LM Logistic Services Quality Notes Conversion Chart

The latest issue to this document is the version that is available on the Lockheed Martin Logistic Services Supplier Quality Management website:

http://www.lockheedmartin.com/us/suppliers/bu-info/aeronautics/sustainment-services.html

Summary of Changes: Supersedes Lockheed Martin Logistic Services Quality Note Conversion Chart 2018.06 dated June 18, 2018. Created QA Note C022.

Quality Note	Description
	Quality Program Notes
C001	**QA022-01 – External Provider Quality Requirements** External Provider shall comply with the requirements of Buyer's "External Provider Quality Requirements" outlined in QA022-01 (latest revision). Copies of this document may be found on Lockheed Martin Supplier Net or contact the buyer. In the event of conflicting requirement(s) between QA022-01 and a specified requirement within the contract, the specified requirement(s) will take precedence. QA022-01 may be accessed at: https://www.lockheedmartin.com/en-us/who-we-are/business-areas/aeronautics/mmro/greenville-operations.html
C002	**QA022-03 – Manufacturing External Provider Quality Requirements** External Provider shall comply with the requirements of Buyer's "Manufacturing External Provider Quality Requirements" outlined in QA022-03 (latest revision). Copies of this document may be found on Lockheed Martin Supplier Net or contact the buyer. In the event of conflicting requirement(s) between QA022-03 and a specified requirement within the contract, the specified requirement(s) will take precedence. QA022-03 may be accessed at: https://www.lockheedmartin.com/en-us/who-we-are/business-areas/aeronautics/mmro/greenville-operations.htmll
	Certification / Inspection Quality Notes
C003	**Certificate of Conformance Required** External Provider shall: 1. Prepare a Certificate of Conformance ("CoC**"**) to assert the Product(s) contained with the shipment are in compliance with all applicable requirements of this PO. 2. Annotate in the delivery package any exceptions, e.g. variances, Supplier Quality Assurance Report ("SQAR"), Advanced Engineering Authorization ("AEA"), etc. 3. Ensure the CoC is signed by an External Provider Representative. 4. Include a copy of the CoC inside the shipping container.

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C004	**Test Reports Required - Fasteners** 1. External Provider must provide with each shipment the manufacturer's test report certifying product furnished comply with applicable specification(s). The test report will include the lot number and specification(s), including revision level(s), for which the product has been tested. 2. Where specification(s) require quantitative limits on chemical, mechanical, or physical properties, the test report must have actual results from an examination/test. 3. Threaded fasteners having a diameter of 0.25 inch or greater including bolts, nuts, screws, and studs that are manufactured to National/Military Standards such as MS, AN, NAS, etc. require reports.
C005	**Test Reports Required - Raw Material** 1. External Provider must provide with each shipment the manufacturer's test report that certifies materials furnished comply with applicable specification(s). The test report will include the specification(s), including revision levels for which the material has been tested and specific lot numbers. 2. Where specification requires quantitative limits on chemical, mechanical, or physical properties, the test report must have actual results from the examination/test. Aluminum products (except castings) may include chemistry range only. Physical properties must indicate actual values. 3. In the case of converted material produced from raw material previously certified by the original manufacturer, External Provider must provide test results of how the process altered the properties of the certified manufactured material. 4. Where the supplier utilizes test reports to verify purchased product they shall periodically validate test reports for raw material. These records shall be made available upon request**.**
C006	**Maintenance Release** Maintenance release / return to service certification or equivalent required with shipment. Examples include FAA 8130-3 (as applicable), DD1574, maintenance release certificate, etc.

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C009	**Teardown Report** External Provider must provide a teardown report for each unit overhauled/repaired and tested. If the overhaul/Repair results in a change in the configuration (i.e. Dash number, Revision or Part number) documentation stating compatibility with the original part must accompany the paperwork. Teardown report must contain the following: 1. Parts removed and replaced as applicable 2. Part Number 3. Status/Work 4. Technical Order (T.O.) or Repair / Overhaul Manual utilized including revision level 5. Serial Number (as applicable) 6. Test Results (as applicable)
C010	**Source Inspection Required** Lockheed Martin Source Inspection required at the manufacturer's/repair facility. External Provider must notify buyer seven calendar days in advance of proposed quality verification. Evidence of the completed inspection must be shown on the shipping documents. You are required to provide reasonable access for the Source Inspector to any drawings, documents, and inspection equipment at any point in the manufacturing process.
C011	**Documented Traceability Requirement** 1. Product(s) ordered on this purchase order require traceability. External Provider must maintain a documented system for recording and controlling of traceable product in accordance with specified requirements with full connectivity to Original Equipment Manufacturer (OEM) or last Federal Aviation Administration (FAA) certificated facility. 2. Where no requirements are otherwise specified in the purchase order. The External Provider must: a. Maintain records of each product to ensure traceability to parent material by heat/lot number and producer's name. Such data shall be identified on the shipper. b. Identify each product with buyer /manufacturer's part number, (as appropriate) heat/lot number, producer's name and grain direction. (When applicable). c. Associated documents must be maintained at least six (6) years.

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C012	**Source / Specification Control Drawings** Lockheed Martin Source or Specification controlled product must be traceable to the sources (CAGE Code) listed on the Lockheed Martin drawing. When the listed source is no longer available the External Provider shall contact the Procurement Representative listed on the Purchase Order to obtain LM Engineering disposition.
C017	**Drop Ship Authorized** External Provider shall provide the Buyer with electronic copy of the original documentation required by the Purchase Order. This includes a copy of the packing slip referencing the waybill number with date of shipment from the External Providers facility.
C019	**First Article Inspection (FAI) Requirement** **FAI required in accordance with AS9102, or approved by an LM Supplier Quality Management Quality Assurance Engineer.** **The requirements of this clause do not apply to Hologram identified product or product supplied by other Lockheed Martin locations.** 1. All elements of this clause are applicable to the PO line item(s) referenced on Buyer's PO. Any lower-level detail parts, which comprise the top-level PO line item (if applicable), will comply with the First Article Inspection requirements as stated in AS9102. External Provider may obtain copies of AS9102 from the Society of Automotive Engineers at: http://www.sae.org/ Forms can be obtained at: http://standards.sae.org/as9102b/ References to AS9102 in this document refer to the revision in effect at the time of the PO, or External Provider may work to a more current version of AS9102. 2. External Provider shall document completion of the FAI in the English language. 3. For "Buyer-Designed Product", the assigned Supplier Quality Engineer may elect to validate the External Providers FAI process for approval at any time throughout the FAI process. Arrangements for FAI validation and approval will be coordinated with the External Provider by the assigned Supplier Quality Engineer. 4. Distributors that procure Buyer-designed product shall ensure that the manufacturer has performed FAI and that documentation is available upon request. 5. If External Provider incorporates any engineering change (including software/firmware) that has the potential to affect form, fit, function, safety, or reliability, External Provider, without further direction from Buyer, shall perform partial or full FAI as required by AS9102. External Provider shall perform partial or full FAI to ensure that the changes have had no adverse effect on product delivered under this PO.

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C019	**First Article Inspection (FAI) Requirement:** continued This partial or full FAI requirement also includes changes to non-deliverable software and revisions in programming used in numerical controlled machines, test stations, coordinated measuring equipment, etc. Paragraph 5 augments the requirements of AS9102 External Provider shall adhere to the requirements of Paragraph 5 and AS9102, which requires the performance of a full or partial FAI when any of the following events occur: a. A change in design affecting fit, form, or function of the part. b. A change in manufacturing source(s), process(es), inspection method(s), location of manufacture, tooling or materials that can potentially affect form, fit or function. c. A change in numerical control program or translation to another media that can potentially affect fit, form or function. d. A natural or man-made event, which may adversely affect the manufacturing process. e. A lapse in production for two years or as specified by the Customer. 6. External Provider shall ensure discrepancies and non-conformances discovered during the FAI are documented and dispositioned by the appropriate Material Review Board (“MRB”) actions, (e.g., External Providers MRB for External Provider design and Buyer’s MRB for Buyer design). 7. External Provider shall comply with the forms usage and completion requirements stated in AS9102. External Provider shall complete all fields, but may mark a field as not applicable by indicating “N/A”, if appropriate. 8. External Provider shall submit objective evidence of the completed FAI to the current revision for a full or partial FAI. LM Supplier Quality Engineer may use record on file as objective evidence if the product and revision are from the same manufacturer as the FAI on record. 9. External Provider shall maintain documentation of FAI results on each deliverable end Product for the period specified by this PO.
C022	**Manufacturing First Article Inspection (FAI) Requirement** 1. The requirements of this Quality Clause and AS9102 are applicable in full to the PO. The requirements of AS9102 are also applicable to all lower-level detail parts which comprise the part on the PO. This includes parts manufactured, processed, assembled, tested or inspected at sub-tier External Providers.

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C022	**Manufacturing First Article Inspection (FAI) Requirement:** continued 2. In the case of a conflict between AS9102 and this Quality Clause, this Quality Clause takes precedence. 3. Prior to submitting FAI Package for Approval, Section 24 of document QA022-03 Manufacturing Management External Provider Requirements as stated in PO Quality Note C002 shall be followed to achieve compliance for the following; 3.1 Definitions 3.2 General Requirements 3.3 Detailed Requirements of the External Provider: • FAI Planning • FAI Entrance Criteria • FAI Process • FAI Exit Criteria • Post FAI Sustainability 4. External Provider may utilize LM Form QA022-03-1 Production Process Verification Checklist (or equivalent) for the Production Part Verification Report. LM Form QA022-03-1 can be obtained at the following Supplier Quality Management website: https://www.lockheedmartin.com/en-us/who-we-are/business-areas/aeronautics/mmro/greenville-operations.html 5. All FAI packages in their entirety shall be forwarded to a Lockheed Martin Supplier Quality Engineer for review and approval. 6. Form 1 Part Number Accountability (AS9102 or equivalent) shall bear the signature and stamp of the LM SQE indicating customer approval. The signed Form will be returned to your facility and shall be notification the FAI is approved and authorization to ship the material. 7. Form 1 Part Number Accountability (AS9102 or equivalent) indicating customer approval and Form 2 Product Accountability – Materials, Special Processes and Functional Testing shall accompany the Certificate of Conformance.
C037	**Breakdown of Kit List Required** External Provider must provide a kit list with the individual breakdown of parts with shipment.

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C040	**Critical Safety Item (P-3 Aircraft Only)** This is a **Critical Safety Item** (CSI) identified by Lockheed Martin P-3 Process Specification C-3000 and STP51-600. This specification establishes the controls necessary for P-3 Critical Safety Items. This specification details specific inspection, testing, serialization and traceability requirements which are in addition to existing Engineering requirements.
C047	**Flight Safety Critical Aircraft Part Acquisition** This part is a **Flight Safety Critical Aircraft Part** (FSCAP) and acquisition process must comply with the Department of Defense (DoD) Material Management Regulation – DoDM 4140.01
C048	**Critical Safety Item** This product is a **Critical Safety Item** (CSI) that contains characteristics whose failure, malfunction or absence could result in death, permanent total disability, or permanent partial disability to personnel, or injuries that may result in hospitalization. External Provider must identify to Lockheed Martin the manufacturer if other than that identified on the purchase order prior to commencement of work.
C049	**Controlled Processes** External Provider shall use the QCS-001 to identify both the process sources and the controlled processes that require Buyer approval, prior to use for product delivered to Buyer. The list of both Buyer-controlled processes and Buyer-approved sources can be found at: https://www.lockheedmartin.com/en-us/suppliers/business-area-procurement/aeronautics/quality-requirements/control-specs.html 1. At the Quality Requirements drop down menu select Control Specs. 2. Select either LM Approved Processors. a. Excel spreadsheet for complete listing of special processes. 3. Or QCS Directory for website access. Buyer hereby authorizes External Provider to use Nadcap approved sources for Industry Standard processes controlled by QCS-001. External Provider shall ensure that a source is currently approved by Nadcap, prior to a source performing processing on Product. External Provider may access Nadcap approved sources at: https://www.eauditnet.com/eauditnet/ean/user/login.htm Upon request by Buyer, External Provider shall provide Buyer with objective evidence that External Provider selected and used a source approved by Nadcap at the time processing was performed and at the time Product is/are delivered to Buyer.

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C049	**Controlled Processes:** continued Buyer does not mandate External Providers use of Nadcap approved sources and shall not be responsible for any cost associated with Nadcap accreditation or the use of a Nadcap approved source or process. Buyer shall have the right to validate any Nadcap approved source or process using normal survey practices, and shall have the right to disapprove External Providers use of any such source in connection with this PO. External Provider shall be responsible for ensuring that External Provider or QCS-001 sources have the appropriate revision level of the process standards/specifications prior to performing processing in connection. External Provider shall prepare a Certificate of Conformance (CoC) asserting that the Product contained within this shipment are in total compliance with the requirements of this PO. A copy of the C of C shall be included in the delivery package, with process specification exceptions (e.g. pre-clean, stress-relief/bake, etch, etc.) annotated on the C of C. The Process Source C of C prepared for each shipment shall include the following data elements / information: 1. Name and address of the process facility. 2. Purchase Order Number 3. Requested Part Number 4. Quantity of parts (to include quantity accepted/ rejected). 5. Title, specification number (including revision letter) 6. Buyer's assigned processor number. 7. Signature by an External Provider Representative 8. Date the C of C was issued. 9. Fracture durability classification or serialization when required
C099	**Manufacturer's Commercial and Government Entity (CAGE) Code** External Provider is to provide Manufacturer's Commercial and Government Entity (CAGE) Code for each product. The CAGE Code is to be legibly recorded on the External Providers documentation (e.g., shipper or certification). If the manufacturer does not have a CAGE code, this will be annotated on the documentation.

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I001	**Product is Listed as a DCMA Controlled CSI Item** Traceability is required to the Original Equipment Manufacturers (OEM) Cage Code (QA Note C099). Receiving Inspection will email the current DCMA representative: 1. A copy of the Certificate of Conformance 2. A copy of the Packing Slip is required to be emailed if it lists the OEM's Cage Code
I002	**Product Requires Logbook / Records Entry** Product listed has Removal/Replacement Schedule and Special Tracking Requirements that requires additional data. Refer to the appropriate Technical Manual for the specific requirement.
	Quality Notes for Container Markings
M015	**Bar Coding of Container Required** Bar Code all containers unless the Buyer grants deviation. External Provider must construct barcodes and apply markings as follows: Required bar code data elements: 1. Purchase Order Number 2. Purchase Order Line Item Number 3. Packing Sheet Number 4. Line Item Quantity in Shipment 5. Total Cartons per Line Item 6. Manufacturer's CAGE Code Element Requirements: 1. Data elements will preferably be in a stacked array. In-line codes may be used if .25 inches are maintained between barcodes and proper order is maintained. 2. Bar codes must be readable commercial code 3 of 9. 3. Bar codes will be applied by means of labels. 4. Bar codes will be a vertical "picket fence" with minimum height of .25 inches and may not contain more than one line item. 5. Different barcoded containers containing different line items may be consolidated for shipping/handling purposes without barcodes on the consolidation container. External Provider must mark such containers **"Contains Multiple Line Items."** Inside, each container must have its own bar code label. 6. Bar codes must apply to the total quantity of a given line item

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Quality Note	Description
M015	**Bar Coding of Container Required -** continued 7. All containers must be bar-coded 8. If material is "non-markable", (e.g., oily raw stock, etc.) the barcodes may be placed with the packing list. 9. External Providers who do not have a barcoding capability may use the Free LM Bar Code Generator at the following website: https://www.lockheedmartin.com/en-us/who-we-are/business-areas/aeronautics/mmro/greenville-operations.html
	Quality Notes for Packaging
MP01	**Identification and Packaging Requirement** Elastomeric Seals, Packing's/O-rings, Sheet, Strip, Extrusions and Molded Parts: 1. Storage Identification and Packaging shall be in accordance with SAE ARP5316 Aerospace Recommended Practice for Aerospace Elastomeric Seals and Seal Assemblies (*latest revision, unless otherwise specified by the Purchase Order*). 2. Identification and Packaging of Preformed Packings/O-Rings shall be in accordance with SAE AMS2817 (*latest revision, unless otherwise specified by the Purchase Order*). 3. Identification and Packaging for Elastomeric Products: Sheet, Strip, Extrusions Molded Parts shall be in accordance with SAE AMS2810 (*latest revision, unless otherwise specified by the Purchase Order*).
MP02	**Electrostatic Discharge Protection** Components ordered by this purchase order/contract require electrostatic protection and must be properly packaged and identified. The packaging must conform to MIL-STD 1686 (latest revision) or equivalent as specified for electrostatic sensitive protection with clear markings illustrating electrostatic sensitive equipment.
MP04	**Marking Requirement** DOD marking required in accordance with MIL-STD-129 (*latest revision, unless otherwise specified by P.O.*) marking (Barcoding, RFID, etc.).
MP08	**Commercial Packaging Requirement** Product shall be packaged in accordance with Standard Practice for Commercial Packaging ASTM D3951 *(latest revision, unless otherwise specified by P.O.)* or equivalent. Each line item must be packaged and marked separately. ***** Loose fill materials are prohibited in all packages *****

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Quality Note	Description
MP12	**Packaging Requirement of Aluminum and Magnesium Products** Standard Practices for Packaging/Packing of Aluminum and Magnesium Products shall be in accordance with ASTM B 660 *(latest revision, unless otherwise specified by P.O.)* or equivalent.
MP13	**Packaging Requirement of Steel Products** Standard Practices for Packaging, Marking, and Loading Methods for Steel Products shall be in accordance with ASTM A 700 (*latest revision, unless otherwise specified by P.O.)* or equivalent
MP16	**Packaging Requirement** Product(s) shall be packaged in accordance with MIL-STD-2073 (*latest revision, unless otherwise specified by P.O.)*. Standard Practice for Military Packaging.
	Shelf Life Quality Notes
SL01	**Shelf life Requirement** Shelf life requirements for manufacturing/cure date shall be legible on each container and certificate of conformance with a minimum of 50% useful shelf life remaining upon arrival at any Lockheed Martin facility.
SL04	**Shelf life Requirement** Shelf life requirements for manufacturing/cure date shall be legible on each container and certificate of conformance with a minimum of 90% useful shelf life remaining upon arrival at any Lockheed Martin facility.
SL05	**Shelf life Requirement** Shelf life requirements for Age Controls for Hose Containing Age-Sensitive Elastomeric Materials shall be in accordance with SAE AS1933 (latest revision).
SL06	**Shelf life Requirement** Shelf life requirements for tires per MIL-PRF-5041 para on AGE - The tire shall not be more than 36 months old from the date of manufacture to the initial date of delivery.
	Government Quality Notes
G001	**Government Source Inspection** Government Source Inspection (GSI) is required prior to shipment from your plant. Upon receipt of this order, promptly notify the Government Representative who normally services your plant so that appropriate planning for Government inspection can be accomplished prior to commencement of work.