



General Cleaning

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PURPOSE & SCOPE

This Workmanship Standard (WS) details the General Cleaning Acceptance Criteria, supplemental to IPC-A-610, Acceptability of Electronic Assemblies, to be applied to all deliverable product at L3 Communication Systems-West (CSW).

This WS includes examples of product manufactured and assembled at CSW.

WORKMANSHIP STANDARD

1. APPLICATION

It shall be the responsibility of all personnel involved with assembly, inspection, and test to ensure that all product meets the minimum acceptance criteria during all phases of the build and test processes.

2. WORKMANSHIP STANDARDS

2.1. Foreign Object Debris (FOD)

2.1.1. General Cleaning Requirements

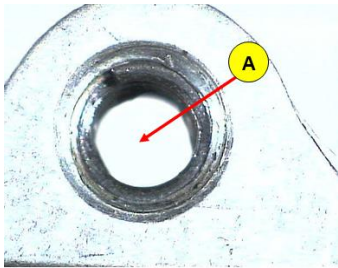
This section supplements the cleanliness requirements of IPC-A-610. This section covers additional cleanliness criteria for electromechanical assemblies, fabricated parts, and identification of FOD.

FOD is debris foreign to a part, assembly or system that potentially would cause product damage, or failure.

FOD is of great concern to us, as well as to our customers. FOD can cause product failures that may ultimately jeopardize mission effectiveness and the safety of personnel involved. Additionally, the associated repair and rework add unnecessary costs and down time. It is important to understand that these conditions reduce the level of confidence our customers have in our products and our ability to produce a reliable, quality product.

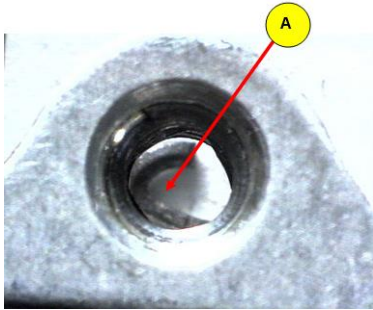
2.1.2. Target – Class 1, 2, 3

A. Hole is free of metal chips, foreign objects, and debris.



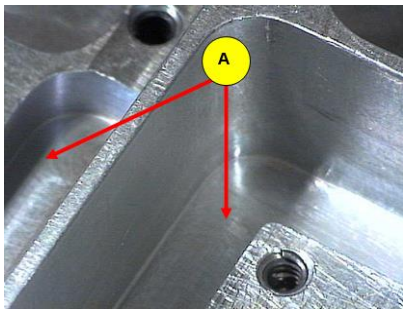
2.1.3. Defect – Class 1, 2, 3

A. The Helicoil tang has not been removed from the hole.



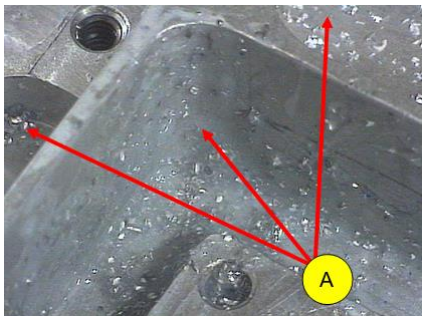
2.1.4. Target – Class 1, 2, 3

A. Part is clean and free of cutting fluids, metal chips, and debris.



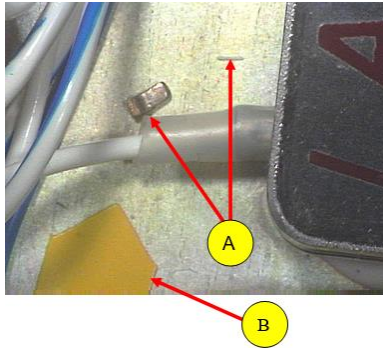
2.1.5. Defect – Class 1, 2, 3

A. Metal chips, cutting fluids, and debris.



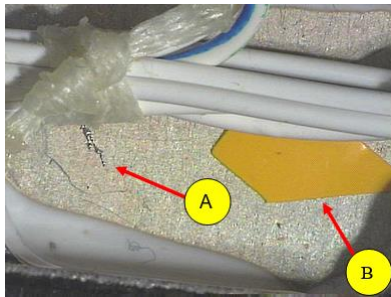
2.1.6. Defect – Class 1, 2, 3

- A. Clipped lead or wire strand.
- B. FOD.



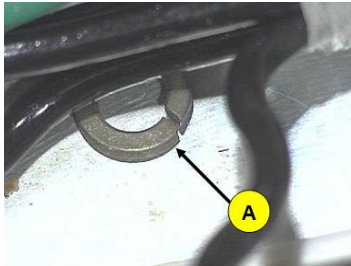
2.1.7. Defect – Class 1, 2, 3

- A. Solder splash.
- B. FOD.



2.1.8. Defect – Class 1, 2, 3

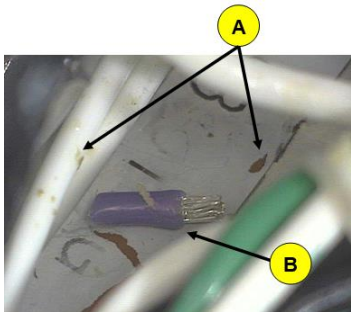
A. Loose hardware.



2.1.9. Defect – Class 1, 2, 3

A. Flux or foreign debris.

B. Clipped lead.



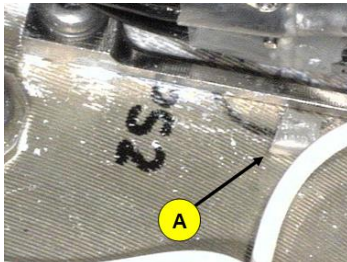
2.1.10. Target – Class 1, 2, 3

- Assembly is clean, free of debris.



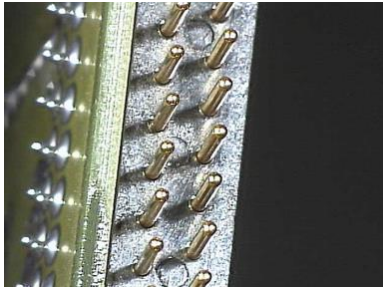
2.1.11. Defect – Class 1, 2, 3

A. Shrink sleeve clipping.



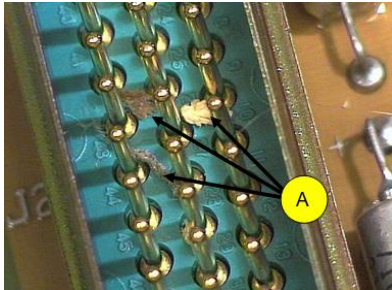
2.1.12. Target – Class 1, 2, 3

- Connector is clean, free of contaminants, dirt, oils, and other forms of debris.



2.1.13. Defect – Class 1, 2, 3

- A. Connector has foreign debris and contamination.



2.2. Surface Conditions and Cleanliness

This section provides the requirements of external surface conditions and cleanliness of product at end item/final inspection.

2.2.1. Target – Class 1, 2, 3 (End Item Assembly)

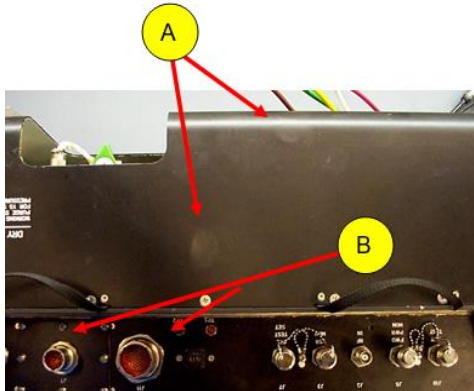
- Chassis is clean, free of fingerprints, scratches, and residues.

Note: Connector caps and covers added prior to Final Inspection.



2.2.2. Defect – Class 1, 2, 3 (End Item Assembly)

- A. Chassis has oily fingerprint smudges on anodized or painted surfaces.
- B. Connector caps missing.



2.2.3. Target – Class 1, 2, 3 Acceptable (End Item Assembly)

- Assembly is clean, free of fingerprints, scratches, or residue.

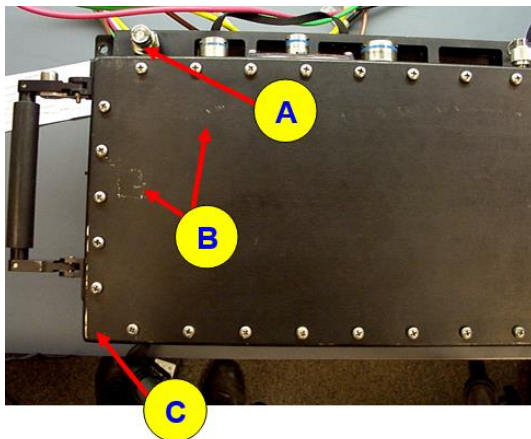
Note: Chains and covers are protective wrapped to protect finish.

Note: Protective covers installed prior to Final Inspection.



2.2.4. Defect – Class 1, 2, 3 (End Item Assembly)

- A. Missing dust caps.
- B. Anodized or painted surfaces have tape residue and/or scratches.
- C. Paint chips or exposed metal.



RECORDS

There are no records associated with this document.

END OF DOCUMENT

DOCUMENT INFORMATION

Responsible Organization: Operations

Function/Sub-function: Workmanship Standards

Governing Document(s): IPC-A-610, Acceptability of Electronic Assemblies

Subordinate Document(s): N/A

Related Document(s): Y-001, Quality Management System
P-047, Inspection
WS-000, Workmanship Standard Introduction
WS-002, IPC-A-610 Acceptability of Electronic Assemblies

Related Training: N/A

Approval Requirements: Director, Operations Management
Sr. Director, Operations

Review Requirements: N/A

Revision History Summary

Revision #	Description of Change	Date
New - 04	Initial release through revision 04	Various
NA	Reformatted in accordance with new template. Updated L3 naming throughout. No revision upgrade necessary.	05/18/2017
05	Updated logo, proprietary and approval requirements.	5/13/2021
06	Incorporated subsections (separate files) into this single document. Updated approval requirements.	9/12/2022