WORKMANSHIP STANDARD MANUAL

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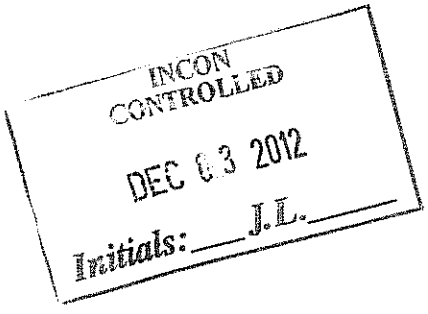
A	8781	Initial Release	JPL	2/18/04
B	9024	Revised	JPL	9/22/04
C	9063	Revised	JPL	12/01/04
D	9271	Revised	JPL	9/23/05



1.0 Scope

1.1 To define Workmanship Standards for the acceptance of material at Receiving, In-Process, and Final Inspection.

1.2 To define Workmanship Standards so that Quality can properly accept and/or reject material to a standard system.

2.0 Reference Documents

2.1	QAM-001	Quality Assurance Manual
2.2	QAS-011	Receiving, In-Process, and Final Inspection Procedure
2.3	ISO 9000	Quality System Model
2.4	AS 9100	Quality System Aerospace

3.0 Responsibilities

3.1 It is the responsibility of Quality to ensure compliance to this procedure. All procedures and documentation must be utilized so that the proper monitoring and evaluation can be performed and information and data input/output can be used to improve the system.

3.2 Quality is responsible to ensure that this procedure is used and maintained.

4.0 Definitions

4.1 Workmanship Standard- A set of Quality requirements to ensure compliance. The standard is used so that Quality related information is known and that Quality can make sound decisions based on the Workmanship Standard.

5.0 Procedure

5.1 Molding

5.1.1 Blister/Bubbles

5.1.1.1 Definition: Raised area on a continuous surface usually caused by an internal void, trapped globule or air and other gases

5.1.1.2 Incon Requirements:

5.1.2.1 Inspect part dimensionally

5.1.2.2 Blister/bubble is acceptable if .100" diameter or less.

5.1.2.3 No more than one (1) blister/bubble per body.

5.2 Build-up

5.2.1 Definition: Small bump or glob of material that results from worn or damaged areas of core pins and/or mold surfaces. This condition would appear on all parts in the same place.

5.2.2 Incon Requirements

5.2.2.1 Build-up is allowed as long as no dimensional requirements are violated.

5.3 Burn Out/Degas/Discoloration

5.3.1 Definition: Shows evidence of burning and discoloration and/or porosity on the surface of the material caused by trapped gas in an improperly vented mold. Usually occurs on edge opposite the gated side of the part.

5.3.2 Incon Requirements

5.3.2.1 None allowed.

5.4 Chips

5.4.1 Definition: Total separation of pieces of material from the outer surfaces of the molded component. Can be caused by improper handling and usually involves an outside edge.

5.4.2 Incon Requirements

5.4.2.1 Chips greater than .040" long by .040" wide and by .030" deep are unacceptable, unless otherwise specified by Engineering and/or Quality. Chips shall not effect the form, fit, or funcion of the connector.

5.5 Molded-in Contamination

5.5.1 Definition: Any type of residue, foreign material or dirt imbedded in the material.

5.5.2 Incon Requirement

5.5.2.1 None Allowed.

5.6 Cracks/Damaged Bodies

5.6.1 Definition: Actual fracture, separation, or split in the surface of the material. Can be caused by improper handling, strain on ejection, other improper mold conditions, or connector processing.

5.6.2 Incon Requirements

5.6.2.1 None on unassembled components

5.6.2.2 On right angle connectors where crack appears in the area of castellation, minor cracks acceptable provided connector has been epoxied and cured and no other defects are noted.

5.7 Crazing

5.7.1 Definition: Fine cracks or stress marks that may extend in a network on the surface of the material.

5.7.2 Incon Requirements

5.7.2.1 None allowed.

5.8 Dirty Parts

5.8.1 Definition: Contamination due to improper cleaning, i.e. oil, dust, flakes and deflash media.

5.8.2 Incon Requirements

5.8.2.1 None allowed.

5.9 Drag Marks

5.9.1 Definition: A scrape mark on the molded body surface occurring when the molded body is removed from the mold. Usually found on the sides of the part and is found in the same place on most or all of the parts.

5.9.2 Incon Requirements

5.9.2.1 Drag marks that effect form, fit, or function of the connector will not be acceptable. See Section 8.1

5.10 Surface Finish

5.10.1 Definition: Color & surface condition as referenced on the component drawing.

5.10.2 Incon Requirements

5.10.2.1 Uniform in color and finish except for the gate removal area as described in the appropriate component drawing.

5.11 Flash

5.11.1 Definition: A thin wall of material usually found across holes and at mold parting and/or witness lines. Can be caused by incomplete closure of the mold or from mold wear and is usually found on most of all parts in the same place.

5.11.2 Incon Requirements

5.11.2.1 Flash that effects form, fit, or function of the connector shall be removed. Flash that effects the assembly of the connector shall be removed. See Section 9.3

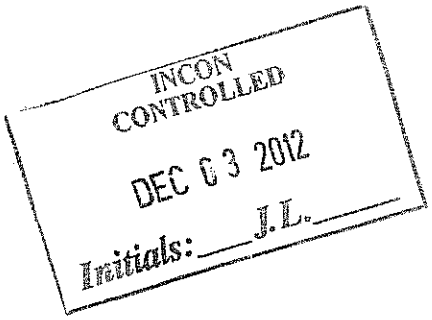
5.12 Gate (Broken out or incompletely removed)

5.12.1 Definition: This condition exists on edge gated parts when material extends from and/or is broken away below the contour of the surface in the gate area usually caused by improper removal from the cull or by improper snag (degating) operation. On tunnel gated parts, it is a protrusion or recess at the gate location.

5.12.2 Incon Requirements

5.12.2.1 Gate protrusion remaining shall not cause violation of the maximum specified length or width of the molded part.

5.12.2.2 Internal gate breakout is not to exceed a depth of .020" within a surface area on the body of .100" diameter.



5.13 Improper Identification

5.13.1 Definition: This condition exists if the product in the container is not the same product as identified on the route slip.

5.13.2 Incon Requirements

5.13.2.1 Process sheet must be included within each lot container. Included on the process sheet, at a minimum, must be the molded component part number, mold date, quantity, and QC accept stamp. This data may be hand written but must be legible.

5.13.2.2 Copies of any rejections or deviations applying to each lot must be included in each lot container.

5.14 Knit Line

5.14.1 Definition: Marks formed by incomplete union of two or more streams of material flowing together. This condition does not follow parting or witness lines.

5.14.2 Incon Requirements

5.14.2.1 No recessed or indented knit lines allowed.

5.15 Parting and/or Witness Lines

5.15.1 Definition: Joining lines between mold segments or halves.

5.15.2 Incon Requirements

5.15.2.1 Must not cause part to exceed any dimensional specification.

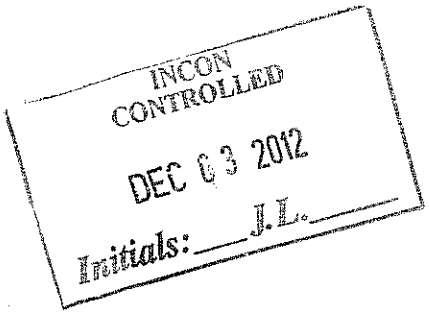
5.16 Knockout

5.16.1 Definition: Knockout (KO) pin marks usually rise above the surface of the material. This condition is usually caused by a broken, worn, or improperly set KO pin in the mold and is found of most or all parts in the same place.

5.16.2 Incon Requirements

5.16.2.1 Maximum raised KO condition must not violate overall maximum part dimensions.

5.16.2.2 Indented KO condition must not violate overall minimum part dimensions.



5.17 Lack of Material (LOM)

5.17.1 Definition: Any under filled area that does not take the finished form of the mold. This condition is caused by molding conditions and usually occurs on an edge or thin section of the part.

5.17.2 Incon Requirements

5.17.2.1 Pour fill in excess of .030" wide by .020" long or .015" deep in any area of the body is unacceptable excepted as noted in 5.17.2.3.

5.17.2.2 LOM not in excess of the above will be allowed in two areas of any body

5.17.2.3 LOM in the area of the hex hole on right angle bodies can be .030" wide down to the depth of the counterbore (.020" maximum).

5.18 Mixed Parts

5.18.1 Definition: Occurs when a different dash number (size) of the product on the process sheet or different product are packed in the same container.

5.18.2 Incon Requirements

5.18.2.1 None allowed.

5.19 Pit

5.19.1 Definition: Small regular or irregular crater in the surface of a molded part usually with its width approximately equal to its depth. It is generally found along the inside of a contact or hardware hole on the side of the hole away from the gate.

5.19.2 Incon Requirements

5.19.2.1 No more than one (1) per part and shall not provide an opening to any feature i.e. adjacent contact hole or outside part.

5.20 Porosity

5.20.1 Definition: Presence of numerous visible holes in the surface of the molded body.

5.20.2 Incon Requirements

5.20.2.1 No greater in area than .030" diameter and no more than one (1) area per body.

5.21 Sink Marks

5.21.1 Definition: A shallow depression on the surface of a molded body usually caused by internal shrinkage or collapsing of the surface after gate seals and usually occurs at the same place on most or all parts.

5.21.2 Incon Requirements

5.21.2.1 Sink marks on a flat surface in thick sections of parts that do not exceed .010" deep are acceptable.

5.22 Edge Damage on Assembled Connectors

5.22.1 Definition: The normal square edge of the body and c-clip surface is broken away or chipped.

5.22.2 Incon Requirements

5.22.2.1 Allowed when the edge is broken or chipped away to a maximum depth of .010" front to back the full width of the opening between the barriers.

5.23 Tweezers/clip Removal Mark (Assembled Connectors)

5.23.1 Definition: One or more heavy scratches in the body material in the c-clip area between the barriers, usually caused during rework on assembled c-clipped connectors.

5.23.2 Incon Requirements

5.23.2.1 Allowed if the scratch is confined to the c-clip area. Scratches should not exceed .020" in width and no body material has been pushed up under the c-clip or extends above the surface of the clip.

5.24 Broken or Damaged Barriers (Assembled Connectors)

5.24.1 Definition: The end of the barrier is broken off.

5.24.2 Incon Requirements

5.24.2.1 Allowed on barriers if the damage:

- Is equal to or less than 50% of the barrier length from the edge of the body.
- No more than two (2) per body
- There is no loose material and the contacts are not interfered with.

- Damage is allowed on the center barrier only when the connector is being epoxied and the epoxy is covering the damaged area, or Engineering and/or Quality determine the damage will not effect the form,fit, or function of the connector.

5.25 Straightness

5.25.1 Definition: Where molded body does not maintain flatness in a given plane.

5.25.2 Incon Requirement

5.25.2.1 Connectors 122 positions and greater will be evaluated for straightness per this standard and A.Q.L. Straightness of the connector body or assembly shall be within .003" inch per inch of total length excluding mounting ears. On connectors with three (3) mounting holes, straightness will be measured between the holes, excluding the mounting ears. The check for straightness is to be done following the last manufacturing operation where the connector is exposed to heat.

5.25.3 Test Procedure

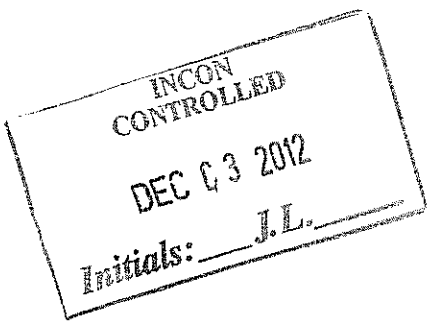
5.25.3.1 Equipment

5.25.3.1.1 Dial indicator with a maximum .0005" resolution mounted on an appropriate stand.

5.25.3.1.2 Surface plate with guide rails or two (2) and three (3) row straightness fixtures.

5.25.3.2 Method of Measurement

5.25.3.2.1 Place the body or connector on a flat surface plate or the appropriate straightness fixture so that the measuring tip of the dial indicator is on the top of the body inboard of the mold line at either end of the body and zero the indicator. Move the body along the fixture or guide rail on the surface of the plate to a similar point at the other end of the body. If the reading at this end is negative, re-zero the gage at this end and repeat the procedure. If the reading is positive do not re-zero the gage. Find the high point (maximum reading) along the body. The total



maximum reading is the deviation from straightness for the body and must be less than or equal to .003" times the total length of the body in inches.

Straightness cont'd

5.25.3.2.2 If the highest point of the body is on a mold line, do not use it for deviation from straightness. Move the dial indicator to the body surface immediately adjacent to the mold line that gives the highest dial reading and use that value for deviation from straightness.

5.30 Ear Removal

5.30.1 Discoloration

5.30.1.1 Definition: Burning / discoloration of the plastic in the area of the mounting ears, after removal, usually caused by dull saw blade or slow cutting speeds. See area designated by dimension "Y" in Figure 1, pg12. Discoloration will be graded Light, Medium, & Dark. Discolored plastic can be "sanded" off to meet requirements.

5.30.1.2 Incon Requirements:

5.30.1.2.1 There shall be no "dark" discoloration of the plastic on either end caused by the removal of the mounting ears. See the lower portion of example "B" in Figure 1.

5.30.1.2.2 Medium discoloration is allowed on either/both ends of the connector provided it does not cover more than 50% of the mounting ear area, as defined by the dimension "Y" in Figure 1. See example "C" in Figure 1.

5.30.1.2.3 See Figure 1
Example "E" – preferred
Examples "C & D" – acceptable
Examples "A & B" – Not acceptable

5.30.2 Voids

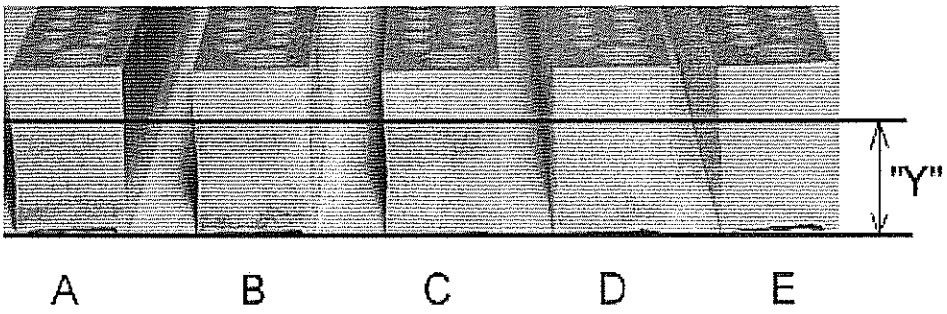
5.30.2.1 Definition: Air pockets internal to the molded body. These areas are exposed when removing the mounting ears. See Figure 2 pg 12, examples "B thru F".

5.30.2.2 Incon Requirements:

5.30.2.2.1 Voids that provide an opening to an internal area as shown in examples C-F will be repaired per instructions on Ear Cutting routings.

5.30.2.2.2 See Figure 2
Example "A" – preferred
Example "B" – acceptable
Examples "C thru F" – Not acceptable

Figure 1



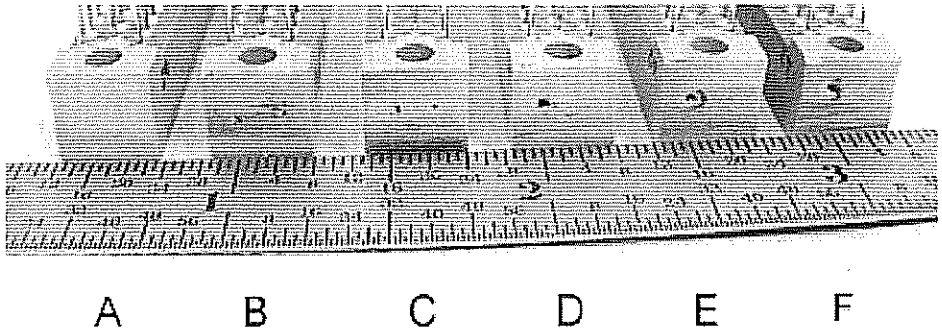


Figure 2

6.0 Hardware

6.1 Pit

6.1.1 Definition: A sharply defined depression relative to the immediate surrounding surface.
6.1.2 Requirements: Pits are not allowed in the mating area.

6.2 Nodules

6.2.1 Definition: A volume of material, generally round or elongated, that projects above the immediate surrounding surface. (Note: A nodule is greater that a .002" diameter area)
6.2.2 Requirements: Nodules are not allowed on the mounting surface.

6.3 Scratches/Gouges/Toolmarks

6.3.1 Definition: An abrasion on the surface that alters or removes a portion of that surface and/or produces sharp jagged edges.
6.3.2 Requirements: Scratches are not allowed in the mating area. Scratches that violate tolerance requirements are not allowed in other areas.

6.4 Indentations

6.4.1 Definition: A gradual, shallow depression in the surface having discernable sharp or jagged edges.
6.4.2 Requirements: Dimensional requirements must be met in all surfaces.

6.5 Crack

6.5.1 Definition: A line separation or fissure in the base metal due to a lack of metallurgical adhesion within the metal.
6.5.2 Requirements: Metal components to be free of cracks.

6.6 Flaking

6.6.1 Definition: A general condition exhibited when a lack of metallurgical adhesion occurs at the surface of the metal which partially or completely detaches from the main portion of the metal.
6.6.2 Requirements: Metal components to be free of surface flaking.

6.7 Burrs

6.7.1 Definition: A condition exhibited by the machining of a metal surface which protrudes beyond the geometric dimensional configuration in the form of a small attached metal sliver

6.7.2 Requirements: Burrs are allowed provided they do not cause any violation of the basic part dimensional requirements.

6.8 Inclusions

6.8.1 Definition: Foreign material, usually solid, which is partially or completely embedded in the surface.

6.8.2 Requirements: Metal surface to be free from inclusions.

6.9 Foreign Material

6.9.1 Definition: Foreign solid or liquid material that is deposited on the metal surface.

6.9.2 Requirements: Metal component surface to be free from foreign material.

6.10 Damage

6.10.1 Definition: Any unspecified deformation or change in condition of the material.

6.10.2 Requirements: Metal component surface is to be free from physical damage, except as defined specifically above.

6.11 Plated Hardware

6.11.1 Definition: In addition to the basic statement of need for fabricated hardware, plated hardware must meet the following requirements. Plating shall be free from exposed base metal, blisters, and frosting, unless otherwise specified in the hardware zone areas identified in this workmanship specification.

6.12 Adherent

6.12.1 Definition: Exhibiting adhesion or an attachment as a result of the molecular attraction exerted. Applies within a plating layer, layer to layer, and plating layer to the base material. Blisters, cracks, peeling, and flaking are typical where adhesion is absent.

6.12.2 Requirements: Evidence of poor adhesion is not allowed in any zone.

6.13 Frosting

6.13.1 Definition: A condition evidenced by a whitish/cloudy appearance that is significantly different from the normal color of the plating material observed.

6.13.2 Requirements: Frosting is not allowed in the external mating area.

6.14 Exposed Base Metal

6.14.1 Requirements: Exposed base metal is not allowed in the mating area & cannot exceed the area of a .010 diameter circle.

6.15 Stains (Plated Hardware)

6.15.1 Definition: Solid foreign residue left after solution evaporation from surface or as a result of chemical interaction with the top surface of the metal being used.

6.15.2 Requirements: Stains are allowed if located near mounting surface.

7.0 Contact

7.1 Pit

7.1.1 Definition: A sharply defined depression relative to the immediate surrounding surface. (Note: A pit is typically greater than .003" diameter area.)

7.1.2 Requirements: Pits are allowed on less than 5% of the contact.

7.2 Nodule

7.2.1 Definition: A volume of material, generally round or elongated, that projects above the immediate surrounding surface. (Note: A nodule typically is greater than a .002" diameter area.)

7.2.2 Requirements: Nodules are not allowed with the exception of the bottom of the drill hole in the soldercup termination.

7.3 Scratches/Gouges/Toolmarks

7.3.1 Definition; An abrasion on the surface which alters or removes a portion of that surface and/of produces sharp, jagged edges.

7.3.2 Requirements: Scratches are not allowed in the termination and mating areas of the contacts or if they cut into the base metal.

7.4 Indentations

7.4.1 Definition: A gradual, shallow depression in the surface having no discernable sharp or jagged edges.
7.4.2 Requirements: Dimensional specifications must be met in all zones.

7.5 Crack

7.5.1 Definition: A line separation or fissure in the base metal due to a lack of metallurgical adhesion within the metal.
7.5.2 Requirements: Metal components are to be free of cracks.

7.6 Flaking

7.6.1 Definition: a general condition exhibited when a lack of metallurgical adhesion occurs at the surface of the metal which completely detaches from the main portion of the metal.
7.6.2 Requirements: Metal components are to be free of surface flaking.

7.7 Burrs

7.7.1 Definition: A condition exhibited by the machining of a metal surface which protrudes beyond the geometric dimensional configuration in the form of a small metal sliver.
7.7.2 Requirements: Burrs are allowed except in the mating area of the contact provided they do not exceed .003", nor cause any violation of the basic part dimensional requirements.

7.7.2.1 Cut-off burrs on the contact studs are allowed provided that they do not exceed .005" in length.
7.7.2.2 Cut-off burr on right angle socket termination is allowed provided that it does not exceed .003" in length and does not exceed dimensional criteria.
7.7.2.3 Burr at the bottom of a saw slot inside socket contact is allowed provided it does not exceed .008" in length.

7.8 Inclusions

7.8.1 Definition: Foreign material, usually solid, which is partially or completely imbedded in the surface.
7.8.2 Requirements: Metal surface to be free from inclusions.

7.9 Stains (Unplated Contacts)

7.9.1 Definition: Solid foreign residue left after solution evaporation from surface or as a result of chemical interactions with the top surface of the metal being used.

7.9.2 Requirements: Stains are very undesirable since the effect on plating is difficult to analyze. Stains will be accepted provided they can be removed by the subsequent plating operation and cleaning process. They must, however, be able to be removed by a light erasure using a standard pencil eraser.

7.10 Foreign Material

7.10.1 Definition: Foreign solid or liquid material that is deposited on the metal surface.

7.10.2 Requirements: The typical black stain, substance is allowed which is found inside the body when assembled. If any question as to typical stain then solder a sample. If it solders, it is acceptable. All other areas must be free from foreign material. (Note: This stain is not allowed on loose shipped contacts.

7.11 Damage

7.11.1 Definition: Any unspecified deformation or change in the condition of the material.

7.11.2 Requirements: Metal component surface is to be free from physical damage except as defined specifically above.

7.12 Plated Contacts

7.12.1 In addition to the basic statement of need for fabricated contacts, plated contacts must meet the following requirements, reference MIL-G-45204. Plating shall be free from exposed base metal or underplate, blisters, burning, and frosting.

7.13 Burning

7.13.1 Definition: A condition evidenced by brownish color significantly different from the normal color of the plating material observed.

7.13.2 Requirements: Burning is allowed in the bottom of the drill hole in soldercup terminations.

7.14 Frosting

7.14.1 Definition: A condition evidenced by a whitish/cloudy appearance that is significantly different from the normal color of the plating material observed.
7.14.2 Requirements: Frosting is not allowed.

7.15 Exposed Underplate (Nickel)

7.15.1 Requirements: Exposed nickel is not allowed.

7.16 **Exposed Base Metal** (Copper, Brass, Phos Bronze)

7.16.1 Requirements: Exposed base metal is not allowed.
7.16.2 No exposed base metal will be allowed inside the contact at the base of the engagement area.

7.17 Stains (Plated Contacts)

7.17.1 Definition: Solid foreign residue left after solution evaporation from surface or as a result of chemical interactions with the top surface of the metal being used.

7.18 Quarter Round/Platform Connectors

7.18.1 Exposed Nickel.
7.18.2 All requirements in Para 7.16 of this document must be met with the following exception: Exposed nickel at the extreme ends on pin contacts is allowed provide the exposed areas do not exceed the area of a .005" diameter circle.

7.19 Matte Finish

7.19.1 Definition: A lusterless, dull finish that is significantly different from the normal plating luster.
7.19.2 Requirements: A slight matte finish is acceptable.

7.20 Contact / Shroud / Assembly

7.20.1 A shroud must meet all of the requirements in this specification. Shrouds may have a pierce through the shroud wall in the crimp area. That pierce should not exceed .003" diameter. On parts with three (3) crimp points only one (1) crimp can be damaged. On parts with four (4) crimp points only two (2) crimps may be

damaged. The parts must still pass the pull of test and the ring gage dimension.

7.21 MRB (Material Review Board)

7.21.1 Workmanship defects unacceptable in this specification may be subjected to appropriate functional testing and deemed unacceptable by the MRB.

7.21.2 Workmanship defects acceptable in this specification may be subjected to appropriate functional testing and deemed unacceptable by the MRB.

8.0 Workmanship: General

8.1 Scratches

8.1.1 Definition: A mark on the surface of the molded body usually not on all parts and usually not always in the same place.

8.1.2 Unless otherwise noted on the Incon drawing, minor surface marks (such as mill scratches or tumbling scratches) will be acceptable. Scratches typical of normal processing (such as drag scratches on drawn metal parts) will be acceptable. Scratches that effect form, fit, or function of the connector will not be acceptable. Any scratches or other marks that cause the violation of Section 10.1 will not be acceptable.

8.2 Dents/Gouges

8.1.1 Unless otherwise noted on the Incon drawing, dents and gouges visible with the naked eye will be rejectable. An exception will be made for dents/gouges typical of normal processing (such as grab marks on torsion springs).

8.3 Stains

8.3.1 Unless otherwise specified, atypical stains visible with the naked eye on finished parts are rejectable. Unless otherwise specified, stains visible with the naked eye on unfinished parts are acceptable unless they are deemed to interfere with subsequent finishing operations (e.g. plating).

8.4 Corrosion/Oxidation

8.4.1 Rust and corrosion of metals is rejectable when visible with the naked eye.

8.5 Damage

8.5.1 Twisted, bent, distorted, and mangled parts will always be rejectable.

8.6 Residue and Scrap

8.6.1 Chips, residue, or scrap from machining and stamping operations are not allowed to be mixed with parts. These may cause jamming and malfunctioning of automated assembly tools.

8.7 Finished Dimension

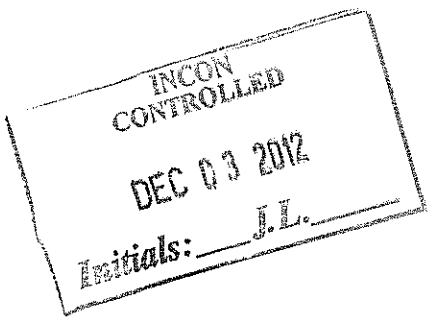
8.7.1 Unless otherwise specified, all dimensions on drawings refer to the finished part and should be interpreted as including the thickness of plating, anodizing, and/or shrinkage or growth due to heat treatment.

8.8 Compensation for Internal Threads

8.8.1 Unless otherwise noted on the Incon Drawing, the preplate pitch diameters shall be determined as follows: multiply the minimum plating tolerance by four and add this to the maximum (no-go) pitch diameter listed in the thread table. In cases where there are exceptions to the 4X compensation formula due to blind holes, small holes or plating with peculiar throw characteristics, the preplate pitch diameters shall be specified on the Incon Drawing. Unless otherwise noted the threaded plug will be the standard for acceptance of internal threads.

8.9 Compensation for External Threads

8.9.1 Unless otherwise noted on the Incon drawing, the preplate pitch diameters shall be determined as follows: multiply the maximum plating tolerance by four and subtract this from the maximum (go) pitch diameter listed in the thread table. Multiply the minimum plating tolerance by four and subtract this from the minimum (no-go) pitch diameter listed in the thread table. In cases where there are exceptions to the 4X compensation formula due to platings with peculiar throw characteristics, the preplate pitch diameters shall be specified on the Incon drawing. Unless otherwise noted,



the threaded ring will be the standard for acceptance of external threads.

8.10 Compensation for Internal Holes

8.10.1 Unless otherwise noted on the Incon drawing, the preplate hole diameters shall be determined as follows: add two times the minimum plating tolerance to the maximum (no go) diameter. Add two times the maximum plating tolerance to the minimum (go) diameter. For purposes of inspection, use a plug equal to the maximum calculated diameter on the no go side and use a plug .001" less than the minimum calculated diameter on the go side.

8.11 Exception to Finished Dimension (Para. 8.9)

8.11.1 When the thickness dimension on the drawing bears the words "stock thickness", or the thickness is specified in a table under the word "material". The thickness dimension should be interpreted as applying to raw stock.

9.0 Ultrasonic Welding

9.1 Discoloration

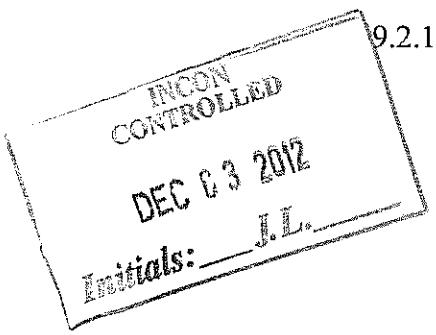
9.1.1 Definition: On gray bodies, a "burning/discoloring" of the plastic seen on any surface of the connector, due to the ultrasonic welding process. Usually caused by part clamping fixture.

9.1.2 Incon Requirements:

9.1.2.1 There shall be no "dark" or "medium" discoloration of the plastic on any surface caused by the welding process. See examples "B & C" in Figure 1, pg 12.

9.1.2.2 Light discoloration of the plastic due to welding shall be allowed. See example "D" in Figure 1, pg 12.

9.2 Bond Line



9.2.1 Definition: The bond line is the area where the insulator halves are ultrasonically welded together. Due to either variations in the plastic or to welding parameters, the bond line may not be continuous around the perimeter of the connector. This is usually seen as gaps in the weld where either the retaining clips or light can be seen.

9.2.2 Incon Requirements:

9.2.2.1 Discontinuities are allowed along the weld/bondline only when the connector passes the break test per OSD 11075.

9.3 Weld Flash

9.3.1 Definition: Flash is developed during the ultrasonic welding process from excess plastic flowing outside the envelope of the connector at the bond line. It can also flow internally around the retaining clip and into the contact cavity.

9.3.2 Incon Requirements:

9.3.2.1 External: Flash is allowed on the outside of the connector around the perimeter only under the following conditions:

- The flash does not violate the connector's dimensional envelope.
- The connector passes the break test per OSD 11075.
- The connector passes the clip check test per OSD 11075.

Flash will be cleaned off when flaking/loose and easily removable.

9.3.2.2 Internal: Flash is allowed only under the following conditions:

- The connector has been probed 100%.
- The connector passes the clip check test per OSD 11075.

10.0 Marking Visual Inspection

10.1 The standard test for any marking on a connector or other device is as follows:

- All marking shall be legible when viewed at a distance of 18 inches under normal lighting conditions.
- All of the marking will be on the surface of the connector with none "running" off any edges.
- See Section 8.1