharp edges	114	
10.	Bridle not properly attached to canopy.	115	
11.	Raw edges of material not seared where required by the TDP.		203
12.	Parachute not packed in accordance with TDP.	116	
13.	Stitching-canopy		
	Broken, skipped or missing stitches up to 27 inches,		

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TABLE XVII. Classification of defects – low cost aerial delivery system (LCADS): Low Velocity (LV), BAT Parachute – Continued.

No.	Defect	<u>Classification</u>	
		Major/Critical	Minor
	excluding sleeve.		204
	Broken, skipped or missing stitching over 27 inches, excluding sleeve.	117	
	Broken, skipped or missing stitches up to 1 inch, sleeve only.		205
	Broken, skipped or missing stitching over 1 inch, sleeve only.	118	
14.	Stitching –bridle, deployment bag, static line		
	Missing stitches under ½ inch in length.		206
	Missing stitches over ½ inch in length.	119	
	Broken, looped, kinked or skipped stitches under 1 inch in length.		207
	Broken, looped, kinked or skipped stitches over 1 inch in length.	120	
	Missing stitch pattern (for example, bartack or cross box).	121	
15.	Thread ends not clipped		
	Up to 2 inches		208
	Over 2 inches	122	



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TABLE XVIII. Classification of defects – low cost low altitude aerial delivery system (LCLA):  
Stalker, Cross Parachute System Assembly.

No.	Defect	<u>Classification</u>	
		Major/Critical	Minor
1.	Incorrect or defective material	101	
2.	Improper assembly per TDP	102	
3.	Component missing per TDP	103	
4.	Deployment bag data block identification illegible, incorrect or missing		201
5.	Canopy anchor loop not tied or knotted incorrectly	104	
6.	Suspension lines		
	Securing knot incorrect (not applicable to running end knots)- more than 2 lines not secured properly	105	
	Line grouping tape location up to 2" out of tolerance, per TDP		202
	Line grouping tape location over 2" out of tolerance, per TDP	106	
	Location of tape securing all lines, up to 2" out of tolerance, per TDP		203
	Location of tape securing all lines, over 2" out of tolerance, per TDP	107	
	Crossed	108	
	Cut, frayed or damaged	109	
7.	Static line knotted incorrectly at deployment bag end	110	
8.	Static line knotted incorrectly at anchor line cable end		204
9.	Strap Assembly		
	Overall length of strap less than 186"	111	
10.	Raw edges of material not fused when required by the TDP		205
11.	Adapter quick fit		
	Proof load	112	
	Burrs and sharp edges	113	

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TABLE XVIII. Classification of defects – low cost low altitude aerial delivery system (LCLA):  
Stalker, Cross Parachute System Assembly - Continued.

No.	Defect	<u>Classification</u>	
		Major/Critical	Minor
12.	Parachute not packed in accordance with TDP	114	
13.	Stitching -canopy		
	Broken, skipped, or missing stitches up to 10 inches		206
	Broken, skipped or missing stitching over 10 inches	115	
14.	Stitching – deployment bag, static line, strap assembly		
	Missing stitches under ½ inch in length.		207
	Missing stitches over ½ inch in length.	116	
	Broken, looped, kinked or skipped stitches under 1 inch in length.		208
	Broken, looped, kinked or skipped stitches over 1 inch in length.	117	
	Missing stitch pattern (for example, bartack or 4-pt W)	118	
15.	Thread ends not clipped		
	Up to 2 inches		209
	Over 2 inches	119	

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TABLE XIX. Classification of defects – Low Cost Container (LCC).

No.	Defect	<u>Classification</u>	
		Major/Critical	Minor
1.	Improper assembly per TDP	101	
2.	Not in accordance to MIL-DTL-75541	102	
3.	Thread ends not clipped		
	Up to 2 inches		201
	Over 2 inches	103	

Custodians:  
Army - GL  
Navy - AS  
Air Force - 11

Preparing activity:  
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Army - AV, TE  
Navy - MC

NOTE: The activities listed above were interested in this document as of the date of this document. Since organizations and responsibilities can change, you should verify the currency of the information above using the ASSIST Online database at <http://assist.daps.dla.mil>.