



## Purchase Order Quality Clause SCC41 Revision G, Effective 7/22/2019

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#### Clause A - Quality System Requirements

All references to the term "Government" in any of the documents referenced below shall be replaced with the term "Curtiss-Wright and/or the Government". All references to the term "Departmental Representative" shall be replaced by "Curtiss-Wright Representative and/or Departmental Representative".

A5 The suppliers Quality System shall operate and maintain a 3<sup>rd</sup> party certification to AS9100 or AS9120 by an accredited Certification Registration Body found on the <http://www.sae.org/oasis> website.

Or

A7 The suppliers Quality System shall operate and maintain a 3<sup>rd</sup> party certification to ISO9001 by an accredited Certification Registration Body found on the <http://www.sae.org/oasis> website.

A8 Special processes shall be performed by National Aerospace and Defense Contractors Accreditation Program (NADCAP) accredited processors. It is the responsibility of Curtiss-Wright suppliers to ensure they are utilizing Special Processors with current NADCAP accreditation. NADCAP processing is required when the special processes listed below are invoked by the design documentation and requirements.

- 1) Nondestructive Testing
- 2) Heat Treating
- 3) Material Testing Laboratories
- 4) Chemical Processes (Prime, Paint, Chem.-Film, Anodize, Passivate, etc.)
- 5) Non-conventional Machining & Surface Enhancements
- 6) Welding
- 7) Composites



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#### Clause B – Quality Assurance Requirements

B1 Curtiss-Wright, their Customer, and the Prime Contractor reserve the right to carry out Quality Assurance practices at source during performance of this order.

B2 If this purchase order has a specific requirement noted that mandates Government Inspection (DCMA), please follow the instructions noted in the balance of this clause.

Within 48 hours of the receipt of this Purchase Order, notify the Government Representative who normally services your facility so that appropriate planning for Government Quality Assurance can be accomplished. In the event that the Government Representative cannot be contacted, immediately notify the Curtiss-Wright Buyer.

B3 During performance of this order, your Quality System and Manufacturing processes are subject to review and verification by authorized Government Representatives. The Government may also exercise its right to perform inspection of product at source. You shall provide a copy of this order to your Government Representative upon request.

B6 When invoked by a separate Purchase Order requirement, Curtiss-Wright reserves the right to carry out Source Inspection and/or Test at the supplier's facility prior to shipment. The supplier shall notify the Curtiss-Wright Buyer of the date when the goods will be ready for Inspection/Test, giving at least five working days advance notice. If, upon arriving at the supplier's facility on the given date, the goods are not ready for Inspection/Test, the supplier shall be liable to cover any additional costs incurred by Curtiss-Wright as a result of the supplier's non-readiness.



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- B7 When thread-locker (i.e., Loctite) is cited as a requirement on the Buyer's drawing, Suppliers shall incorporate into their build/assembly documentation an independent operator witness/verification for application of Loctite and screw installation.
- B8 The supplier shall maintain all records pertaining to Production, Fabrication, Procurement, Test, Inspection and Acceptance for a minimum of 11 years, effective as of the last shipment within a given Purchase Order. The supplier shall contact Curtiss-Wright prior to the destruction of any records.

**Clause C – Test and Inspection Requirements**

By acceptance of this Purchase Order, the supplier accepts the responsibility for full compliance with all requirements of the applicable specifications and Quality Codes called out in the Curtiss-Wright Purchase Order. The supplier shall maintain on file inspection, test, chemical, physical reports, or any other verifiable objective evidence of the products' quality. The supplier further declares that each shipment made against this Purchase Order is an implicit certification that this requirement has been met. All drawing required process specifications shall be to the latest specification revision/ amendment unless a specific revision is called out on the drawing.

- C13 For material numbers with an "NT" suffix:  
Affix "NOT TESTED (-NT)" or equivalent label on parts ending with an NT suffix (1) after conformal coat and (2) preferably a non-conformal coated surface. The NT suffix is to be a separate label from the normal identification label.
- C14 First Article Inspection Report in accordance with AS9102 shall be performed by the supplier before the first shipment. A hard copy of the report shall be shipped with the first unit. A single-file .pdf soft copy will be acceptable if prior approval has been granted by Curtiss-Wright.

First Article Inspection (FAI) is required under the following conditions:



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- First part.
- Change in design affecting fit, form, or function of the part.
- Change in manufacturing source(s), process(es), inspection methods, location of manufacture, tooling or materials, that can potentially affect fit, form or function.
- Change in numerical control program or translation to another media that can potentially affect fit, form or function.
- A natural or man-made event, which may adversely affect the manufacturing process.
- A lapse in production for two years or as specified by Curtiss-Wright.

The FAI requirement, once invoked, shall continue to apply even after initial compliance.

Curtiss-Wright approval of the first article does not relieve the supplier of the responsibility of providing goods in accordance with the applicable specification and contractual requirements.

For details on how to perform a First Article Inspection, see Appendix 2.

- C15 Shipments made against this Purchase Order must be accompanied by a Certificate of Conformance attesting that all the applicable specifications, drawings, and Purchase Order requirements have been met. The C of C must contain the following as a minimum:
- a) Purchase Order number
  - b) Part number, drawing revision, engineering change orders (ECOs), Bill of Materials (BOM) revision (when applicable)
  - c) Quantity shipped
  - d) Approval with signature by the supplier's authorized representative
  - e) Curtiss-Wright serial numbers (when provided)



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- C17 Where the supplier utilizes test reports to verify purchased product (raw materials), the data in those reports shall be acceptable per applicable specifications. The supplier shall periodically validate the raw material by sending samples out to an independent laboratory for analysis.
- C18 All electrical, electronic and electro-mechanical parts delivered and/or used in the manufacture of deliverable products shall be from the Original Component Manufacturer (OCM)/ Original Equipment Manufacturer (OEM) or their franchised distributor. Parts shall not be used or reclaimed and misrepresented as new. Furthermore, no items shall be purchased from a broker/broker distributor without express written direction from the Customer. Acceptance of this Purchase Order means that you have the means to comply with the intent of this clause in its entirety. If procuring parts from a sub-tier supplier you shall include this requirement in your flow-down to your sub-tier suppliers.

The procurement of electrical, electronic, and electro-mechanical components should be purchased with the OCM /OEM certifications. If there are multiple lots/batches or date codes involved the OCM /OEM, certifications should be included with each lot/ batch or date codes procured. If the certifications are not included, the supplier must be able to obtain them upon request. Certifications from distributors at least must define the OEM. This may be audited, at a minimum, during the FAI process.

Contract Manufacturers and suppliers that deliver next higher level assemblies shall flow the requirements noted above to their sub-tier suppliers to prevent the inadvertent use of counterfeit parts and materials.

All suppliers of electronic components shall have a counterfeit parts program to ensure it does not receive counterfeit parts into inventory. This program shall use DFARS 252.246.7007/7008 and the current revision of AS5553 "Counterfeit Electronic Parts, Avoidance, Detection, Mitigation, and Disposition" as the



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guidelines for development of the counterfeit parts program and staff shall be adequately trained to it.

#### **Clause D – Change Control Requirements**

- D2 By acceptance of this order, the supplier agrees to inform Curtiss-Wright immediately in writing of any proposed changes which affect fit, form, function, reliability, weight, or any other specified requirement of the items on this Purchase Order. All such changes shall be submitted to Curtiss-Wright on the supplier's normal change control format for approval prior to implementation. Curtiss-Wright will reply in writing on the acceptability of the proposed changes.
- D4 The supplier shall operate and maintain a written Configuration Management system which shall ensure:
- a) Changes are properly evaluated, classified, and documented.
  - b) Traceability of all changes made after the initial baseline is maintained.
  - c) Baselines are clearly defined and are re-creatable from CM records.
- D5 Supplier material that does not conform to all contractual and drawing requirements, and that cannot be re-processed to achieve full conformance, shall not be used on this order without prior written approval from Curtiss-Wright Quality Assurance.

MRB (Repair and Use As-Is dispositions) have **not been granted** on this purchase order. The supplier shall submit to Curtiss-Wright procurement a detailed description of the non-conformance and root cause and corrective action in the supplier's format, for disposition of the supplier's hardware. **Note: The supplier shall not repair the discrepant hardware prior to receiving Curtiss-Wright's approved MRB disposition.**



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The supplier shall provide, as a minimum, the following information regarding the nonconformance:

- Purchase Order Number
- Quantity of hardware affected
- Serial numbers affected
- Identification of hardware previously delivered that may be affected

D6 Seller shall not substitute materials, manufacturer and manufacturer's part numbers listed on Buyer's drawings, BOMs, specifications, and manufacturing technical data. Only the specified materials, manufacturers and manufacturer part numbers can be utilized. When distributors are used, components shall be procured from manufacture's authorized distributors only.

If Seller desires to use an alternate material, manufacturer, manufacturer's part numbers or unauthorized distributor(s), Seller shall obtain written authorization from Buyer before implementing. Authorizations from Buyer are granted as onetime approvals on a per-case/incident basis. Authorizations shall not be construed as permanent approval unless otherwise stated on purchase order and/or waiver.

### **Clause E – Workmanship**

- E7 Workmanship and Acceptance of Electronic Assemblies shall be per J-STD-001 Class 3 and IPC-A-610 Class 3.
- E10 Workmanship and Acceptance of Cables and Harnessing shall be per IPC/WHMA-A-620 Class 3.



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**Clause F – Calibration**

- F4 Inspection, measuring, and test equipment shall be controlled, calibrated, and maintained in accordance with, ANSI/NCSL Z540-1, or ISO 10012-1. Calibration shall be traceable to National or International Standards.

**Clause G – Material Handling/Packaging**

- G1 All material shall be protected against corrosion, contamination, deterioration, or other spoilage during transit. All material shall be packed with suitable protection so as to prevent damage through handling in transit, during storage, and prior to use. Packaging will be in accordance with "best commercial practice" unless otherwise stated.
- G4 The supplier shall have an Electro-Static Discharge control program IAW ANSI/ESD-S20.20 in effect to protect electronic devices and assemblies during manufacture, test, inspection, packaging, transportation, shipping, rework, repair, and failure analysis. This program is subject to approval by Curtiss-Wright.
- G6 The supplier shall operate and maintain a Moisture Management Control Program for handling, packing and shipping of non-hermetic SMD packages. The program shall meet the requirements of standard IPC/JEDEC J-STD-033, the latest revision in effect.
- G7 The supplier shall utilize methods and packaging necessary to maintain temperature storage conditions specified by the material manufacturer through to receipt by Curtiss-Wright.
- G8 When connectors are used as part of the assembly, the appropriate connector protector/cover shall be installed on each connector and shipped with the assembly. The connector protector/cover shall provide adequate protection against shipping and handling. If the connector is





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assembled to an electronic assembly the connector protector/cover must be ESD approved.

#### **Clause H – Miscellaneous**

##### **Customer Furnished Material / Equipment**

H1 The supplier is required to maintain a system for positive identification, segregation, and control of Customer Furnished Material /Equipment. This system shall provide for the notification of Curtiss-Wright of any deficiency or failure noted upon receipt.

##### **Supplier Procurement**

H3 The supplier shall maintain a system to assure their supplies and services conform to drawing and specification requirements. Applicable Quality requirements shall be conveyed to all sub-contractors. The implementation of such controls shall be subject to Curtiss-Wright surveillance.

H4 The fulfillment of this order cannot be subcontracted out without prior written approval from Curtiss-Wright. When subcontracted work is a NADCAP process, it must be performed at an outside subcontractor that meets the NADCAP-approved requirements. If it is not a NADCAP-controlled special process the subcontractor must be on the supplier's Approved Supplier List (ASL).

##### **Assistance to the Supplier**

H5 In the event that the requirements are not completely clear, or where special assistance is needed, Curtiss-Wright will provide qualified personnel for consultation. Requests for this assistance shall be made via Curtiss-Wright Purchasing department.



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### Appendix 2 – AS9102 FAI Requirements Curtiss Wright Santa Clarita (SCC)

This appendix describes the AS9102 First Article Requirements for Curtiss-Wright, Santa Clarita. The supplier shall flow down these requirements to their sub-tier suppliers to ensure compliance at the purchased item level.

#### I. General Requirements

- 1) Build-to-Print Parts: Require an AS9102 FAI.
  - a. This includes the item being purchased as well as the sub-level build-to-print parts.
- 2) COTS (V# components): No FAI is required. Document the Inspection Lot# or C of C# on Form 1, Block 18.
  - a. Component C of Cs are not required unless otherwise specified. See Special Requirements section.
- 3) FAI reports shall not contain blank/unused fields. The supplier shall mark “N/A” for all blank/unused fields to ensure the fields have been reviewed. “N/A” shall be entered once across the top for the following:
  - a. Form 1, Blocks 15 through 18
  - b. Form 2, Blocks 5 through 10
- 4) Revisions / ECOs:
  - a. Revisions must match what is called out on the drawing.
  - b. The BOM revision shall be entered into Block 5 (Part Revision Level) of Form 1. If there is no BOM enter “N/A”.
  - c. The drawing revision shall be entered into Block 7 (Drawing Revision Level) of Form 1.
  - d. Enter applicable ECO#(s) in Block 8 (Additional Changes) of Form 1.



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- 5) For special process(es) (i.e., conformal coat, paint, plating, chem-film, anodize, NDT, etc.) performed on a build to print part or assembly that is performed in-house by the supplier directly under contract to Curtiss Wright:
  - a. The Supplier shall record the process in Block 8 (Requirement) of Form 3, and reference the in-house work instruction (i.e. shop traveler or work instruction) in Block 14 as proof of results
- 6) For special process(es) (i.e., conformal coat, paint, plating, chem-film, anodize, NDT, etc.) performed on a build to print part or assembly that is processed at an outside supplier:
  - a. The supplier shall record the process in Block 5 (Material or Process Name) of Form 2 with the appropriate information. The supplier shall also provide a copy of the sub-tier supplier's process certification and include the certification number in Block 10 (Certificate of Conformance Number).
- 7) Raw Material (i.e.: aluminum, copper, etc.) for build-to-print parts:
  - a. Include the C of C and material test report as part of the respective FAI (top or sub-level FAI).
- 8) SCD Drawings: AS9102 FAI is required and is to be performed to CW (SCC) SCD requirements.

## II. Special Requirements

Special requirements above and beyond those listed under General Requirements will be flowed down to the supplier by one or a combination of the following:

- Purchase Order
- First Article Inspection (FAI) Plan
- Quality Plan



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**CHANGE RECORD**

<b>Revision</b>	<b>Effectivity Date</b>	<b>Description of Change</b>
-	-	Initial Release
-	12/15/2007	Added 'NT' label requirement to code C13.
A	1/8/2010	Added clauses B7, C17 and D6. Clerical and format updates.
B	4/27/2012	Added data for Supplier AS9100/ISO certification maintenance, updated Q clauses from MSP0026 Rev. P, updated to new document template.
C	6/7/2012	Updated Q Clause B2 for DCMA clarification.
D	4/11/2013	Updated Q Clause D6 for substitution of materials.
E	4/16/2013	Updated Q Clause C18 to match MSP0026 changes.
F	1/16/2015	Updated Q Clauses B2, H4, and C18 to be clearer and comply with DFARS Clause 252.246-7007.
G	7/22/2019	Updated Q Clause B8 to reflect customer requirement for 11 years record retention time and C's general statement and C18 to have DFARS 252.246.7007/7008 referenced and removed the revision on AS5553. Updated H4 for clarification. Added Appendix 2 FAI Requirements.