

# IQCS-480

## QUALITY CONTROL SPECIFICATION - REQUIREMENTS FOR MATERIALS RECEIVED FROM LMTAS OR OTHER COPRODUCERS/SUPPLIERS (Supercedes QCS 400, 420 and 430)

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**LOCKHEED MARTIN QCS NUMBER: 480 Tactical Aircraft Systems**  
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### REQUIREMENTS FOR MATERIALS RECEIVED FROM LMTAS OR OTHER COPRODUCERS/SUPPLIERS

**I. PURPOSE** To establish procedures to be complied with by Co-producers regarding the verification inspection of materials received from Lockheed Martin Tactical Aircraft Systems (LMTAS) or other co-producers/suppliers.

**II. APPLICABILITY** All requirements specified herein are applicable to Co-producers when this document is incorporated in the LMTAS item specification, work assignment authorization, contract, or Purchase Order.

### III. DEFINITIONS

A. Fatigue Control - The rigorous application of Engineering, Quality Assurance, Manufacturing, and Operations Technology dealing with the understanding and prevention of crack initiation leading to increasing maintenance and structural failure.

B. Fracture Control - The rigorous application of Engineering, Quality Assurance, Manufacturing, and Operations Technology dealing with the understanding and prevention of crack propagation (metals) or residual strength loss (non-metals and metals) leading to structural failure.

C. Government Furnished Aerospace Equipment (GFAE) - Equipment which is procured by the United States Government and furnished to contractors (LMTAS and Co-producers) for installation in new aircraft or equipment under construction.

D. Requisition and Invoice/Shipping Document (DD Form 1149) - A United States Government form that is used to transfer accountability of Government property.

E. Single Line Item Release/Receipt (DD Form 1348-1) - A United States Government form that is used to transfer accountability of Government owned material.

F. Warranty - A period of time during which the GFAE manufacturer is obligated to repair its failed hardware which does not meet specifications.

#### **IV. GENERAL**

A. The general requirements for the control of fatigue/fracture critical are imposed on the Co-producer via the purchase order reference to 16PP159, Fatigue and Fracture Control Plan for the Air Combat Fighter System.

B. The receiving inspection requirements for fatigue/fracture critical raw materials, parts and assemblies are imposed on the Co-producer via the purchase order by reference to this document.

C. Many elements of fatigue and fracture control are conventional in most companies, but tighter controls and a well organized, disciplined program must be implemented to minimize service maintenance problems and to prevent failure of safety-of-flight structure due to fatigue and other crack initiation mechanisms. Therefore, all activities affecting the structural integrity of deliverable aircraft are subject to these controls including the control of material.

D. The importance of maintaining traceability (serial numbers, heat numbers, etc.) cannot be overemphasized. The purpose of traceability is to establish a complete history of the part by relating the serial number to all significant events of raw material, processing, fabrication, assembly and inspection operations.

E. Fatigue and fracture critical parts/assemblies are listed in PEM 06-6.23 by drawing number and fracture control specification number.

F. Fatigue and fracture critical materials are covered by the following raw material specifications. 1. FMS-1109 - 6AL-4V Titanium, various forms 2. FMS-1111 - 10-Nickel Steel, various forms 3. FMS-3004 - 7475T Aluminum Plate 4. FMS-3008 - 2124T Aluminum Plate 5. AMS-4149 - 7175 Forgings (FPS-3509/FPS-3511). 6. FMS-2023 - Graphite Epoxy (FPS-3507/FPS-3508).

G. In the case of raw material, parts, and/or subassemblies shipped to a Co-producer via LMTAS or another Co-producer, prior receiving/shipping inspections have been accomplished; therefore, the receiving inspection task of the recipient can be minimized.

H. The Co-producer's receiving inspection function for this category of material/parts should complement and supplement the source quality control, rather than ignore or duplicate it unnecessarily.

I. The Co-producer shall establish procedures which require, as a minimum, an inspection of all deliveries from LMTAS or another co-producer.

J. The specific verification inspection requirements of GFAE parts/materials/assemblies received by Co-producer are imposed via the purchase order reference to this document.

K. Usually, GFAE is acceptable as tendered and therefore does not require extensive tests. However, to avoid using or installing GFAE which is defective because of shipping damage or other reasons, the Co-producers are required to maintain suitable control over GFAE.

## **V. SPECIFIC REQUIREMENTS**

A. The co-producer is required to establish procedures which require, as a minimum, an inspection of all deliveries to assure that:

1. The delivery is undamaged and free of corrosion/contamination.
2. The delivery is of the correct type/part, dash number and quantity.
3. All necessary documentation, such as certification and inspection reports, has been included.
4. Traceability records are maintained on all receipts by part and dash number, specification number, heat/lot number, serial number (LMTAS and Supplier), and/or x-ray control number, as applicable.

B. The co-producer's receiving inspection department shall accomplish the following, as applicable:

1. Inspect all receipts for evidence of damage in transit, contamination and/or corrosion.
2. Verify that the identity of the materials/parts/assemblies received is compatible with the description on the shipping documents and is marked on the material.
3. Accept and release for stock/issue if no discrepancies detected.
4. Withhold any discrepant shipment from production use pending disposition instructions from LRO.

**NOTE: Requests to LMTAS for data on raw materials/parts/assemblies shipped from LMTAS must always include shipping document serial**

**number and other identifying data such as heat/lot number, serial number, etc. as applicable.**

5. Maintain material/part history file for traceability/retrieveability purposes.

6. The Co-producer will maintain a system which allows retrieval of F/FC data from receiving through delivery.

C. Notify the LRO-IQAR when:

1. Required documentation is missing, incomplete, conflicting or obviously incorrect.

2. Discrepant/damaged materials/parts are received and processed per QCS 189.

D. The Co-producer shall accomplish the following (as a minimum) upon receipt of GFAE items shipped from LMTAS, the U. S. Government or other Co-producers.

1. Inspect incoming shipments for evidence of damage in transit.

2. Check, as necessary, to assure incoming GFAE is compatible with the description on shipping documents.

3. Verify that time-sensitive items are properly identified and expeditiously processes.

4. Verify that warranty time period on exterior of shipping container (and unit and intermediate container if shipping container is opened) is legible and not obstructed by tape or other labels or markings. Warranty markings may be labels, tags, or printing. See Figure 1 for typical warranty markings.

**NOTE 1: Note all GFAE items will have warranty time periods specified on the containers.**

**NOTE 2: Assure that warranty seals are intact (applicable only if container is opened). It is imperative that seals on GFAE with RIW not be broken under any condition.**

5. Handle hazardous materials in accordance with approved procedures.

6. Accept GFAE and release for stock/issue if no discrepancy is found. Items should be repackaged in original shipping container if possible.

7. Initiate a IQAR when any of the following conditions are discovered.

- a. Damaged GFAE
- b. Nonconforming GFAE
- c. GFAE that malfunctions during tests (bench, subsystem, system, etc.)

**NOTE 1: Enter cause code \_G\_ in block 81 unless Co-producer is responsible for failure/defect.**

**NOTE 2: The Co-producer's PR or MRB disposition shall be approved by the Government representative (signature in block 103). Government representative's signature in block 103 signifies verification of discrepancy and concurrence with disposition.**

**NOTE 3: The LMTAS Material Department representative's signature is not required in block 104 on GFAE failures.**

**NOTE 4: Block 21 of the QAR shall include: a concise description of the discrepancy or malfunction, the USAF T.O., AEI, or applicable test procedure, the AERNO and National Stock Number, GFAE type number or manufacturing part number and contract number.**

8. Hold wrong type GFAE and GFAE items with missing parts for review and subsequent disposition by LMTAS Material representative and the cognizant Government representative.

9. Return GFAE to the location specified on the I-QAR (ref. 16PR647) on a DD Form 1149 over-stamped or annotated with GFAE in large letters. A copy of the M-QAR must accompany the GFAE item.

**NOTE: The DD Form 1149 must also be annotated in large letters \_RIW ITEM\_ or \_WARRANTY ITEMS\_ when applicable.**

10. Assure that I-QARs are completed, including any corrective action required. Forward copies 1, 2 and 3 to LMTAS, Attention PAAC, mail zone 6650.

### **WARRANTY MARKINGS (EXAMPLE)**