TALON

INNOVATION WITH PRECISION

SUPPLIER QUALITY MANUAL

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INTRODUCTION

Our Suppliers

Talon Innovations recognizes the important role our Suppliers have in the value we offer our customers. As an extension of our own operations, we rely on our supply chain to provide material, products, and services which meet all of the requirements of Talon contracts, applicable specifications, and the quality management requirements outlined herein.

Purpose

Talon serves diverse market sectors, such as semi-conductor, aerospace, and biomedical. The purpose of this manual is to inform Talon Suppliers of our core expectations regarding the Suppliers' quality management systems, design requirements, and manufacturing process controls required for the purpose of doing business with Talon. This manual describes what Talon expects its Suppliers to do to ensure that all Talon requirements and expectations are met.

Scope

This manual applies to all Suppliers providing Talon with materials, products, processing, and related services, including intra-company Suppliers, and when applicable, Supplier sub-tier sources. The general requirements outlined herein do not supersede conflicting requirements in the Talon contract, or drawing, including applicable engineering specifications, process specifications, or applicable long term agreement(s).

This manual specifies ***additional requirements for Talon Aerospace Suppliers*** as shown in ***bold italics***.

Requirements

In this manual, the terms "shall" and "must" mean that the described action is mandatory; "should" means that the described action is necessary and expected with some flexibility allowed in the method of compliance; and "may" means that the described action is permissible or discretionary.

Questions?

Questions concerning this manual should be directed to your respective Talon Buyer.

SUPPLIER CODE OF CONDUCT

Suppliers should ensure operations are being performed in a manner that is appropriate, as it applies to their ethical, legal, environmental, and social responsibilities. Below is a listing of the basic requirements:

- **Compliance with Local Laws and Regulations**

  Suppliers adhere to the laws and regulations in the locality in which they reside. This includes all local, state, and federal laws/regulations in the country of origin.

- **Compliance with Environmental, Health, and Safety Laws**

  The Supplier maintains and operates its manufacturing/production facilities and processes in accordance with local, state, and federal laws/regulations in the country of origin.

  At no time should any Talon person be exposed to hazardous materials or unsafe conditions as a result of Supplier shipments to a Talon location, or while visiting a Supplier's location. For items with inherent hazards, safety notices should be clearly visible. As applicable, documented safety handling and protection information must be provided.

- **Product Safety**

  In all instances where a product is manufactured to a new design, for a new system, or for a new application, it is important that Supplier and Talon allocate responsibility for assuring that all performance, endurance, maintenance, safety and warning requirements are met. It is preferred that this allocation of responsibility be in writing.

- **Code of Conduct and Policy Enforcement**

  This policy applies to Suppliers and their sub-tier sources. It is the responsibility of the Supplier to verify and monitor compliance of this code at their operations and sub-tier source operations.

- **Confidentiality**

  The Supplier shall ensure the confidentiality of Talon-contracted products and projects under development, and related product information, as well as intellectual property shared as a result of the working relationship.

1.0 QUALITY SYSTEM REQUIREMENTS

Suppliers shall maintain a Quality Management System (QMS) suitable to the products and services provided to Talon.

1.1 QUALITY MANUAL

Upon request, the Supplier shall furnish Talon with a copy of the Supplier's Quality Management System Manual, which is to be current and approved by the Supplier's management, including or making reference to related documents. The quality management system documentation shall include Supplier's statements of a quality policy and quality objectives. Top management shall define quality objectives and measurements which should address customer expectations and be achievable within a defined period of time. The Supplier shall promptly notify the Talon Buyer of any significant changes to the Supplier's quality management system or personnel.

2.0 SUPPLIER APPROVAL PROCESS

Talon requires all Suppliers to be approved prior to the issuance of contracts. All Suppliers must be approved by Talon, regardless of approvals by customers or other entities.

2.1 SUPPLIER ASSESSMENT

The Supplier Approval Process may include the following:

A. Supplier Initial Assessment

Talon may request the Supplier to provide a copy of its quality management system certificate and/or complete a self-assessment of its business and quality management system and capabilities (i.e., quality, delivery, technology, cost, and continual improvement objectives).

B. Documentation Audit

In those cases, where a Supplier's quality management system has not been certified by an accredited certification body, Talon may request a copy of the Supplier's Quality documents and procedures to determine if the Supplier's quality management system meets Talon requirements.

C. On-Site Assessment

Talon and/or its customers, may elect to conduct on-site assessments of a Supplier's product or process capabilities. These assessments may include:

- Quality Management System (QMS) – if necessary, as a result of (or in conjunction with) product or process capability assessments, to determine whether the Supplier's quality management system meets one or more of the applicable standards, and is functioning effectively.
- Business and Manufacturing Operations – to determine whether the Supplier has the financial resources, production capacity, and other business resources needed to fulfill Talon volume production needs and continuity of supply.
- Technology Assessment - to determine whether the Supplier has the needed technical resources, including production and inspection equipment, facilities, engineering resources, Talon-specified computer-aided design language/format, electronic commerce capability, etc.
- Sub-Tier Supplier Control – to evaluate the effectiveness of the Suppliers sub-tier management processes and ensure that products or services procured from sub-tier sources and delivered to Talon conform to all applicable Talon requirements.

3.0 GENERAL REQUIREMENTS

The following set of general quality requirements applies to all Suppliers.

3.1. COMPLIANCE TO CONTRACTUAL REQUIREMENTS

Talon Suppliers are responsible for compliance to all contract requirements. All documents, drawings, and specifications are applicable to the Supplier when specified in the contract, and are required to be flown down to all levels of the supply chain as needed to ensure compliance to the contract. Unless otherwise specified in the contract, the document revision in effect on the date of issue of the contract applies to the contract.

3.2. TALON DESIGNATED SOURCES

Where specified by contract, the Supplier shall purchase products, materials or services from Talon- designated sources. The Supplier is responsible to ensure that items procured from such sources meet all applicable technical and quality requirements.

3.3. CONTROL OF SUB-TIER SUPPLIERS

Talon Suppliers are responsible for meeting all requirements, including work performed by sub-tier Suppliers. When the Supplier uses sub-tier sources to perform work on products and/or services scheduled for delivery to Talon, the Supplier shall flow-down all of the applicable technical and quality requirements contained in Talon requirements. Talon and its customers reserve the right- of-entry to sub-tier facilities, subject to proprietary considerations.

3.4. RISK MANAGEMENT

The Supplier shall establish a risk management program in accordance with the guidelines established by SAE ARP9134 (or equivalent) to effectively assess those elements from all aspects of the business that could affect the quality of the products and/or services scheduled. A copy of the Supplier's risk management program shall be furnished to the Talon Buyer upon request.

3.5. CONTROL AND RELEASE OF TALON FURNISHED DOCUMENTS

Documents furnished by Talon to the Supplier are furnished solely for the purpose of doing business with Talon. Proprietary documents may be furnished to the Supplier in hard copy, electronic or other media. The Supplier is responsible for controlling and maintaining such documents to preclude improper use, loss, damage, alteration and/or deterioration.

3.6. BUSINESS CONTINUITY

The Supplier should have a business continuity plan which would allow for the safeguarding, storage and recovery of engineering drawings, electronic media, and production tooling in the event of damage or loss. This plan should also contain contingency plans to satisfy Talon requirements in the event of any significant disruption to the supplier's ability to operate its business

4.0 PRODUCT QUALIFICATION

This section defines the generic requirements for production part qualification and approval. The purpose is to determine if all Talon design and specification requirements are properly understood by the Supplier and that the manufacturing processes have the capability to consistently meet these requirements.

4.1. FIRST ARTICLE INSPECTION

A First Article Inspection (FAI) is required to initially qualify a part/process for Supplier approval. Talon request for FAI will generally be noted on the Supplier Purchase Order. A new FAI may be requested if there is an extended gap of time since last production, or revision change to the product. The FAI requires that all features and characteristics on the design specification and control plan be inspected and verified prior to production. Actual measured values shall be recorded as opposed to general statements of conformance or other notations simply indicating acceptance.

When submitting a First Article Inspection report, the Supplier should use the form provided by the Talon Buyer.

In addition to an FAI, Suppliers shall develop a Control Plan that identifies appropriate sampling and measurement methods for defined product characteristics.

4.2. PRODUCTION PART APPROVAL PROCESS

All Talon Suppliers shall control processes used in fulfillment of Talon purchase orders utilizing the following:

A. Control Plan

The Supplier shall have a Control Plan that defines all methods used for process monitoring and control of special product/process characteristics. A single control plan may apply to a group or family of products that are produced by the same process at the same source.

B. Cosmetic/Workmanship Acceptance Requirements

The Supplier shall follow Talon's acceptance criteria for the cosmetic/workmanship visual inspection of materials and parts. Included are machined, plated, anodized, coated, and non-coated surfaces used in the production of piece parts and assemblies. Records of inspection shall be recorded. Reference Cosmetic Acceptance Procedure 16-10-5-QA-0024.

If no cosmetic/workmanship acceptance criteria are defined, the Supplier shall define, document and record the cosmetic/workmanship criteria.

C. 2Critical Parts and POR Requirements – CE! (COPYEXACTLY!)/POR

Control of a Critical Part and Process of Record (POR) is required from part development activities, First Article inspection, final POR and critical output parameters and POR audits for compliance.

The Supplier shall have a process by which to develop, document, baseline, and request approval for changing their manufacturing and assembly processes for Talon critical parts.

COPYEXACTLY!/POR training will be conducted yearly for all associates and records are retained.

D. Reports

The Supplier shall provide evidence that the verifications required by the specifications and control plan have been completed and that results indicate compliance with specified requirements:

- Dimensional Results – for each unique manufacturing process, e.g., cells, lines, molds, patterns, a record of actual results of all characteristics.
- Material and Performance Test Results – for all parts and product materials with chemical, physical, metallurgical, and functional performance requirements, including visual acceptance.
- Records of Compliance – copies of records showing compliance to all applicable Talon-specific requirements.

E. Records, Change Documents, and Change Approvals

The Supplier shall retain all quality, manufacturing, and change approval records used or generated in the fulfillment of the contract for a period of at least 5 years, or as specified in the contract.

F. Certification of Conformance

When required, a Certificate of Conformance (COC) will be submitted per purchase order requirements.

G. Eligibility for Supplier Part Dock-to-Stock Status

Dock to Stock status will only apply for Talon Approved Suppliers whose quality metrics are in good standing. Dock to Stock parts will be eligible on a part by part basis. To recommend a part for DTS a representative from the Materials and/or Quality Department, shall review the part's quality history, from the specified supplier.

When required by Talon, the Supplier shall submit to Talon a more comprehensive Production Part Approval Process (PPAP) qualification package. The Supplier is responsible to use the appropriate method to substantiate the PPAP.

For guidance on product and process design and development methodology and techniques contact your Talon buyer.

5.0 PROCESS CONTROL

This section defines the basic requirements for Suppliers to control their manufacturing processes.

5.1. ERROR-PROOFING

The Supplier should use error-proofing devices and techniques as a form of process control; especially for repetitive functions, difficult tasks prone to mistakes, or where the cost of error is high.

5.2. WORK INSTRUCTIONS

The Supplier shall prepare documented work instructions, as necessary, for all employees having responsibilities for the operation of processes that impact product quality. These instructions shall be maintained and accessible for use at the work station.

5.3. CONTROL OF MONITORING AND MEASURING DEVICES

The Supplier shall determine the monitoring and measurement to be undertaken and the monitoring and measuring devices needed to provide evidence of conformity of product to determined requirements. As a minimum, where necessary to ensure valid results, measuring equipment shall:

A. be calibrated or verified at specified intervals, or prior to use, against measurement standards traceable to international or national measurement standards; where no such standards exist, the basis used for calibration or verification shall be recorded; and

B. be identified to enable the calibration status to be determined.

5.4. STATISTICAL PROCESS CONTROL

Where specified by contract requirements, the Supplier shall apply effective statistical process controls and process capability.

5.5. PREVENTIVE MAINTENANCE

The Supplier should identify key process equipment and provide resources for machine/equipment maintenance activities and develop an effective planned total preventive maintenance system.

5.6. SOURCE INSPECTION

Supplier's products or services may be subject to source inspection by Talon, representatives of Talon or applicable government or regulatory agencies. Source inspection requirement will be included on the contract and may apply to any and all operations performed by the Supplier or the Supplier's sub-tier sources, prior to delivery of products to Talon. The Supplier shall provide the necessary access, equipment and resources required to effectively accomplish the source inspection.

5.7. SHELF-LIFE CONTROL

With each delivery of materials or products that have a limited or specified shelf life, the Supplier shall furnish data that shows (a) the cure or manufacture date, (b) expiration date or shelf life, (c) lot or batch number, and when applicable any special handling or storage requirements. Unless otherwise specified by contract, for all shelf life limited materials or products delivered to Talon, the remaining shelf life shall be a minimum of 75% of the total shelf life for the material.

5.8. SAMPLING INSPECTION

The Supplier is responsible for 100% verified quality for all items delivered to Talon. When the Supplier elects to use statistical methods for the acceptance of products or processes, such methods shall be in compliance ***with a recognized industry sampling standard.***

6.0 CHANGE CONTROL

The Supplier is responsible for controlling changes.

6.1 CHANGE CONTROL PROCESS

The Supplier shall have a process to ensure that relevant versions of applicable documents furnished by Talon (as well as those specified of external origin) are available at points of use.

The Supplier is responsible for the timely review, distribution and implementation of all standards/specifications and changes in accordance with contract requirements. The Supplier shall maintain a record of the date on which each change is implemented in production. Implementation shall include updated documents.

6.2 SUPPLIER CHANGE REQUESTS

Suppliers shall not make changes to their processes, location, facilities, equipment, material, product design (or any change which may affect product design or function) without prior written approval from the Talon Buyer for:

A. Correction of a discrepancy on a previously submitted part;

B. Product modified by an engineering change to design records, specifications, or materials; or

C. Any planned changes by the Supplier to the design, process, or manufacturing location, such as:

- Use of other material than was used in previously approved part or product
- Production from new, additional, replacement or modified tools, dies, molds, patterns, etc.
- Production following upgrade or rearrangement of existing tooling or equipment

- Production from tooling and equipment transferred to a different plant site or from an additional plant
- Change of sub-tier Supplier for parts, nonequivalent materials, or services (e.g. heat treating, plating, etc.)
- Product produced after tooling has been inactive for production for 12 months or more
- Change to test/inspection method – new technique (no effect on acceptance criteria)
- For bulk materials: new source of raw material from new or existing Supplier, or change in product appearance attributes, etc.
- Use of any non-conventional manufacturing methods such as electro-discharge machining (EDM), electro-chemical machining (ECM), laser or abrasive water jet metal cutting, flame spray coatings, etc.

6.3 SUPPLIER CE!/POR CLASSIFIED/CRITICAL PARTS CHANGE RESTRICTIONS

Supplier CE!/POR classified critical parts have additional restrictions for changes to manufacturing and assembly processes including by not limited to: Material, Machines, Methods, Measurement systems, Training, and Environment.

A. Before making any changes for a CE!/POR classified part or process, the supplier is required to contact the Talon Buyer.

To request a change, Suppliers shall use Talon's Supplier Change Notification Form 16-10-1-PU-0004.

7.0 CONTROL OF NONCONFORMING MATERIAL

For nonconforming products supplied to Talon, including those that reach a Talon customer, the Supplier must cover all costs to correct the nonconformance.

7.1 SUPPLIER REQUEST FOR NONCONFORMANCE DEVIATION

A Supplier shall not knowingly ship product that deviates from the drawing, specification limits, or design intent without prior written authorization from the Talon Buyer. If such a condition exists, the Supplier may petition the Talon Buyer, in writing, to allow shipment of the product under a written deviation. The Supplier shall use Talon's Supplier Deviation Request Form -16-10-1-PU-0005. Talon's approval of a One-Time or Temporary Deviation is specific to the products for which it has been submitted and approved and shall not be construed as a permanent engineering change.

If requested by the Talon Buyer, the Supplier must send samples of such nonconforming items to Talon for evaluation. The cost of shipping, inspection, and testing to determine the potential acceptability of such product will be charged to the Supplier.

Nonconforming product may be returned to the Supplier at the Suppliers expense, or the Supplier may be required to sort any suspect product already shipped to Talon sites or be charged back for the cost of sorting by Talon. Any parts shipped to Talon that have been approved for deviation shall be clearly identified as such externally on the box, container, or other packaging and on shipping documentation. Inside of each box shall contain a copy of the Talon-approved deviation document.

7.2 CONTROL OF REWORKED PRODUCT

Rework is defined as additional operations that are not part of the basic production process flow, which will bring product in full compliance with applicable drawings and specifications. Instructions for rework, including re-inspection requirements, shall be accessible to and utilized by the Suppliers appropriate personnel. All rework shall be documented and accepted by the Supplier's quality department.

A. ***CE!/POR classified critical parts cannot be reworked without documented approval from Talon Supplier Quality.***

Repair is defined as using alternative manufacturing techniques, methods, materials, or processes which may not bring product into full compliance with applicable drawings and specifications. Repairs are not allowed without written approval from Talon.

7.3 SUPPLIER CONTAINMENT

For product quality problems reported by Talon to the Supplier, until formal corrective action has been taken and approved, the Supplier shall provide documented evidence with subsequent shipments that such product has been inspected for the identified nonconformance's and meets all applicable requirements.

8.0 PACKAGING, LABELING, DELIVERY & RECORD RETENTION

Preservation, packaging, labeling, and shipping methods must comply with common industry practices and per Talon requirements.

8.1 PACKAGING, LABELING, AND PRESERVATION

The Supplier must adequately plan for packaging designed to prevent product contamination, deterioration or loss and to eliminate shipping damage. Suppliers should provide expendable packaging or returnable containers, where appropriate, that provide for sufficient density and protection from any likely damage that may occur. Expendable materials and packaging must meet local and national standards for safe disposal and/or recycling.

In order to detect deterioration, the condition of product in stock should be evaluated at appropriate planned intervals. The Supplier should use an inventory management system to optimize inventory turns over time and should assure stock rotation, such as "first-in-first-out" (FIFO).

Labeling and bar code requirements may vary per part. The Talon Buyer will provide the Supplier with the necessary specifications.

8.2 DELIVERY

The Supplier should systematically inform Talon of any delay in delivering product and provide a new delivery date. The Supplier is responsible for additional transport costs due to delays.

A. Certificates of Conformance (CoC)

A signed CoC by the Suppliers head of quality or company officer (or their authorized delegate) attesting that all products and/or services delivered are in compliance with all contract/purchase order requirements shall be furnished with each shipment as per Talon requirements. All CoCs must be in the English language.

When additional certifications/test reports are required for special processing, raw material, etc. the requirements will be specified on the contract/purchase order.

8.3 RECORD RETENTION

The Supplier shall retain quality records for 5 years or as specified by the Talon contract or related reference documents. Upon request, the Supplier shall be capable of retrieving and delivering required records to Talon within forty-eight hours from time of request by Talon.

9.0 CONTINUAL IMPROVEMENT

Suppliers should define a process for continual improvement.

Suppliers should use a closed-loop corrective action process whenever a problem is encountered internally or upon notification from Talon.

9.1 CORRECTIVE ACTION REPORT

Talon may issue a request for a Corrective Action Report (CAR) to the Supplier when nonconforming material, components, or assemblies are found. When a formal reply is requested (whether hard copy or electronic media), the Supplier should use the Corrective-Preventive Action Report 16-10-1-QA-0003.

The Supplier should apply the following criteria to determine whether the underlying root cause has been identified:

A. It initiates and causes the event you are seeking to explain.

B. It is directly controllable.

C. The elimination of that root cause will result in the elimination or reduction of the problem.

Unless otherwise requested by Talon when notified, the Supplier shall respond to a request for corrective action as follows:

A. ***Within 24 Hours:*** The Supplier shall promptly acknowledge receipt of notification and communicate to Talon the immediate containment actions to be taken.

B. ***Within 72 Hours:*** The Supplier shall provide an update of the containment plan to protect Talon during the interim period. This update must include:

- Confirmation that the Supplier has identified all suspect product in process, in stock, in transit, and potentially at any Talon site by lot number, Talon contract number, and quantity.
- Additional specific containment actions needed to be taken by the Supplier and/or Talon.

C. ***Within 10 Business Days:*** The Supplier must submit the completed Corrective Action Report indicating the permanent actions taken, or to be taken, to prevent recurrence of the same problem, to prevent the occurrence of similar problems, applicable effectivity dates.

10.0 SUPPLIER PERFORMANCE

Talon's evaluation system uses factors, of Cost, Quality, and Delivery, to develop an overall Supplier performance rating metric. This rating serves as an objective measure to determine whether Talon expectations are being met.

At Talon's discretion, the Talon Buyer may determine that to address the Suppliers performance deficiencies, a meeting with Supplier's management is necessary and a Supplier documented corrective action and improvement plan is required.

10.1. PERFORMANCE MEASURES

A. Quality
This metric defines the Defective Parts Per Million (DPPM) shipped. The definition of "defective parts" is the total number of parts returned to the Supplier for any valid quality reason (including those caused by shipping and administrative errors). The supplier goal for DPPM is less than 1000 on a rolling 6-month basis.

B. Delivery
This metric defines the delivery performance rating based on total number of parts received vs. total number of parts ordered. Supplier goal for delivery performance is > 90% to contract date.

RELATED DOCUMENTS AND FORMS

Many of the required documents and forms are available in the respective core tools manuals and other reference documents. Certain unique Talon forms are exhibited herein*. Electronic versions of these and other Talon forms (including those considered equivalent to the AIAG forms) may be obtained from your Talon Buyer.

Document Number	Title
16-10-1-QA-0003	Corrective Action Report*
16-10-1-QA-0064	Talon POR Control Plan*
16-10-A-PU-0004	Product/Process Change Notification*
16-10-1-PU-0006	Supplier Deviation Request*
16-10-1-PU-0001	Supplier Evaluation-Questionnaire
16-10-3-PU-0013	Supplier Process of Record (POR) Audit Process
16-10-1-PU-0007	Supplier ITAR Disclosure