



**Supplier Quality Assurance Manual  
(SQAM001)  
Revision A – Revision Date: 01 April 2014**

**Approved by:**

**Triumph Group Supplier Quality Assurance**

/s/ E.F. Mariot, Senior Supplier Quality Manager, Triumph Group

**Suppliers May View This Document via The Internet at:**

[triumphsupplysource.com](http://triumphsupplysource.com)

## ***The Triumph Supply Chain Vision:***

*To establish a dynamic, global, supply network that maximizes the combined strength of The Triumph Group Business Units, provides common processes and integrated systems, identifies aerospace suppliers and capitalizes on their skills with the objective of exceeding our Customer's' expectations for first time quality, on time delivery and long term cost management.*

Triumph Group is emerging as a leader in the production of aerospace components and product integration to the aerospace industry. As we continue to grow, Triumph Group is striving to become the supplier of choice for aerospace prime contractors. We also endeavor to be the customer of choice for our aerospace suppliers.

As Triumph Group is continually on the move to improve this position, our industry demands a total commitment to continual quality improvement and process performance from both Triumph Group and our aerospace suppliers.

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This document is considered a contractual obligation of Triumph Group suppliers, when referenced in part or in whole by Triumph Business Unit Purchase Orders for all contract deliverable production, overhaul, and modification programs including; tooling, ground support equipment and repair stations.

**1. Section One - This Document is effective for the following Triumph Aerospace Systems and Aerostructures Business Units**

Triumph Aerospace Systems - Seattle  
17945 NE 65th Street, Suite 200  
Redmond, WA 98052

Triumph Aerospace Systems – Newport News  
703 Middle Ground Road  
Newport News, VA 23606

Triumph Actuation Systems - Clemmons  
4520 Hampton Road  
Clemmons, NC 27012

Triumph Actuation Systems - Connecticut  
29 Industrial Park Road  
East Lyme, CT 06333

Triumph Actuation Systems - Freeport  
417 South Main Street  
Freeport, NY 11520

Triumph Actuation Systems - Valencia  
28150 W Harrison Parkway  
Valencia, Ca 91355

Triumph Composite Systems  
1514 S. Flint Road  
Spokane, WA 99224

Triumph Controls – North Wales  
205 Church Road  
North Wales, PA 19454-0901

Triumph Controls – Shelbyville  
1960 North Michigan Road  
Shelbyville, IN 46176

Triumph Fabrications – Hot Springs  
1923 Central Avenue,  
Hot Springs AR 71901

Triumph Fabrications - Fort Worth  
7445 E. Lancaster  
Fort Worth, TX 76112

Triumph Fabrications - Phoenix  
6733 W. Willis Rd.  
Chandler, AZ 85226

Triumph Fabrications - San Diego  
203 N. Johnson Avenue  
El Cajon, CA 92020

Triumph Fabrications - Shelbyville  
850 Elston Drive  
Shelbyville, IN 46176

Triumph Gear Systems - Macomb  
15375 23 Mile Road  
Macomb, MI 48042

Triumph Gear Systems - Park City  
6125 Silver Creek Drive  
Park City, UT 84068

Triumph Structures - East Texas  
703 Old Gladewater Hwy  
Kilgore, TX 75662

Triumph Structures - Kansas City  
4020 E. 138th Street  
Grandview, MO 64030

Triumph Structures - Long Island  
717 Main Street  
Westbury, NY 11590

Triumph Structures - Los Angeles  
17055 East Gale Avenue  
City of Industry, CA 91745

Triumph Structures – Wichita  
3258 South Hoover Road  
Wichita, KS 67215

Triumph Thermal Systems  
200 Railroad St.  
Forest, OH 45843

## **2. Section Two - Triumph Group Supplier Quality Assurance Manual (SQAM001)**

### **2.1. Overview**

- 2.1.1. It is the responsibility of the Triumph Group Supply Chain Management Team and the Triumph Business Units to establish and develop aerospace suppliers with demonstrated capabilities, to consistently evaluate the aerospace business climate and protect itself and its customer's by securing reliable material sources. We are also required to ensure our suppliers consistently meet Triumph Group's specified requirements for quality and delivery, maximize the supplier's total value while also aggressively minimizing all associated procurement costs. Triumph Group is committed to eliminating occurrences of nonconforming product and processes as well as their related cost and schedule impact to our customers. Triumph Group recognizes that communication is vitally important to the support and success of our customers. In order to achieve these objectives, Triumph Group expects no less than this same level of commitment to product and service excellence and continual improvement from its aerospace suppliers. As expected by our customers, Triumph Group requires its aerospace supplier's to recognize their responsibility for the quality of the products that they and their sub-tier supplier's provide. To meet this commitment, it is necessary that Triumph Group aerospace suppliers develop, execute, and sustain key business, operational and process management practices that demonstrate that they are capable of effectively meeting and exceeding the contractual obligations to the satisfaction of Triumph Group and our Customer's.
- 2.1.2. Triumph Business Unit specific Quality Requirements are detailed within our Supplier Portal at [triumphsuppliesource.com](http://triumphsuppliesource.com) ► [Quality Requirements](#) ► [Business Unit Quality Requirements](#). Suppliers must comply with this document and specific Triumph Business Unit Quality Requirements during the life of procurement. The Table 1 matrix (see para. 3.5), contains keys to determining the applicability of Triumph's Quality Management System Requirements to each individual procurement, and shall be used by the supplier as part of the supplier's quality planning function to ensure compliance with Triumph requirements.
- 2.1.3. In addition to the requirements contained in this document, the supplier shall comply with the Quality Requirements noted in the Contract Terms & Conditions (T&C's) referenced on Triumph Purchase Orders. Contact your Triumph Purchasing Representative if further clarification is required.
- 2.1.4. Triumph Group, its customers or Government Regulatory Agencies have the right of entry into the supplier's facility. The supplier shall also include right of entry provisions in any subcontract. These provisions shall allow the supplier, Triumph, Triumph's Customers or Government Regulatory Agencies, to examine and verify the quality of work, records, processes and material at any place, including the plant of the subcontractor.
- 2.1.5. Any correspondence or data submitted to Triumph in support of the requirements contained herein are to be in English. Documented measurements will be derived using equipment that measures in the original native engineering unit of measure (i.e. engineering dimensions in English must be measured with equipment capable of measuring in inches. Mathematical conversions are not allowed). Requests for deviations to this requirement must be submitted to the Triumph Group Business Unit Procurement Representative. Requests will contain a Measurement Plan detailing the documented process(es) that will identify the affected characteristics, ensure calculations are accurate, no rounding is utilized that could compromise engineering tolerances and individuals are adequately trained.

### **2.2. Utilizing the Triumph Group Supplier Quality Assurance Manual (SQAM001)**

- 2.2.1. The Triumph Group Supplier Quality Assurance Manual (SQAM001) contains prescribed methods for interaction between Triumph Group, Triumph Business Units and its aerospace suppliers. The contents of this manual are supplemented by Triumph Business Unit specific

requirements. Triumph Business Unit specific requirements shall not supersede the requirements of this document.

- 2.2.2. With reference to this document, the term “Triumph Business Unit” or “applicable Triumph Business Unit” is defined as an individual Triumph Business location. Triumph Group (the corporation) is defined as the Triumph Enterprise.
- 2.2.3. This manual is applicable to Triumph Group “aerospace suppliers” supporting Triumph Aerospace Systems Group and Triumph Aerostructures Group Business Units unless otherwise agreed upon by the applicable Triumph Business Unit and the supplier.
- 2.2.4. These methods shall be adhered to at all times to ensure the conformance of products and services to specified requirements.
- 2.2.5. The manual will be maintained on the Triumph Group interactive supplier web portal [triumphsupplysource.com](http://triumphsupplysource.com) ► [Quality Requirements](#) ► [Supplier Quality Manual](#). Printed documents are considered to be uncontrolled. Verify current version of this document before use. This document is maintained by Triumph Group Supplier Quality Management.

### 2.3. Table of Contents

- 2.3.1. The Table of Contents is hyperlinked to assist users in easily navigating to the Sections within the text of this manual
- 2.3.2. Clicking the external document hyperlinks in the “Referenced Documents” will link you to the appropriate website where the document is available.

### 2.4. Individual Triumph Business Unit Quality Requirements

- 2.4.1. Triumph Business Units maintain Business Unit specific Quality Requirements. Individual Triumph Business Unit requirements shall meet or exceed the Triumph Group Enterprise Quality Requirements detailed in this manual. Triumph Business Unit Quality Requirements are located within [triumphsupplysource.com](http://triumphsupplysource.com) ► [Quality Requirements](#) ► [Business Unit Quality Requirements](#)
- 2.4.2. Sections of this manual that direct suppliers to specifically review Triumph Business Unit purchase order or Quality Requirements are indicated in “**Bold Red**”.

### 2.5. Information Requests

- 2.5.1. Supplier requests for information and clarification shall be forwarded to the applicable Triumph Business Unit Purchasing Representatives.

## 3. Section Three - Supplier System Requirements, Approvals and Evaluations

### 3.1. Overview

- 3.1.1. Triumph Group maintains an Enterprise Approved Supplier Listing as a basis for identifying direct part / material, processing and critical service suppliers who meet the standards necessary to fulfill its procurement needs.

### 3.2. Supplier Quality System Requirements

- 3.2.1. Aerospace suppliers shall implement and maintain a Quality Management System in accordance with the respective Quality System standards listed in Table 1 (see para. 3.5) of this document, as appropriate for the type of product being delivered to Triumph Group Business Units. All costs associated with obtaining and maintaining appropriate Quality System approvals shall be borne by the supplier.
- 3.2.2. The Quality Management Systems identified in Table 1, shall be the Quality System standards used in determining eligibility for the Triumph Group Approved Suppliers Listing (ASL).

- 3.2.3. Triumph will recognize AS/EN/SJAC9100, AS/EN/SJAC9110, AS/EN/SJAC9120/AS9003 (referred to generically as 9XXX) Quality System Certifications issued (less AS9003) only by an accredited Certification/Registration Body (CRB). The accredited 9XXX CRB listing (less AS9003) can be found on the SAE web page: [sae.org/oasis](http://sae.org/oasis). Suppliers that cannot or will not meet this requirement shall contact their Triumph Business Unit Procurement Representative.
- 3.2.4. Initial and subsequent periodic review of a supplier's Quality Management System may be performed at the option of Triumph Group. Objective evidence of supplier's compliance, either by submittal of requested evidence, or evidence of "Other Party" evaluation, may be acceptable for the purpose of re-survey to Triumph Group.
  - 3.2.4.1. **NOTE:** "Other Party" - A registrar that has their accreditation body participate in the IAQG Quality System Certification oversight process. An "Other Party" Quality System Certification would be one issued by an accredited registrar that participates in the aerospace industry's IAQG oversight process. As required, the supplier shall provide Triumph with right of access to perform appropriate assessments, surveys and reviews.
- 3.2.5. Suppliers shall provide Triumph access to their IAQG OASIS information upon request. IAQG OASIS information access may include but is not limited to the supplier's 9XXX audit record and/or copies of a supplier's past audit reports. Suppliers that do not provide this access or copies may be subject to additional Triumph approval audits or disqualification as a Triumph Group supplier. Access to the supplier's IAQG OASIS records or previous audit reports does not necessarily preclude the requirement for a Triumph approval audit.
- 3.2.6. Once added to the Triumph Group Approved Supplier Listing, the supplier must continue to demonstrate an acceptable level of performance as noted in Section 8 in order to remain eligible for new business and to maintain their approved status.
- 3.2.7. Supplier name changes, changes in ownership, facility changes or changes in senior Quality management may subject the supplier's Quality System to reevaluation by Triumph Group. The supplier shall notify Triumph within 48 business hours of the occurrence. Submission shall be accomplished by accessing [triumphsupplysource.com](http://triumphsupplysource.com) ► [Supplier Submittals](#) ► [Supplier Notifications](#) and following the directions provided therein.

### 3.3. New Suppliers

- 3.3.1. An electronic supplier application is initiated by the Triumph Group Business Unit for all prospective suppliers. The application is forwarded to the prospective supplier by Triumph. Unsolicited application requests from suppliers will not be reviewed.
- 3.3.2. After completion of the supplier application, the submittal is reviewed by Triumph Quality and Purchasing/Supply Chain Management to determine whether the prospective supplier is qualified to become a Triumph Group supplier.

### 3.4. New Supplier Approval Appraisals

- 3.4.1. Approval appraisals may be used to conduct a comprehensive risk assessment of the supplier's capabilities, capacities, compliance, strengths and weaknesses and provide direction regarding developmental needs and opportunities.
- 3.4.2. The method of appraisal is based upon the scope and criticality of the work to be performed. For sustaining suppliers, past performance will also play a part in determining how frequent an appraisal may be employed.
- 3.4.3. Prior to any on-site activity, documentation and operational evidence to demonstrate performance should be organized to facilitate timely presentation and review by the appropriate Triumph personnel. Triumph personnel cannot conclude compliance unless they are presented with objective, verifiable evidence that the criteria have been met.

### 3.5. Supplier Designations (See Table 1 for Minimum Quality System Requirements)

#### 3.5.1. Triumph Group Strategic Supplier Partners (Levels 1, 2 & 3)

3.5.1.1. A Strategic Supplier Partner consistently strives to meet Triumph quality and delivery performance requirements. They have a strong commitment to investing in new aerospace technologies to provide themselves and Triumph with a competitive business advantage. Strategic Supplier Partners share a vision for market direction and strategy with Triumph. Strategic Supplier Partners continuously invests in their plant, equipment and people, actively promote lean practices and are responsive to requests for corrective action. A Strategic Supplier Partner strives for continual improvement, customer satisfaction, and actively addresses cost containment activities to ensure continued business growth. Triumph Strategic Supplier Partners may be past or present cost and risk sharing partners. The supplier's product volume or amount of Triumph spend is not necessarily a defining factor for a Strategic Supplier Partner.

#### 3.5.2. Triumph Group Core Suppliers (Levels 4 through 9)

3.5.2.1. A Core Supplier consistently meets the requirements of quality and delivery performance and has a willingness to invest in plant, equipment and people as necessary. Core suppliers implement lean practices, are responsive to requests for corrective action and strive to meet customer requirements. It is understood that some of our Core suppliers have a limited financial capability to cost or risk share.

#### 3.5.3. Business Unit Special Suppliers (Level 10)

3.5.3.1. Business Unit Special Suppliers are suppliers that provide unique or specialized products or services. Typically these suppliers are specified in the design engineering and/or may be customer directed and do not have a Quality management system as identified for levels 1 through 9 of Table 1.

	Required Quality System Level	Applicable Minimum Quality System Document (7)	Supplier Description
Strategic Supplier Partner	Level 1 (3)	AS9100 (1)	Manufacturer with design authority (Major Assemblies, Source/Spec. Control Product); Engineering Services with design/release authority
	Level 2 (3)	AS9100 (1) or AS9003A	Manufacturer (Build-to-Print) Value Added Distributor, JIT Suppliers, Inspection Services (e.g., CMM), Raw Material Suppliers
	Level 3 (4)	AS9120 or, ASA100	Pass Through Distributor, Standard Hardware Suppliers
Core Supplier	Level 4 (2)(4)	Nadcap AC7004, or AS9003A	Processor
	Level 5	AS9100 (3), AS9003A, or ISO9001 (3)	Tooling with design authority
	Level 6	AS9100 (3), AS9003A, or ISO9001 (3)	Tooling (Build-to-Print)
	Level 7 (5)	NONE	Commercial, Off-The-Shelf (COTS), Technical Service Providers, CFE/CFM/PMI (6)
	Level 8	ISO 10012-1or, ISO 17025 or, ANSI Z540-1or, A2LA, or NVLAP	Calibration/Laboratories
	Level 9	FAA FAR Part 145/21 or AS9110	Repair Stations
Business Unit Special Supplier	Level 10	ISO9001	Manufacturer, Single source, Customer directed not able to meet AS QMS Requirements

**NOTES:**

When AS9100 is referenced, EN9100 and SJAC9100 are also applicable  
When AS9110 is referenced, EN9110 and SJAC9110 are also applicable  
When AS9120 is referenced, EN9120 and SJAC9120 are also applicable

- (1) Less the "Design" requirements of the standard
- (2) Requirement is Nadcap/Nucap Process A approval
- (3) "Other Party" certification required
- (4) "Other Party" certification required, Approval to AS9100 will also satisfy this requirement
- (5) Service Providers may require other audits if Triumph Group is to transmit Digital Data
- (6) CFE/CFM/PMI Customer Furnished Equipment/Material; Partner Managed Inventory
- (7) These requirements are for Aerospace supplier designation only. For Non-Aerospace, the Business Unit will define the QMS requirements.

**Table 1**

**3.6. Maintenance of Approved Supplier Status**

3.6.1. Triumph monitors supplier performance on a monthly basis using Supplier Quality Performance Ratings. Suppliers, who continue to demonstrate unsatisfactory performance may lose their approval status and become suspended or terminated. To regain satisfactory approval status, the supplier may be subject to formal supplier corrective



action per Section 10, more extensive performance improvement actions as detailed in Section 11 or a supplier appraisal per Section 3.

- 3.6.2. Suppliers shall notify Triumph of the loss (probation / suspension / termination) of Quality System registration, FAA or Nadcap/Nucap approvals, or any "major" nonconformance that has been designated as having "product impact" or "potential product impact" or that may affect any Triumph product. The supplier shall notify Triumph within 48 business hours of the occurrence. Submission shall be accomplished by accessing [triumphsupplysource.com](http://triumphsupplysource.com) ► [Supplier Submittals](#) ► [Supplier Notifications](#) and following the directions provided.
- 3.6.3. Suppliers may also lose their Triumph approved supplier status for failing to maintain their appropriate Quality System, FAA or Nadcap/Nucap registrations or for any other significant quality related issues. The supplier shall notify Triumph within 48 business hours of the occurrence. Submission shall be accomplished by accessing [triumphsupplysource.com](http://triumphsupplysource.com) ► [Supplier Submittals](#) ► [Supplier Notifications](#) and following the directions provided.
- 3.6.4. Inactivation of a supplier on the basis of Quality System failures shall ultimately be the decision of Triumph Group Enterprise Supplier Quality Management in coordination with the affected Triumph Group Business Unit(s).

### **3.7. Current Supplier Evaluations**

- 3.7.1. For existing suppliers, Triumph utilizes Quality System assessments, capacity analysis, and product conformity assessments to authorize supplier scope additions, maintain supplier approvals, and improve supplier performance.

### **3.8. Capacity Risk Assessment / Conformity Assessments / First Part Qualification**

- 3.8.1. Triumph reserves the right to perform a review of Triumph purchase order and deliverable product(s) key/critical elements with the supplier. Assessments shall include but are not limited to specific areas of the suppliers:
  - 3.8.1.1. Quality System,
  - 3.8.1.2. Build package,
  - 3.8.1.3. Contract and purchase order flow downs,
  - 3.8.1.4. Control of tooling,
  - 3.8.1.5. Digital data handling,
  - 3.8.1.6. Supplier sub-tier management
- 3.8.2. Supplier Capability Risk Assessments are conducted to ensure the suppliers equipment, resources, technical and process capabilities are adequate to support Triumph purchase order/contract requirements.
- 3.8.3. Supplier Product Conformity Assessments are a process based review of a supplier's practiced business and manufacturing process controls against their internal procedures as well as PO and contractual requirements. Supplier Product Conformity Assessments may also be initiated when significant changes in a supplier's facility occur; major management changes, facility upgrades, equipment movement, major capacity changes, etc.

### **3.9. First Part Qualification**

- 3.9.1. First part qualification (FPQ) is typically required by the governing engineering specification. FPQ verifies that the fabrication and inspection procedures of the first production part are in compliance with drawings/specifications.
- 3.9.2. Examples of pre-production qualifications include, but are not limited to:
  - 3.9.2.1. First Part Qualifications,
  - 3.9.2.2. Thermal Profile Plans/Reports,

- 3.9.2.3. Preproduction Verification Plans.
- 3.9.3. Subject review will be performed to the extent necessary to verify mutual understanding of purchase order requirements, and ensure that supplier's production planning activities address all applicable key/critical elements.
- 3.9.4. Where specifications associated with product being procured by Triumph require qualification or other types of approvals prior to production, the supplier shall submit all required materials and/or documentation to the appropriate Triumph Business Unit Procurement Representative. **Regardless of the customer specification verbiage, the supplier shall NOT contact Triumph's customer regarding specification requirements associated with qualification data without prior written approval from Triumph.**
- 3.9.5. Nonconformances identified during any type of assessments or review may require initiation of formal corrective action requests in order to document the resolution. Triumph and / or the appropriate Triumph Business Unit will utilize assessment and review results as a basis for determining the amount and nature of additional supplier oversight required.
- 3.9.6. The appropriate Triumph Business Unit may follow-up with suppliers to review the implementation of development strategies. This follow-up may occur through subsequent on-site assessments and/or a specific request to the supplier to provide evidence to substantiate the successful implementation of targeted improvements.

#### **4. Section Four - Supplier Responsibilities**

##### **4.1. Quality Assurance Requirements**

- 4.1.1. Triumph Business Unit PO's for direct parts / materials, outside processing and services may include a number of additional clause(s) relating to specific quality assurance requirements. Applicable Quality Assurance Requirements or Quality Clauses may be assigned on a part number or contract number basis and are identified on the Triumph Business Unit's PO's.

##### **4.2. Identifying Applicable Triumph Business Unit Quality Assurance Requirements**

- 4.2.1. Triumph Quality Assurance Requirements are Triumph Business Unit specific and apply only to the Triumph Business Unit issuing the specific Purchase Order. Triumph Business Unit specific requirements are located on [triumphsupplysource.com](http://triumphsupplysource.com) ► [Quality Requirements](#) ► [Business Unit Quality Requirements](#)
- 4.2.2. Suppliers are expected to review all applicable Quality Assurance Requirements and clauses as a part of their contract review and quality planning processes. Requirements imposed by Quality Assurance Requirements are contractual and shall be integrated into the supplier's Quality Systems and / or product-specific planning and related controls to ensure consistent compliance for all parts / materials supplied.
- 4.2.3. **The use of verbal communication and e-mails are not acceptable methods of communicating PO / Contract Requirements.**
- 4.2.4. The appropriate Triumph Business Unit Procurement Representatives will assist suppliers in gaining the necessary access for the purposes of reviewing:
  - 4.2.4.1. Quality Assurance Requirements,
  - 4.2.4.2. Technical engineering requirements defined on blueprints,
  - 4.2.4.3. Specifications, etc. as well as:
    - 4.2.4.3.1. Requirements for Certificates of Conformance,
    - 4.2.4.3.2. Quantified test results,
    - 4.2.4.3.3. Use of appropriately qualified sources,
    - 4.2.4.3.4. Special part / material identification requirements,

- 4.2.4.3.5. Any other requirement imposed by Triumph Quality Assurance Requirements applied to the subject PO
- 4.2.5. Triumph Business Unit Quality Assurance Requirements encompass a broad range of additionally imposed contractual requirements, including but not limited to:
  - 4.2.5.1. Critical Part/Material Traceability and / or Serialization Requirements,
  - 4.2.5.2. Triumph or Triumph Business Unit and its Customer's or regulatory bodies Right of Entry for review of equipment, facilities, products, processes and systems,
  - 4.2.5.3. First Article Requirements,
  - 4.2.5.4. Record Retention Requirements,
  - 4.2.5.5. Special Restrictions on the Use of Qualified Sources,
  - 4.2.5.6. Special Control and Disposition of Nonconforming Materials,
  - 4.2.5.7. Program, Customer-Specific or DFAR Quality Requirements
- 4.2.6. **Acceptance of the Triumph Business Unit Purchase Order constitutes acceptance and accountability for achievement of all requirements listed on the Purchase Order and the requirements contained herein. Lack of diligence on the supplier's behalf is not justification for not complying with the applied requirements.**
- 4.2.7. It is the supplier's responsibility to perform an in depth review of the purchasing documentation to ensure that the supplier can and will comply with the requirements therein. It is also the supplier's responsibility to request or otherwise obtain subordinate documents, specifications and data referenced within the Purchasing Documentation. **Failures resulting from a lack of review and / or compliance with subordinate requirements documents will be considered the responsibility of the supplier.**
- 4.2.8. The supplier must obtain any agreements deviating from the issued purchase order in writing. No verbal agreements or e-mails will be recognized under any circumstances and all liability as a result of the supplier accepting verbal changes to the purchase order shall be the responsibility of the supplier. Any requests or deviation shall be forwarded to the issuing Triumph Business Unit Purchasing Representative in writing for agreement or re-assignment of the purchase order.
- 4.2.9. Changes, supplements or amendment to Triumph Business Unit Quality Requirements must be agreed to in writing by the respective Triumph Business Unit Supplier Quality Representative. Triumph Business Unit Procurement Representatives do not maintain the authority to modify, rescind or otherwise alter Triumph Quality Requirements.

#### 4.3. Contract Configuration

- 4.3.1. Unless otherwise specified in the Purchase Order / Contract Agreement, manufacturing and inspection shall be performed to the latest Triumph released planning/engineering. The supplier is authorized to work to the drawing revision level noted on Triumph supplied planning (where applicable) or to a more current revision of released engineering supplied by Triumph. **If a drawing change notice or drawing revision changes the configuration of the part and is not called out on the purchase order or planning control sheet, the appropriate Triumph Business Unit Procurement Representative should be notified immediately for written authorization.**
- 4.3.2. If the purchase order does not indicate the revision of the drawing or specification, the drawing and / or specification revision in effect on the issue date of the purchase order shall be utilized. Requests to utilize a later revision of a process specification may be submitted to the Triumph Group Business Unit Procurement Representative.
- 4.3.3. Requests to utilize a later revision of a process specification must meet the following requirements:

- 4.3.3.1. There is no Triumph initiated Engineering Orders associated with the process specification that the author of the specification has not incorporated in the later revision.
- 4.3.3.2. There is no cost or schedule impact to deliverable hardware under contract;
  - 4.3.3.2.1. If an impact does exist as a result of using a later process specification revision than that is shown on purchase order, the supplier shall contact the applicable Triumph Business Unit Procurement Representative for disposition instructions.
  - 4.3.3.2.2. **NOTE:** Suppliers with design authority may approve their own sub tier process source(s). However, they are encouraged to subscribe to Nadcap and require Nadcap accreditation by their processors.

#### 4.4. Government Quality Assurance Requirements

- 4.4.1. When required, Triumph source inspection shall precede **ALL** government source inspection.
- 4.4.2. Unclassified Programs
  - 4.4.2.1. The supplier shall determine applicability of this requirement via the "Government Source" requirement shown on the purchase order, at the purchase order line item level, or within the purchase order "notes" section.
  - 4.4.2.2. If applicable, the supplier shall promptly notify the government representative normally servicing supplier's facility. The supplier shall furnish a copy of the purchase order to the respective government office. If the government representative/agency cannot be identified, notify the Triumph Business Unit Procurement Representative immediately.
- 4.4.3. Classified Programs
  - 4.4.3.1. The supplier shall determine applicability of this requirement via the "Government Source" requirement shown on the purchase order, at the purchase order line item level, or within the purchase order "notes" section.
  - 4.4.3.2. When applicable, the supplier is specifically instructed **NOT** to contact the Government Representative normally servicing supplier's plant. The supplier shall contact the Triumph Procurement Representative that will advise through Triumph security channels of the Government Representative accessed and designated for this contract.

#### 4.5. Special Process Requirements

- 4.5.1. When the use of only Triumph "Approved Special Processors" are specifically required by drawing, specification, purchase order, or other media, the supplier shall ensure that the processing source for these requirements, including those performed by the supplier, are listed on the Triumph Approved Special Processor List prior to any processing of hardware. The Triumph Approved Processor Listing is available on [triumphsupplysource.com](http://triumphsupplysource.com) ► [Approved Processors](#) ► [Triumph Approved Processors](#). As a prerequisite for Triumph ASPL approval, Special Processors require Nadcap/Nucap accreditation. Triumph subscribes to Nadcap for the following process categories:
  - 4.5.1.1. Nondestructive Testing,
  - 4.5.1.2. Heat Treating,
  - 4.5.1.3. Material Testing Laboratories,
  - 4.5.1.4. Chemical Processes,
  - 4.5.1.5. Coatings,
  - 4.5.1.6. Welding,
  - 4.5.1.7. Non-Conventional Machining & Surface Enhancement – Shot Peening,

- 4.5.1.8. Composites
- 4.5.2. Triumph reserves the right to validate Nadcap compliance to any processes that are unique to Triumph or outside the scope of normal industry practice and/or Nadcap general audit practice. This requirement also applies to the first-tier suppliers with internal process capabilities. In addition, if the supplier utilizes any external special process sources, this requirement must be flowed down to the processing sources.
- 4.5.3. All costs associated with Nadcap/Nucap accreditation shall be borne by the processor. Performance Review Institute (PRI), a nonprofit affiliate of the Society of Automotive Engineers (SAE), must perform all Nadcap/Nucap accreditation audits. Detailed information regarding the Nadcap/Nucap accreditation process, including the audit schedule can be obtained from PRI at: [pri-network.org/nadcap/](http://pri-network.org/nadcap/).
- 4.5.4. When processes listed in Triumph's customer approved processor list, (i.e., Boeing D1-4426, Lockheed Martin QCS-001, Airbus Digest, etc.), are required by drawing, specification, or purchase order, the supplier shall ensure that the processing source for these processes, including those performed by the supplier, are approved by the Triumph customer prior to any processing of hardware. Links to Triumph's customer approved processor lists are available on [triumphsupplysource.com](http://triumphsupplysource.com) ► [Approved Processors](#) ► [Customer Approved Processors](#)
- 4.5.5. Processor purchase orders to Triumph "Approved Processors" should contain the following statement:
- 4.5.5.1. "Work to be accomplished in performance of this purchase order is directly related to a { ***INSERT APPROPRIATE TRIUMPH BUSINESS UNIT*** } Purchase Order. The Triumph Approved Special Processor Listings can be accessed via [triumphsupplysource.com](http://triumphsupplysource.com) ► [Approved Processors](#) ► [Triumph Approved Processors](#)
- 4.5.5.2. Subcontracted processes of components of supplier design must be performed by supplier-approved facilities whose capabilities and performance are supported by objective evidence of control such as surveys and/or test results. **In the event that the subcontracted supplier is customer approved, it remains the responsibility of the supplier to verify all processes are performed in accordance with the specification requirements.**
- 4.5.6. A listing of all facilities being used by the supplier must be available for review by Triumph which reserves the right of disapproval of those facilities not considered satisfactory. **Suppliers shall not substitute their own or other party process specifications for Triumph or customer process specifications without prior written approval from the applicable Triumph Purchasing Representative.**
- 4.5.7. **Being listed on the Triumph Approved Processor Listing (ASPL) does not assure or imply the quality of the work performed by the ASPL processor.** Nor shall it compel the listed processor to accept the work. When processes are procured, it is the responsibility of the supplier to verify all processes are performed in accordance with the specification requirements. The Triumph ASPL is located at [triumphsupplysource.com](http://triumphsupplysource.com) ► [Approved Processors](#) ► [Triumph Approved Processors](#)
- 4.5.8. Additionally, the processor shall review, perform, inspect and certify to the process specification as required by the purchase order. Any departure from specification requirement requires the prior written approval of the Triumph Business Unit Engineering group responsible for the specification. The Triumph ASPL processor (at all tiers) shall also comply with any Triumph unique requirements such as submission of test coupons, written approval of the processor's detail procedures, use of specific chemicals and/or

concentrations, and witnessing of first part processing and etc., when required by the process specification or the Purchase Order.

#### 4.6. Raw Material Type and Temper

- 4.6.1. All metallic details, prior to the first fabrication operation, the supplier is required to verify the correct material type and temper to engineering. Verification shall be accomplished by verifying the Material Certificate of Conformance test results during receiving inspection of the raw material. (Evidence of the review shall be indicated by an inspection stamp).
- 4.6.2. The work order should have the information for traceability during the manufacturing process and must be stamped by the inspector on the assigned operation.
- 4.6.3. Evidence of verification shall be on the supplier's shop traveler, work order, planning paper or other inspection status documentation.
- 4.6.4. No material substitutions are authorized unless approved by the appropriate Triumph Business Unit. Contact the appropriate Triumph Procurement Representative for approvals.
- 4.6.5. For Boeing Commercial Programs, (reference BCA document X31764 and note Q29) validation of raw material test reports is required. When the supplier utilizes test reports to accept purchased raw material, the following requirements apply:
  - 4.6.5.1. Test reports shall be checked 100% against the raw material supplier's requirements and applicable specifications.
  - 4.6.5.2. The supplier shall periodically validate test reports for raw material accepted on the basis of test reports. That validation shall be accomplished by supplier or other independent party through periodic, scheduled tests of raw material samples. Schedules for frequency of tests will be established by the supplier based on historical performance of the raw material supplier.
  - 4.6.5.3. Seller shall retain test reports provided by the raw material supplier, as well as Seller's validation test results as quality records traceable to the conformance of Goods, as specified elsewhere in this Contract.

#### 4.7. Counterfeit Parts Avoidance, Detection, Mitigation, and Disposition

- 4.7.1. **When required by Triumph Business Unit purchase order or Quality Requirement**, Triumph suppliers shall put into place a documented program to avoid, detect, mitigate and disposition counterfeit parts and materials. Electronics suppliers should utilize and reference AS5553 for guidance. All other suppliers should utilize AS6174 for guidance.
- 4.7.2. Suppliers shall also flow down counterfeit parts program requirements to their sub-tiers, especially but not limited to:
  - 4.7.2.1. Electronic parts suppliers,
  - 4.7.2.2. Raw material suppliers,
  - 4.7.2.3. Distributors

#### 4.8. Nonconforming Material Control

- 4.8.1. Supplier-responsible nonconformances are defined as any violation of a specified contractual requirement imposed by a Triumph Business Unit purchase order. Nonconformance's are to be processed in accordance with the specific Triumph Business Unit's contractual requirements as defined in the respective appendices of this manual. Details on the processing of nonconformances can also be found on the supplier portal at: [triumphsuppliesource.com](http://triumphsuppliesource.com) ► [Supplier Submittals](#) ► [Nonconformances](#). Once logged in, the supplier accesses: ► [Nonconformances](#) ► [Business Unit Nonconformances](#)

#### 4.9. Triumph Supplied Material

- 4.9.1. If Triumph supplied parts or material is found to be nonconforming upon receipt, the supplier is to immediately notify the appropriate Triumph Business Unit Procurement Representative listed on the purchase order. The continued use of this material without the permission of the appropriate Triumph Business Unit constitutes the suppliers acceptance of part or material quality and any costs related to repair or replacement.

#### 4.10. Supplier Disposition Authority

- 4.10.1. **Unless identified specifically by a Triumph Business Unit purchase order or Quality Requirement**, a supplier's disposition authority of nonconformances is limited to rework, return to supplier and scrap; unless the supplier has been granted MRB authority. **It is up to the supplier to validate Triumph Business Unit Disposition Authority via the Triumph Business Unit Quality Assurance Requirements.** Disposition Authority terms are defined as follows:

##### 4.10.1.1. Rework

- 4.10.1.1.1. A process applied to a nonconformance, entirely within the confines of the drawing specifications that will completely eliminate it and result in a characteristic that conforms completely to the drawings, specifications, and contract requirements.

- 4.10.1.1.2. Under the provisions of this definition, rework is authorized only when approved in writing by the appropriate Triumph Business Unit and the governing specification is within the bounds of the associated specification that provides the necessary rework instructions. When authorized in writing by Triumph, suppliers must document the nonconformance(s) and provide detail rework instructions as part of their manufacturing planning process. This is considered a part of the supplier's approved Quality System relative to the control, documentation, and disposition of nonconforming material. Any rework that will alter the chemical or mechanical properties of the affected part final engineering configuration must be submitted to Triumph MRB for disposition.

##### 4.10.1.2. Repair

- 4.10.1.2.1. Under no circumstances shall a supplier or a supplier's sub-tier supplier perform any repair procedures / operations without specific written authorization from the appropriate Triumph Business Unit. To accelerate the repair process, it is recommended that the suppliers submit their repair plan upon nonconformance notification to the appropriate Triumph Business Unit Procurement Representative.

##### 4.10.1.3. Reworked/Replaced Material

- 4.10.1.3.1. When returning previously rejected material to a Triumph Business Unit, the supplier shall reference the nonconformance document number on the shipping documents (including the Certificate of Conformance), and shall state if the items have been replaced or reworked. Under no circumstances should reworked or replaced material be combined with any other material.

- 4.10.1.4. Return to Supplier
  - 4.10.1.4.1. Return of subcontractor product found to be discrepant for subsequent rework or replacement.
- 4.10.1.5. Scrap
  - 4.10.1.5.1. Permanent removal from production and timely destruction of product found to be unfit for use. Scrapped product shall be conspicuously and permanently marked and or segregated until destroyed. All other dispositions of nonconforming material shall be submitted to the appropriate Triumph Business Unit MRB.
  - 4.10.1.5.2. Scrapping of parts or materials that are provided by a Triumph customer or Business Unit is prohibited without prior written authorization.

#### **4.11. MRB Dispositions for Supplier Designed Hardware**

- 4.11.1. Suppliers of product that retain design authority to a Source / Specification Control Drawing (SCD) may use dispositions of use-as-is or repair as long as the nonconformity does not result in a departure from the requirements of the SCD / Customer Specification. This includes suppliers that produce products of proprietary design, and products to military and industry standards.
- 4.11.2. The supplier's MRB shall not perform any disposition on any nonconformance to customer requirements that affect form, fit, function, weight, interchangeability, reliability or safety. These nonconformances shall be submitted to the appropriate Triumph Group Business Unit's Procurement Representative in accordance with paragraph 4.8 and 4.12.

#### **4.12. Recording & Reporting of Supplier-Responsible Nonconformance's**

- 4.12.1. Nonconforming parts / materials or processing shall be coordinated through the applicable Triumph Business Unit. Such documents will be developed as a result of supplier-responsible nonconformances encountered at any point in the value chain established between the Triumph Business Unit and its suppliers.
- 4.12.2. Nonconformance documents are to be submitted to the appropriate Triumph Business Unit Procurement Representative.

#### **4.13. Supplier Responsibilities upon Notification of Nonconformance's**

- 4.13.1. Suppliers are expected to immediately route nonconformance information to their appropriate Operations and Quality personnel. Once notified, suppliers are required to undertake immediate containment action to minimize or eliminate any further impact to Triumph and/or its customer's as a result of similar nonconformance's, which may be in-process, in the supplier's inventory, or in the process of delivery. Containment shall include parts nonconformance that may be in the process of shipping, at a customer or in the field.
- 4.13.2. Suppliers will also be expected to participate in discussions with their Triumph Business Unit Procurement Representative regarding appropriate disposition options for nonconformances encountered as well as the future availability of known-acceptable replacement stock as required.
- 4.13.3. When schedule permits, suppliers may request return of nonconforming parts / materials, at their expense, when such parts/materials are not otherwise suitable for immediate use or rework by the appropriate Triumph Business Unit. Alternately, when schedule permits, suppliers are encouraged to examine nonconformance's at the appropriate Triumph Business Unit prior to final disposition in order to aid the development of timely and appropriate corrective / preventive actions.



#### 4.14. Supplier-Responsible Nonconformance Cost Recovery

- 4.14.1. **At the discretion of** the Triumph Business Unit, suppliers may be subject to charges for recovery of costs associated with any / all supplier-responsible nonconforming parts/materials. Such charges will include:
  - 4.14.1.1. Up to **\$300.00** (USD) administrative charge for each nonconformance document generated by a Triumph supplier,
  - 4.14.1.2. Up to **\$100.00** (USD) administrative charge for each request for error corrections required to a material certificate or Certificate of Conformance generated by a Triumph supplier,
  - 4.14.1.3. A "to be determined" rework charge (USD) for each part requiring rework by Triumph or Triumph Customer personnel, (amount as determined by actual rework cost),
  - 4.14.1.4. Part and / or material charges (USD) per purchase order or contract pricing for each part and / or material scrapped at Triumph Business Units or its customer (amount as determined by scrap cost).
- 4.14.2. Additional charges may also apply where parts or materials, as supplied by Triumph and/or its Customer, require scrapping at the supplier as a result of the suppliers actions (amount as determined by scrap cost),
- 4.14.3. Additional charges may also apply where supplied parts / materials require extraordinary rework at Triumph or its Customer, e.g., an assembly needing to be disassembled, part removed and replaced due to bad part / material, etc. (amount as determined by actual rework cost).

#### 4.15. Notification of Quality Escape

- 4.15.1. When the supplier identifies or becomes aware of a suspect product / service that has escaped from the supplier's facility to Triumph, the supplier shall notify the appropriate Triumph Procurement Representative within 48 hours. Note: For escapes that affect "Safety of Flight" (i.e. controls) the suppliers shall submit all available information IMMEDIATELY UPON DISCOVERY.
- 4.15.2. A product or service escape is defined as a product or service that has been delivered / provided to Triumph by a supplier that does not meet the Triumph purchase order requirements.
- 4.15.3. The supplier notification shall consist of 2 methods of communication:
  - 4.15.3.1. By telephone to the appropriate Triumph Procurement Representative,
  - 4.15.3.2. A second notification shall occur in writing utilizing the Supplier Notification of Escape instructions located at [triumphsupplysource.com](http://triumphsupplysource.com) ► [Supplier Submittals](#) ► [Supplier Notifications](#) and following the appropriate directions.
  - 4.15.3.3. The supplier shall provide all of the information detailed in the Supplier Notification of Escape web page. Notifications that do not contain all requested information will be returned for additional supplier information.
- 4.15.4. Suppliers are required to attach the last FAI performed for the affected part (s). It is acceptable to list the FAIR No. from Net Inspect on the Supplier Notification of Escape form if the parts FAI's were submitted via Net Inspect.
- 4.15.5. If it is immediately known, it is expected that supplier root cause and long term corrective action will also be submitted with the notification. If the root cause and long term corrective action it is not immediately known, it shall be provided within 14 days or sooner if identified.

- 4.15.6. Triumph may require additional detail information to support internal investigations and/or customer requests. Any similar goods held by the supplier shall be inspected and when found nonconforming, contained to prevent shipment.
- 4.15.7. **Non-recurring** instances of escapes reported by the supplier, in some cases may not be counted against the supplier's Quality Performance Rating.
- 4.15.8. It is Triumph's option to report Supplier Notifications of Escape incidents to the suppliers Quality System certification body via the OASIS feedback process.

**NOTE:** Suppliers may lose their approved supplier status and be removed from the Triumph Group ASL for failing to report a known product quality escape.

#### 4.16. Inspection Sampling

- 4.16.1. In some cases, inspection sampling methods are specifically prescribed or even prohibited by Triumph Customers. Prior to implementation of any sampling, sampling plans and procedures must be submitted to and approved by Triumph Quality Assurance.
- 4.16.2. A procedure in accordance with ARP9013 "Statistical Product Acceptance Requirements" shall be in place to support the utilization of sampling plans.

#### 4.17. Non-Destructive Test (NDT) Submittal Requirements

- 4.17.1. **When required by Triumph Business Unit purchase order or Quality Requirement**, submittal of NDT general procedures and part-specific techniques to Triumph is required prior to production testing. Note that Triumph approval may also include the need for the Triumph Business Unit's customer approval.
  - 4.17.1.1. Suppliers shall review the purchase order and associated drawings/drawing notes and related documents to determine if / when NDT is required.
- 4.17.2. NDT procedures and/or techniques shall be submitted to Triumph Procurement Representative.
- 4.17.3. Guidelines for the minimum content of general procedures / techniques are provided in the respective NDT process specifications. After initial approval, any changes to subject documents shall be resubmitted to Triumph for approval.
- 4.17.4. Unless detailed on the Triumph purchase order, NDT technique submittal is required for the following items only:
  - 4.17.4.1. Critical Parts,
  - 4.17.4.2. Class 1 and 2 castings (in accordance with SAE-AMS-STD-2175),
  - 4.17.4.3. Pyrotechnics,
  - 4.17.4.4. Composites,
  - 4.17.4.5. Adhesive Bonded Assemblies,
  - 4.17.4.6. When specifically designated in Triumph's purchase order, drawing, etc.
- 4.17.5. Suppliers Using Outside (sub-tier) NDT Sources
  - 4.17.5.1. Relative to 4.17, suppliers employing outside sources for NDT shall ensure that the selected NDT sub-tier has Triumph approval as applicable for the NDT procedure / technique used.
- 4.17.6. Suppliers Utilizing In-House or Outside (Sub-Tier) Sources for Radiographic Inspection.
  - 4.17.6.1. **When required by Triumph Business Unit purchase order or Quality Requirement**, radiographic techniques shall be established to assure that castings and/or finished part are free from detrimental defects. Noted techniques shall be approved by a Triumph designated Level 3 prior to delivering the hardware. Note that Triumph approval may also include the

need for the Triumph Business Unit's customer approval.

#### 4.18. Manufacturing Plan Submittals For Critical Parts

- 4.18.1. **When required by Triumph Business Unit purchase order or Quality Requirement**, manufacturing plans for Critical or in some cases, Non-Critical Parts may be required for approval.
- 4.18.2. **NOTE:** "Critical Parts" are parts identified on the Engineering drawing as:
  - 4.18.2.1. Fracture,
  - 4.18.2.2. Durability,
  - 4.18.2.3. Fatigue,
  - 4.18.2.4. Maintenance, as well as designated parts,
  - 4.18.2.5. Flight Safety Critical, and identifiable parts
- 4.18.3. Manufacturing plans requiring Triumph Business Unit and / or Triumph's Customer approval per specification / purchase order requirements shall be submitted to the appropriate Triumph Business Unit at least 30 days prior to start of production, or as required by applicable specification.
- 4.18.4. Manufacturing plans shall be submitted to the appropriate Triumph Business Unit Procurement Representative. The manufacturing plan shall contain fabrication, processing, processor name, and inspection steps in the sequential order required by the applicable process specification(s) and/or engineering drawing(s). This shall also include all sub-tier associated manufacturing and/or process plans.
- 4.18.5. Upon approval of supplier's manufacturing plan, the plan will be considered "frozen" and the supplier shall control all manufacturing, processing, testing and inspections as stated in the approved plan. No deviations, including supplier's sub-tier suppliers / processors, are permitted without Triumph's written authorization. Delivery of product is not permitted until supplier has received appropriate Triumph approvals.

#### 4.19. Triumph Furnished Tools

- 4.19.1. When tooling is furnished by Triumph or Triumphs customers, this does not relieve the supplier of the responsibility of proving the adequacy of all tooling. Any anomalies found in such tooling must be immediately reported to the appropriate Triumph Business Unit Procurement Representative. All Triumph furnished tools must be maintained, inventoried and readily recallable.
- 4.19.2. If Triumph furnishes tooling to supplier requiring a tool prove-out, Triumph's acceptance will be based on verification of supplier's first article part and/or assembly documentation.
- 4.19.3. The supplier shall induct all Triumph furnished Precision Measuring Equipment (PME) into their calibration system and control it in accordance with their written calibration procedures.
  - 4.19.3.1. PME is defined as any device used to measure, gage, and test, inspect or otherwise determine compliance with prescribed technical/engineering requirements. PME includes, but is not limited to, calipers, micrometers, linear scales, pin gages, thread gages, spline gages, custom gages, and optical comparators; coordinate measuring machines, hardness & conductivity testing equipment, optical flats, roughness testers, torque wrenches, tensiometers, protractors, sine bars and angle blocks.
- 4.19.4. The supplier is responsible for maintenance periodic calibration of all Triumph furnished PME unless otherwise negotiated with the responsible Triumph Business Unit Procurement Representative.

#### 4.20. Key Characteristics

- 4.20.1. When the Engineering drawing, specification, and / or **Triumph Business Unit purchase order or Quality Requirement**, includes "key characteristic" requirements, the supplier shall employ Variability Reduction / Statistical Process Control (VR/SPC) methods as defined in SAE AS9103 to ensure "Key Characteristic" integrity.
- 4.20.2. VR / SPC related records shall be retained at the supplier's facility and provided to Triumph's representative, upon request, for compliance review. The definition of "Key Characteristic" shall be those Key Characteristics specifically called out on Engineering drawings and/or purchase order/manufacturing notes.
- 4.20.3. The supplier shall establish control plans for applicable Key Characteristics and strive to achieve Cpk of 1.33 or better. If not achievable, contact the appropriate Triumph Business Unit Procurement Representative for direction.
- 4.20.4. When a Triumph Group key characteristic or key characteristics are identified and contractually flowed to the supplier, Triumph Business Units reserve the right to perform Advanced Quality System (AQS) Assessments as necessary at the supplier facility(s) to ensure compliance to Triumph Group purchase order/contract requirements.

#### 4.21. Software Control (End-Item Deliverable)

- 4.21.1. If the supplier is providing software supporting a procurement, the supplier shall establish and maintain a Software Quality Assurance (SQA) program in accordance with ISO 9001, utilizing ISO 9000-3 as a guideline for the development, supply and maintenance of software and any associated Data Item Description (DID) for writing an SQA plan.

### 5. Section Five - Shipping & Deliverable Documentation Requirements

#### 5.1. Overview

- 5.1.1. **NOTE:** Supplier's shall not return Triumph furnished material without written direction of applicable Triumph Business Unit Purchasing Representative. Material returned to Triumph must include copies of Triumph shipping documents. The supplier shall provide a packing sheet for each separate shipment. At a minimum, packing sheets or attachments shall include the following information:
  - 5.1.1.1. Supplier's company name and address,
  - 5.1.1.2. The appropriate Triumph Business Unit's purchase order number, change order number and applicable purchase order line item(s) and part numbers,
  - 5.1.1.3. Record of applicable design drawing revision and applicable engineering changes (DCN, EO, etc.), as stated in the appropriate Triumph Business Unit's purchase order, or later revision.

#### 5.2. Certification of Conformance (C of C)

- 5.2.1. Form and Content
  - 5.2.1.1. A Certificate of Conformance (C of C) document provides written assurance that all work performed in connection with the appropriate Triumph Business Unit's purchase order conforms to purchase order requirements.
    - 5.2.1.1.1. This can be a separate document from the packing sheet, or included on the packing sheet,
    - 5.2.1.1.2. **NOTE:** The original signature and / or stamp of supplier's authorized Quality Representative are required and must be dated. Secured, computer-generated signatures are acceptable. Additionally, the certification statement must state the suppliers Quality Assurance department has inspected the

parts and they adhere to all contract requirements, applicable drawings and / or specifications.

- 5.2.1.2. All Certifications of Conformance shall be traceable to the material submitted and at a minimum shall contain:
  - 5.2.1.2.1. Suppliers name,
  - 5.2.1.2.2. Suppliers address,
  - 5.2.1.2.3. PO number,
  - 5.2.1.2.4. PO item number,
  - 5.2.1.2.5. Drawing number and revision,
  - 5.2.1.2.6. Quantity delivered,
  - 5.2.1.2.7. Serial number(s) (as required),
  - 5.2.1.2.8. When applicable, nonconformance reference number.
- 5.2.1.3. Product deliveries that have been subjected to Aerospace Industry designated "Special Processes" shall at a minimum be accompanied by the Processor's Certification for the Special Process or all of the following:
  - 5.2.1.3.1. Name of special process facility,
  - 5.2.1.3.2. Address of special process facility,
  - 5.2.1.3.3. Special process designation, nomenclature and revision,
  - 5.2.1.3.4. Date that special process was performed.
- 5.2.2. Machined Part Suppliers, Sheet Metal Part Suppliers, Composite/Nonmetallic Part Suppliers, Casting & Forging Suppliers, and Raw Material Manufacturers
  - 5.2.2.1. The supplier shall provide the raw material certifications which were provided by the original mill. Mill certifications shall include conformance with the applicable material specification as noted on the applicable Triumph Business Unit purchase order, material description, alloy and condition, physical properties, chemical analysis, and heat lot number.
  - 5.2.2.2. If the raw material was purchased from a distributor, include the distributor's Certificate of Conformance along with the mill certification.
    - 5.2.2.2.1. Recertification by any means other than by the original mill is not authorized unless specifically directed through specific Triumph Business Unit Quality Requirements.
  - 5.2.2.3. Castings and forgings procured in support of Triumph purchases of machined parts must have documented evidence of Triumph / customer qualification acceptance prior to production. All chemical analysis and physical test certifications shall also be provided for castings and forgings.
    - 5.2.2.3.1. **NOTE:** Suppliers using Triumph provided material may provide evidence of Triumph consignment in lieu of raw material certifications.
    - 5.2.2.3.2. **NOTE:** This category also applies to machined / sheet metal assemblies where the assembly consists of the machined/sheet metal part and standard hardware such as bearings, bushings, nutplates, and/ or sleeves.
    - 5.2.2.3.3. **NOTE:** The supplier must clarify the type of information being provided by typing the words "Date Code," "Control Number," etc. next to the information provided. When the shipment of deliverable items includes multiple date codes, control numbers, etc., each must be listed on the "Certificate of Conformance" document.

- 5.2.2.3.4. **NOTE:** When required by Triumph Business Unit purchase order or Quality Requirement, Certificates of Conformance for metallic product shall contain hardness and conductivity values.
- 5.2.2.3.5. Triumph Business Units may specifically identify what surfaces to perform hardness tests, and what methods to utilize.  
**Incorrect scale or location may result in a scrap part of which the supplier shall be responsibility.**
- 5.2.2.3.6. **NOTE:** When special processing is performed, the suppliers manufacturing detail end item parts, shall list the order in which special processing was performed, the supplier that performed the process, the processor's special process approval number, and the Certificate of Conformance number from the special processor.
- 5.2.2.4. The supplier shall apply the actual date of manufacture, date code(s) or control number(s) to the shipping document and/or "Certificate of Conformance", signed by a supplier's designated Quality Representative.
- 5.2.3. Certification of Conformance (C of C) - Distributors of Standard Parts / Hardware / Raw Materials
  - 5.2.3.1. To discourage the potential for counterfeit parts or materials from entering the supply chain, Triumph does not accept raw materials from pass through distributors (Level 3) that have not been procured directly from the manufacturer, unless certified copies from the original mill are available or prior written approval has been provided by Triumph. Any purchase of recertified raw material or raw material that has departed from direct control of the manufacturer is prohibited. Attempts to make such sales to Triumph shall be grounds for supplier disapproval.
  - 5.2.3.2. Triumph approved distributors of raw material shall provide certified copies of manufacturer's test reports with each shipment.
    - 5.2.3.2.1. Triumph classifies a supplier as an approved distributor for a specific manufacturer when the distributor has written authorization from the manufacturer to procure and distribute specific products produced by manufacturer. It is the distributor's responsibility to provide a copy of the manufacturer's authorization letter to Triumph upon request.
  - 5.2.3.3. Suppliers who procure from distributors are to utilize only distributors with Quality Management Systems that comply with either AS/EN/SJAC9100, "Quality Management Systems – Requirements for Aviation, Space and Defense Operations," and/or AS/EN/SJAC9120, "Quality Management Systems – Requirements for Aviation, Space and Defense Distributors." Triumph Group's first tier suppliers shall evaluate and select distributors based upon their ability to comply with this requirement. Note that methods for demonstrating compliance can include, but are not limited to, Quality Management System certification, second party audit, survey, etc.
  - 5.2.3.4. Distributors shall ensure that standard parts / hardware/material are marked in accordance with specification requirements. Original mill marking shall be affixed and legible on raw materials and shall not show signs of tampering or altering.
  - 5.2.3.5. Triumph does not accept standard hardware or other items from pass through distributors (Level 3 Quality System approval) unless they are

procured directly from the manufacturer or a copy of the original manufacturer certification / test report is provided. In addition, hardware or other items that have been altered by a pass through distributor will not be accepted without prior written permission by Triumph. Distributors wishing to provide "value added" services shall be approved to a Triumph Supplier Quality System Survey Level 2 (See Table 1).

- 5.2.4. Certification of Conformance (C of C) - Suppliers of Age-Sensitive Materials
  - 5.2.4.1. Suppliers must provide the original manufacturing / cure date, lot number(s), expiration date or length of shelf life (if indefinite, so state), and any special storage/handling instructions.
    - 5.2.4.1.1. **NOTE:** For age-sensitive rubber products, the supplier's "expiration date" or "length of shelf life" data is not required if the cure date and applicable specification number are stamped on the deliverable hardware. Supplier is responsible to determine if acceptance test report submittal is required in accordance with applicable material specification.
- 5.2.5. Certification of Conformance (C of C) - Rework/Repair/Replacement/Modified
  - 5.2.5.1. Items on supplier's Certification of Conformance and / or packing sheets (if it contains the C of C statement) shall clearly reflect the following requirements for rework, replacement, repair or modification of items returned to a supplier, including work performed by supplier at Triumph's facility:
    - 5.2.5.1.1. A clearly visible declaration that the item(s) have been reworked, repaired, replaced, or modified (as applicable), in accordance with respective nonconformance documents or applicable Triumph Business Unit purchase order,
    - 5.2.5.1.2. The item(s) meet the requirements of the engineering document(s),
    - 5.2.5.1.3. The original configuration and qualification status of the item(s) remains in effect (as applicable),
    - 5.2.5.1.4. All applicable nonconformance document numbers or other references have been noted to insure traceability.
- 5.2.6. Certification of Conformance (C of C) - FAA Repair Stations
  - 5.2.6.1. Suppliers shall provide a completed serviceable tag with FAA Form/Tag 8130-3, "Authorized Release Certificate, Airworthiness Approval Tag" in accordance with FAR, Part 43. Any Airworthiness Directives (AD's) or Service Bulletins (SB's) required by the contractor or the FAA shall be documented on the 8130-3 including level of compliance.
  - 5.2.6.2. When applicable, the supplier shall provide FAA Form 337, "Major Repair and Alteration", and or FAA Form 8110-3, "Statement of Compliance with Airworthiness Standards". Work must be performed by a FAA FAR 145 approved repair station. When requested by Triumph, supplier shall provide a completed copy of the final inspection work order, which details the entire scope of work performed.
    - 5.2.6.2.1. When contractually required, Triumph is required to monitor suppliers for compliance to the FAA Anti-Drug and Alcohol Misuse Prevention Program (AAMPP). When requested by

Triumph, the supplier agrees to provide objective evidence that employees are being tested as required by the AAMPP.

- 5.2.7. Certification of Conformance (C of C) - FAA FAR, Part 21 (Certification Procedure for Products and Parts)
  - 5.2.7.1. Suppliers of new FAA products/parts shall provide documented evidence of traceability to FAR Part 21, Quality System Requirements, with each shipment. Suppliers of approved serviceable replacement parts shall provide with each shipment documented objective evidence of traceability to FAA FAR 21 as outlined by Advisory Circular No. 20-62 latest revision. Supplied parts shall be airworthy and acceptable for aircraft /aeronautical installations to all specifications called out contractually.
- 5.2.8. Certification of Conformance (C of C) - Qualification Certification
  - 5.2.8.1. When Triumph drawing, procurement specification or purchase order requires deliverable items to be re-qualified, the supplier shall ensure that deliverable item(s) have identical components to those parts originally qualified to the applicable specification / control drawing. In addition, the supplier shall ensure that materials, parts and/or assemblies were inspected and/or tested to Triumph designated specification control drawings (both Triumph and supplier originated), and indicate revision level of engineering drawings, specifications, and applicable design / specification changes as stated in the applicable Triumph Business Unit's purchase order. Triumph shall view the supplier's Certification of Conformance (C of C) document and/or packing sheet (if contains C of C) as supplier's indication of compliance with this requirement. End items delivered prior to completion of qualification testing shall be allowed only by the applicable Triumph Business Unit's written consent.
- 5.2.9. Certification of Conformance (C of C) - Kitted Parts
  - 5.2.9.1. All deliveries must be accompanied with a legible Certificate of Conformance (C of C) or equivalent with each kit. The supplier must certify that all material / parts have been processed, inspected, and tested in accordance with the purchase order and engineering requirements. The supporting data is on file and will be made available for Triumph review upon request. Any deviations / waivers associated with material / parts in the kit are to be listed on the packing slip / C of C along with the affected part number. A first article inspection in accordance with Triumph Business Unit purchase order requirements is required against the kit part number as well as each individual part within the kit.
  - 5.2.9.2. **NOTE:** Any additional data package requirements will be itemized on the respective purchase order and/or planning configuration sheet (i.e., work order, manufacturing order, etc.).
- 5.2.10. Certification of Conformance - Assemblies/Sub-Assemblies

All deliveries must be accompanied with a legible Certificate of Conformance (C of C) or equivalent with each kit. The supplier must certify that all material / parts have been processed, inspected, and tested in accordance with the purchase order and engineering requirements. The supporting data is on file and will be made available for Triumph review upon request. Any deviations / waivers associated with material / parts in the assembly are to be listed on the packing slip / C of C along with the affected part number. A first article inspection in accordance with this document is required against



the assembly part number as well as each individual part within the assembly.

### **5.3. Marking, Packaging and Handling**

- 5.3.1. Suppliers shall mark all deliverable products and documents in accordance with the purchase order, manufacturing planning, engineering drawing or this document in that order of precedence.
  - 5.3.1.1. In the event there is a conflict between the requirements defined in this document, the purchase order, the engineering drawing and/or specification, the drawing / specification shall take precedence.
- 5.3.2. In performance of the contract, the supplier shall assure that all articles are packaged in a manner and with materials necessary to prevent deterioration, corrosion, or damage. Requirements for packaging shall consider conditions affecting the article while at the supplier's facility, transportation to destination, and the expected or specified conditions at the destination.
- 5.3.3. The supplier shall provide special handling for articles sensitive to handling damage. During fabrication and processing, special carts, boxes, containers and transportation vehicles shall be used as necessary to prevent damage due to handling. During individual packaging of parts, the use of staples is prohibited. This requirement excludes multi-part box packaging. All parts shall be checked by the supplier for damage at receipt (when applicable) and prior to shipment.
- 5.3.4. When specific packaging requirements are flowed-down to the respective Triumph Business Unit by their customer, the same requirements shall be flowed-down to the supplier. These requirements may supersede the requirements of this section, e.g. government specification packaging.

### **5.4. Interchangeability And Replaceability (I&R) Requirements**

- 5.4.1. Supplier shall review Triumph's purchase order and associated drawing(s) to determine if Interchangeability & Replaceability (I&R) features apply to supplier's deliverable hardware and/or statement of work.
- 5.4.2. I&R records shall be maintained by supplier and made available for Triumph review upon request. Supplier's packing sheets and/or attachments must include the Triumph designated I&R control numbers as specified in this purchase order's configuration statement of work.

### **5.5. Records Retention and Disposition**

- 5.5.1. Records shall be readily available for review by Triumph, its customers, and Government regulatory agencies. An English version (copy of the record) shall be available for all quality data and/or approved design data. Prior to destruction of any Quality Records related to Triumph procurement, the supplier shall notify and submit a records disposition request to the appropriate Triumph Business Unit Procurement Representative.
  - 5.5.1.1. Records are those as defined in AS/EN/SJAC9100 or other governing Quality Management System specifications and shall be retained in hard paper, film media, and/or electronic as required by contract requirement, purchase order or if not defined, for a minimum of ten (10) years after purchase order completion or in accordance with Triumph purchase order requirements. Per 5.5.1, Triumph will be offered first right of refusal prior to record destruction.
- 5.5.2. Records include but are not limited to:
  - 5.5.2.1. Inspections and test results per the appropriate Triumph Business Unit purchase order requirements. As appropriate, the records shall indicate the

nature and quantity of nonconformance's, the quantities approved and rejected, the nature of corrective action taken and the final sign off by Quality personnel.

- 5.5.2.2. Manufacturing information and all supporting documentation such as raw material certifications, special processing records and certifications, manufacturing records, e.g., routers and travelers, shall be retained and remain continually accessible at no cost to Triumph by the supplier in accordance with the terms of the purchase order.

## 5.6. Traceable Records

- 5.6.1. The supplier shall maintain parts traceability records as required per applicable drawing requirements. The supplier's certificate of conformity package shall include parts traceability data.

## 5.7. Foreign Object Damage (FOD) Control Program

- 5.7.1. **When required by Triumph Business Unit purchase order or Quality Requirement**, the supplier shall establish, document and maintain a FOD control program in accordance with NAS412. The goal of the program is to control and eliminate foreign object damage and/or contamination appropriate to the supplier's manufacturing, assembly, test, inspection, packaging and shipping operations.

- 5.7.1.1. **Foreign Objects (FO)** is defined as a substance or article alien to a product or system that could potentially cause Foreign Object Damage if not removed.

- 5.7.1.2. **Foreign Object Damage (FOD)** is defined as any damage attributed to a foreign object that may be expressed in physical or economic terms, which may or may not degrade the product's required safety and/or performance characteristics.

- 5.7.1.3. **Foreign Object Debris (FOD)** is defined as the condition where Foreign Object Debris has invaded a product or system. Examples include (but are not limited to):

- 5.7.1.3.1. Manufacturing by-products and materials,

- 5.7.1.3.2. Solder balls, screws, nuts, washers; insert tangs, component lead ends, wire and sleeve clippings, pieces of electronic components, flux, excess solder, tin whiskers,

- 5.7.1.3.3. Dust/dirt from bench tops, equipment, and facility infrastructure,

- 5.7.1.3.4. Finger oils or lotions, fibers from clothing, wrist bands or accessories, hair,

- 5.7.1.3.5. Consumables, expendables, hardware, personal items.

- 5.7.2. When applicable, the supplier's Foreign Object control program shall include controls to preclude Foreign Object Damage or contamination at the supplier's sub-tier sources.

- 5.7.3. The following basic elements shall be included in the supplier's Foreign Object control program:

- 5.7.3.1. Foreign Object prevention training,

- 5.7.3.2. Performance measurement,

- 5.7.3.3. Design and manufacturing planning consideration for Foreign Object prevention,

- 5.7.3.4. Work sequencing,

- 5.7.3.5. Cleanliness of work area (housekeeping),

- 5.7.3.6. Control of tools, personal items, fasteners, scrap, etc. (accountability)

- 5.7.3.7. Lost items search and documentation process,

- 5.7.3.8. Protection from Foreign Objects during handling, packaging and shipping,
- 5.7.3.9. Physical entry control into Foreign Object critical areas,
- 5.7.3.10. Foreign Object focal point(s),
- 5.7.3.11. Periodic (At least annually) evaluation of the Foreign Object control program for effectiveness,
- 5.7.4. At Triumph's discretion, the supplier's Foreign Object control program is subject to on-site review and approval.

## **6. Section Six - Supplier First Article Inspection Requirements**

### **6.1. First Article Inspection Requirements Overview**

- 6.1.1. The purpose of a supplier First Article Inspection (FAI) is to ensure that all design features of a deliverable product and its sub components meet all applicable levels of design drawing, material, process specification, and purchase order requirements.
- 6.1.2. Triumph requires suppliers of direct production parts to employ a First Article Inspection process in accordance with SAE AS9102. The purpose of this requirement is to develop objective evidence to support that all engineering design and specification requirements are properly understood, accounted for and verified.
- 6.1.3. The First Article is a process imposed on assemblies, sub-assemblies and detail parts (including castings, forgings, machined, composite, raw material cut to an engineering shape/part number, etc.). An acceptable first article product is a representation of those planned, capable and repetitive manufacturing processes and proven tooling which produced it. A complete FAI must be submitted prior to shipment of product.
- 6.1.4. An FAI product must be a true representative of the designed manufacturing / fabrication process. Therefore, suppliers shall not use prototype parts, or parts manufactured using methods different from those intended for the normal production process, for the FAI. The "First Part" produced may not qualify as the First Article if changes to the process are made subsequent to its delivery.
- 6.1.5. The supplier must be able to demonstrate that the intent of FAI was successfully accomplished, and show objective evidence thereof. The supplier will ensure FAI's submitted on behalf of sub-tier suppliers have been reviewed and are compliant with the requirements of this document.
- 6.1.6. Suppliers must notify the appropriate Triumph Business Unit if the first delivered unit does not represent the process (es) under which the subsequent production deliveries will be produced.
- 6.1.7. Suppliers that proceed at risk and produce products prior to acceptance of the First Article by the appropriate Triumph Business Unit shall not have recourse to recover losses resultant from a failed First Article. All costs associated with the result of a rejected supplier First Article produced at risk by the supplier, shall be borne by the supplier.
  - 6.1.7.1. Suppliers can proceed without risk to themselves (at Triumph Group risk) only when the supplier is authorized in writing by the appropriate Triumph Group Business Unit.
- 6.1.8. The requirement for First Article Inspection excludes supplied basic raw materials such as metallic plate/sheet, chemicals, fibers, fabrics, and outside processing services unless otherwise a part of approval processes administered by a Triumph Customer.

### **6.2. First Article Requirements**

- 6.2.1. Partial or complete re-accomplishment of the First Article Inspection for affected characteristics is required for changes in product design; any change in the supplier's manufacturing process, or other events as prescribed within AS9102.

- 6.2.2. The following are requirements of the Triumph First Article Inspection process:
  - 6.2.2.1. First Articles are performed in accordance with AS9102.
  - 6.2.2.2. Prior to shipment of production parts, Triumph suppliers are required to perform First Articles in accordance with AS9102.
  - 6.2.2.3. This data is to be developed and documented in accordance with methods prescribed within SAE AS9102 - Aerospace First Article Inspection Requirement (latest revision). Suppliers are to utilize the forms associated with this standard where possible. A supplier's equivalent forms may be used in place of those contained within SAE AS9102, provided all content prescribed within SAE AS9102 is included. Suppliers may acquire copies of SAE AS9102 and the associated forms at the following web-site address: [www.sae.org](http://www.sae.org)
  - 6.2.2.4. Additional First Article inspection requirements above and beyond SAE AS9102 may be imposed by the Triumph Business Unit.
- 6.2.3. Along with the First Article report, the supplier shall include "all supporting documentation" **as required per Triumph Business Unit purchase order or Quality Requirement.**
  - 6.2.3.1. Supplier First Articles will be submitted in accordance with Purchase order requirements.
  - 6.2.3.2. Unless otherwise authorized, a copy of the completed First Article Inspection Report shall be provided to the appropriate Triumph Business Unit for its review and approval.
  - 6.2.3.3. The supplier is required to retain the master First Article reports and associated data as described in 5.5, Record Retention and maintain the FAI records ready for review by Triumph or appropriate Triumph Business Units upon request.
  - 6.2.3.4. With the exception of catalog or standard hardware, raw materials Certificates of Conformance (C of C) are not an acceptable substitute for full chemical and physical certification (mill certifications) on First Article Units.
  - 6.2.3.5. For critical and other select parts, Triumph Business Unit's may elect to have the supplier withhold their First Article submission in order to allow Triumph Business Unit's Supplier Quality to conduct a verification of the First Article part and data at the supplier's production facility. Arrangements for this type of review will be addressed by a specific Triumph Business Unit's Quality Assurance Requirements and shall be coordinated in advance between the appropriate Triumph Business Unit and the supplier.
- 6.2.4. First Article Build Package
  - 6.2.4.1. The FAI will not be considered complete until all build package issues are resolved. The build package consists of:
    - 6.2.4.1.1. Engineering,
    - 6.2.4.1.2. Specifications,
    - 6.2.4.1.3. Planning,
    - 6.2.4.1.4. Tooling,
    - 6.2.4.1.5. Purchase Order,
    - 6.2.4.1.6. Numerically Controlled Equipment Data (as applicable).
  - 6.2.4.2. The FAI will not be considered complete until nonconformance's affecting the part or assemblies have been closed and corrective action implemented. Partial FAI's will be performed for those affected characteristics and the results recorded.

- 6.2.4.3. The FAI requirement shall continue to apply even after initial compliance. Partial or complete re-accomplishment of the FAI for affected characteristics is required for the following events:
  - 6.2.4.3.1. A change in the design affecting the form, fit or function of part,
  - 6.2.4.3.2. A change in manufacturing source(s), processes, processors, inspection method(s), location, tooling or material with the potential of affecting form, fit or function,
  - 6.2.4.3.3. When required as part of a corrective action for a part number with repetitive rejection history (typically a part with three repeated rejections or as required by the customer),
  - 6.2.4.3.4. A change in numerical control program or translation to another media,
  - 6.2.4.3.5. A natural or man-made occurrence, which may adversely affect the manufacturing process,
  - 6.2.4.3.6. A lapse in production for two years or as specified by a specific Triumph Business Unit Purchase Order Quality Requirement.
- 6.2.5. Supplier Sub-Assembly and Kit First Article
  - 6.2.5.1. When the supplier chooses to procure subassemblies and parts, these FAI requirements shall be imposed by the supplier upon the sub-tier supplier. These requirements in no way limit, supersede, or abrogate any contractual obligations specified in Triumph's procurement document.
  - 6.2.5.2. If the supplier is furnishing kits, a FAI must be performed and documented by the supplier for each item in the kit, as well as the kit level part number.
- 6.2.6. First Article Digital Product Definition (DPD)
  - 6.2.6.1. When the engineering is based on Digital Product Definition the following guidelines shall be taken into account:
    - 6.2.6.1.1. All features that are defined by the 3-D model must be included in the product acceptance plan and accounted for as part of the FAI documentation.
  - 6.2.6.2. When the dimensional characteristics are not defined by either a standard linear tolerance or GD&T feature control frame on the face of the model, these features are defined in the parts list and / or notes on the drawing.
    - 6.2.6.2.1. Examples of un-dimensioned part characteristics include but not limited to, gage thickness, surface locations, and part periphery.
  - 6.2.6.3. The FAI shall account for the entire engineering dataset (i.e., the general / flag notes, parts list, all features / characteristics per defined tolerances).
- 6.2.7. First Article Parts Shall be identified as First Article
  - 6.2.7.1. To facilitate Triumph Business Unit's identification and verification of First Article parts and data, suppliers are required to identify the part tagging or packaging by a suitable means that conspicuously identifies the First Article part as such.
- 6.2.8. Triumph Review and Approval of Individual Part First Article Submissions
  - 6.2.8.1. Triumph Business Unit's Quality Assurance personnel will review the First Article inspection report data for compliance to engineering requirements

- and for required content in accordance with SAE AS9102. Triumph Business Units may also re-inspect parts to validate supplier First Article reports.
- 6.2.8.2. If applicable, suppliers will be notified of the rejection of their First Article submission through the appropriate Triumph Business Unit.
  - 6.2.8.3. Rejected First Articles will require resubmission of the complete or partial First Articles data and where requested, parts. Partial or complete re-accomplishment of the First Article Inspection for affected characteristics is required for changes in product design; any change in the supplier's manufacturing process, or other events as prescribed within SAE AS9102 and this document.
  - 6.2.8.4. Triumph Business Unit's may also require any sample parts used in the First Article process. Triumph Business Unit's Quality Assurance personnel reserve the right to review the First Article parts and associated data to assure supplier compliance to engineering requirements and for required content in accordance with AS9102.
  - 6.2.8.5. A rejected First Article may result in the issuance of a Supplier Corrective Action Request by the respective Triumph Business Unit in order to identify the reason the rejected First Article was not detected by the supplier's Quality System.
- 6.2.9. Triumph Review and Validation of Supplier First Article Processes
- 6.2.9.1. Where appropriate, Triumph Business Unit's Supplier Quality may utilize a specifically tailored Process Review in order to validate the thoroughness and effectiveness of those processes developed and deployed by individual suppliers for purposes of generating and verifying their First Article documentation in accordance with SAE AS9102. Those suppliers whose processes are successfully validated in this manner will still be required to transmit their First Article Inspection reports along with the labeled part from which the data was derived, but will not be required to seek Triumph First Article Verification approval for individual parts prior to commencing ongoing production shipments.

### **6.3. Qualified Dies For Castings & Forgings Procured to an Engineering Drawing (Part Number)**

- 6.3.1. Prior to initial production, the die or pattern must be qualified per the requirements of the blueprint specifications, the supplier of the castings or forgings shall perform first piece inspection. Actual dimensions are to be recorded on the First Article Inspection SAE AS9102 Form. Supplier equivalent forms are acceptable providing they address all the elements of the AS9102 form. To clarify, when the forging or casting is to be procured to an engineering drawing, the FAI along with the qualification package (as defined by governing specifications) shall be submitted to the appropriate Triumph Business Unit for review and approval.

## **7. Section Seven – Suppliers Sub-tier Controls**

### **7.1. Sub-Tier Supplier Controls Overview**

- 7.1.1. It is the contractual requirement of suppliers to ensure items procured to support a Triumph Business Unit's purchase order meets and conforms to all specified requirements. **Triumph Business Units do not authorize delegated product inspection on behalf of the supplier without providing written approval.**

### **7.2. Triumph Suppliers Management of Sub-tier Suppliers**

- 7.2.1. Triumph suppliers are responsible for management of their subcontractors. This management shall include compliance in addition to acceptable quality performance.

- 7.2.2. It is strongly recommended that suppliers to Triumph Business Unit's utilize sub-tier suppliers that are certified to the most current versions (or as allowed by a recognized accreditation agency transition plan) of AS/EN/SJAC9100, 9110, 9120, AS9003, AC7004 or ISO 9001 by a recognized standard accreditation agency (as noted in Table 1, ref. para. 3.5).
- 7.2.3. Sub-tier suppliers can be categorized as compliant if a compliance audit is performed by the supplier and the results are available for review by Triumph or the appropriate Triumph Business Unit. Any risk of utilizing sub-tiers without the recommended Quality System capability shall be borne solely by the supplier
- 7.2.4. Suppliers shall provide purchasing information to their suppliers that adequately describe the product/service to be procured. It is recommended that suppliers provide specific information in lieu of general reference to specification or documentation.

### 7.3. Requirement Flow Down

- 7.3.1. Suppliers are responsible for flow down of all the requirements and provisions of the Triumph Business Unit's purchase order and this document to the supplier's sub-contractors. Deviations to this document and/or the Triumph Business Unit's purchase orders are not authorized without written consent of the appropriate Triumph Business Unit. When Customer specific documents are flowed down to the supplier, the supplier shall also flow down the same documents to their sub-tier suppliers as applicable to the process / service being provided to the supplier by its sub-tiers.

### 7.4. Special Process Approvals

- 7.4.1. Triumph suppliers are also **required** to utilize prime contractor approved suppliers when designated, e.g. Boeing D1-4426. Triumph suppliers and their sub-tiers are responsible to ensure that only approved process sources are used. **When required by Triumph Business Unit purchase order or Quality Requirement**, Nadcap approved processors shall be utilized.
- 7.4.2. Customer approval does not assure nor imply that work performed by a processor listed on the approved processor list is acceptable. Triumph suppliers and their sub-tier **suppliers are solely responsible** to assure that a processor meets all contract, purchase order, drawing and process specification requirements. When processors are not designated, the supplier must approve the processor and the supplier becomes responsible for the processors performance as an approved supplier.

### 7.5. Drawings Specifications and Quality Requirements

- 7.5.1. The supplier's Quality System shall assure that the applicable drawings, specifications, and quality requirements revisions are compatible with current purchase order agreements and are available and in use by the supplier's manufacturing and inspection areas. Military standards and specifications utilized shall be to the latest revision in effect on the date of process or manufacturing process performance, unless otherwise specified.
- 7.5.2. For specifications controlled by OEM and / or industry sources, suppliers shall independently verify the correct revision of the same and utilize the information in support of purchase order performance. Triumph Business Unit's **will not** actively provide applicable revision levels for these types of documents.
- 7.5.3. Suppliers may contact the applicable Triumph Business Unit Supplier Quality Representative for information in regards to OEM or industry web access points where the required revisions are available. Many OEM or industry access points are provided on [triumphsupplysource.com](http://triumphsupplysource.com) ► [Approved Processors](#) ► [Customer Approved Processors](#)
- 7.5.4. It is the responsibility of the supplier to notify the appropriate Triumph Business Unit when Engineering does not agree with the revision data provided on the purchase order.

Product or process nonconformance resulting from the failure of the supplier to notify the applicable Triumph Business Unit shall be deemed supplier responsibility.

## **7.6. Use Of Non-US Suppliers On Commercial Programs**

- 7.6.1. The use of suppliers or sub-tier suppliers in countries that maintain a bilateral agreement with the United States, as listed in FAA Advisory Circular AC 21-23, will require a routine validation of the product / service supplied upon receipt or at source. This may be in the form inspection or test as determined for the type of product and must be documented. The validation of the product or service may be accomplished by the Foreign Civil Aviation Authority, and evidenced by an Airworthiness Tag supplied by that agency accompanying the shipment. The use of suppliers or sub-tier suppliers in countries that do not maintain a bilateral agreement with the United States must have a plan presented in advance for approval by the appropriate Triumph Business Unit's Quality Assurance Department.
- 7.6.2. The plan must delineate how the supplier will control the product or service to assure conformance with all the approved design data. Secondly, the plan must incorporate how the foreign supplier's Quality Assurance Organization will specifically control their operations and any foreign sub-tier suppliers to assure conformance of the product / service to the approved plan. The use of a supplier in a country that does not have a bilateral agreement with the United States is also predicated upon both that country's government and the supplier's documented assurance that the FAA will not be inhibited, in any manner, from performing a physical evaluation of the supplier.

## **7.7. Sub-tier Supplier/Processor Certification**

- 7.7.1. If the supplier is not the original fabricator, processor or assembly source of the product(s) which make up the deliverable end item(s), the supplier shall obtain and retain on file sub-tier supplier/ processor certifications and test results. The supplier's sub-tier supplier/processor certifications and test results shall be made available to Triumph upon request. Additional requirements as applicable:
  - 7.7.1.1. Serial Number,
  - 7.7.1.2. Interchangeable and Replaceable (I&R) designated control numbers,
  - 7.7.1.3. Required parts traceability forms associated with Section 5.4,
    - 7.7.1.3.1. When required by Triumph Business Unit purchase order or Quality Requirement, additional Certs shall be provided at no extra charge.

## **8. Section Eight - Supplier Measurement**

### **8.1. Quality Performance Measurement Overview**

- 8.1.1. Triumph and Triumph Business Units continually monitor the performance of their suppliers using a Supplier Quality Performance Rating (SQPR). The SQPR is the supplier's demonstrated performance with respect to product quality (percentage of supplied materials / services which meet all specified requirements). For example:
  - 8.1.1.1. 1 piece nonconforming / 1500 pieces delivered = 99.93% first pass acceptance yield.
- 8.1.2. Distinct nonconformances reported by the supplier shall not be counted against the supplier's quality rating. Repeat nonconformance's that at the judgment of the appropriate Triumph Business Unit Quality are not adequately addressed by the supplier utilizing corrective action may be counted against the supplier's quality rating. Negative trends or duplications in the supplier's reported nonconformances may also be given due attention and consideration as a reflection of the supplier's corrective action process viability.



- 8.1.3. Triumph suppliers who do not maintain a satisfactory SQPR score may be required to provide formal documented corrective action plans and / or to participate in formal performance reviews with Triumph or the appropriate Triumph Business Unit. Where these remedial activities are unsuccessful, suppliers may be subject to the actions and activities in accordance with the Supplier Performance Improvement Program and eventual removal from the ASL.

Triumph Group Supplier Quality Performance Rating (SQPR) Thresholds 12 Month Rolling Performance				
Performance Level Designation	High Threshold	Low Threshold	Supplier Performance Position	
Gold	100%	100%	Exceptional Supplier Performance	Acceptable Performance
Silver	99.99%	99.80%	Very Good Supplier Performance	
Bronze	99.79%	99.50%	Acceptable Performance	
Yellow	99.49%	98.0%	Marginal Performance Informal Supplier Improvement may be Requested	
Red	<98.0%	-	Unsatisfactory Performance Formal Supplier Corrective Action Required	

**Table 2**

**8.2. Supplier Quality Performance Rating (SQPR) Reporting**

- 8.2.1. Resultant scores are provided to individual suppliers through supplier access of the Triumph Supplier Portal.
- 8.2.2. On a monthly basis it is the supplier's responsibility to access their supplier profile at [triumphsupplysource.com](http://triumphsupplysource.com) and review their performance data. Suppliers shall access with their secure password and review the performance data available for their business
- 8.2.3. The supplier's month to month performance will be posted as an YTD cumulative measure of their performance.
- 8.2.4. The supplier's performance shall be monitored within a 12 month rolling SQPR window.

**8.3. Delivery Performance Measurement Overview**

- 8.3.1. Supplier Delivery Performance Ratings (SDPR's). SDPR's are the supplier's demonstrated performance with respect to on time delivery. Ratings will be calculated as the number of pieces received on time versus the total number of pieces received in a reporting period. Total pieces received on time for a reporting period) / (Total pieces received for a reporting period) = % on time. The resulting % on time calculation is a measurement of total number of PIECES received on time versus total number of PIECES received. Units of measure (UOM) will not affect the calculation.
- 8.3.2. Any one UOM will be viewed as one PIECE. The on-time delivery window will be +7 days early / -0 days late.

Triumph Group Supplier Delivery Performance Rating (SDPR) Thresholds 12 Month Rolling Performance				
Performance Level Designation	High Threshold	Low Threshold	Supplier Performance Position	
Gold	100%	100%	Exceptional Supplier Performance	Acceptable Performance
Silver	99.99%	98.00%	Very Good Supplier Performance	
Bronze	97.99%	96.00%	Acceptable Performance	
Yellow	95.99%	90.0%	Marginal Performance Informal Supplier Improvement may be Requested	
Red	<90.0%	-	Unsatisfactory Performance Formal Supplier Corrective Action Required	

**Table 3**

8.3.3. The supplier's month to month performance will be posted as an YTD cumulative measure of their performance.

8.3.4. The supplier's performance shall be monitored within a 12 month rolling SDPR window.

**8.4. Supplier Performance Rating Thresholds**

8.4.1. Tables 2 and 3 illustrates Supplier Quality and Delivery Performance Rating thresholds for Triumph suppliers. The Quality and Delivery performance ratings are independent of each other and are not comingled.

8.4.2. Gold Suppliers - Excellent Performance

8.4.2.1. Suppliers whose rolling 12 month ratings demonstrate excellent will retain their existing business and will be considered eligible for new business opportunities, single source supplier opportunities, supplier partnerships and business collaboration.

8.4.3. Silver Suppliers – Very Good Performance

8.4.3.1. Suppliers whose 12 month rolling ratings demonstrate very good performance will retain their existing business and will be considered eligible for new business opportunities.

8.4.4. Bronze Suppliers – Satisfactory Performance

8.4.4.1. Suppliers whose 12 month rolling ratings demonstrate satisfactory performance will retain their existing business and will be considered eligible for new business opportunities.

8.4.5. Yellow Suppliers - Marginal Performance

8.4.5.1. Those suppliers whose 12 month rolling ratings demonstrate marginally acceptable performance will be allowed to retain existing business but may not be considered eligible for new business opportunities unless specifically directed to do so by a Triumph customer.

#### 8.4.6. Red Suppliers - Unsatisfactory Performance

- 8.4.6.1. Failure to achieve or maintain an acceptable performance level may also result in on site assessments, formal Supplier Corrective Action and / or more extensive remedial action as described in Section 12 - Supplier Performance Improvement Program (SPIP) or source inspection control being imposed by Triumph or the appropriate Triumph Business Unit. Any source inspection requirements, performed at either the supplier's facility or a Triumph Business Unit, imposed by the appropriate Triumph Business Unit on a supplier due to performance issues may be done at the supplier's expense.
- 8.4.6.2. Suppliers subject to SPIP shall both achieve and sustain targeted improvements or they may have their existing business re-sourced and be removed from the Triumph Approved Supplier Listing.
- 8.4.6.3. It is Triumph's option to report poor supplier performance to the suppliers Quality System certification body via the OASIS feedback process.

### 8.5. Supplier Appeal Process

- 8.5.1. Suppliers may contest a specific Quality or Delivery rating by submitting a written appeal to their Triumph Procurement Representative within 10 working days of issuance of their SQPR/SDPR Reports. The appropriate Triumph Business Unit will review the appeal and respond within an additional 10 working day period. Appeals are accomplished by contesting data specific to the month of the Quality or Delivery report. Appeal requests are submitted when logged into the supplier portal at [triumphsupplysource.com](http://triumphsupplysource.com) ► [Performance Reports](#) ► [Contested Data](#)

### 8.6. Supplier Pay for Source Inspection

- 8.6.1. **When specified by Triumph Business Unit purchase order or Quality Requirement**, products supplied to Triumph are subject to Pay for Source Inspection. Pay for Source Inspection requirements are normally utilized for new suppliers; suppliers who have not qualified for or have been removed from Triumph's Preferred Performer Program (P<sup>3</sup>) inspection delegation program or have quality / performance issues. Pay for Source Inspection requirements can be applied at the purchase order line item level for individual part numbers that have had repetitive quality escapes.
- 8.6.2. Pay for Source Inspection shall only be performed by a Triumph approved inspection service provider or authorized Triumph employee. A listing of authorized inspection service providers is available on [triumphsupplysource.com](http://triumphsupplysource.com) ► [Approved Processors](#) ► [Authorized Service Providers](#)
- 8.6.3. Triumph and Government Source Deliverable product(s) are subject to Triumph and U.S. Government's source inspection or surveillance in accordance with the provisions stated above for each respectively.
- 8.6.4. Triumph inspection requirements are noted on the purchase order. Supplier shall refer to this section for Triumph inspection instructions.

## 9. Section Nine - Preferred Performer Program (P<sup>3</sup>)

### 9.1. Preferred Performer Program Overview

- 9.1.1. The Triumph Preferred Performer Program (P<sup>3</sup>) is a delegated supplier inspection program intended to recognize superior supplier performance. The Preferred Performer Program gives suppliers preferential consideration for Triumph purchases and allows them to perform inspection functions and acceptance of product authorized by purchase order on behalf of Triumph.

- 9.1.2. Triumph P<sup>3</sup> suppliers are authorized to perform inspection functions and acceptance of product and associated paperwork on behalf of Triumph. A supplier's P<sup>3</sup> authority is defined per the scope of approval document created during the P<sup>3</sup> authorization process. The application of P<sup>3</sup> authority is at the discretion of the appropriate Triumph Business Unit and may be revoked at any time. Delegated inspection processes **MAY NOT** be delegated to another supplier's employee or delegated by the supplier to a sub-tier supplier. P<sup>3</sup> authority is limited to the scope as defined by the Triumph Business Unit.
- 9.1.3. P<sup>3</sup> suppliers that lose their delegated source inspection status due to quality performance reasons may be required to contract and "Pay for Source" Inspection through a Triumph approved service provide. The P<sup>3</sup> supplier may regain their delegated status when all the following conditions are met:
  - 9.1.3.1. Successful corrective action resolution of the issue / event causing removal of delegation,
  - 9.1.3.2. Three (3) consecutive deliveries with no recurrence of the issue / event involved in the loss of delegation if the loss was based on a single issue / event,
  - 9.1.3.3. Positive nonconformance improvement trend for the latest quarter quality performance metrics,
  - 9.1.3.4. A minimum of ninety days loss of delegation

## 9.2. Product Release

- 9.2.1. For suppliers that are not approved for P<sup>3</sup>, product(s) associated with a Triumph purchase order may be subject to Triumph inspection or source surveillance.
- 9.2.2. At the discretion of the issuing Triumph Business Unit, the right is reserved to perform Supply Chain Quality Source Surveillance at supplier facilities when invoked in the Triumph Business Unit's Purchase Order and / or when the supplier's product quality becomes unacceptable.
- 9.2.3. At the discretion of the Triumph Business Units, suppliers may be subjected to "Pay for Source" when stated in the issuing Triumph Business Unit's Purchase Order.

## 10. Section Ten - Corrective Action and Continual Improvement

### 10.1. Corrective Action and Continual Improvement Process Overview

- 10.1.1. Triumph Business Unit's employ an electronic, closed loop, Corrective and Preventive Action methodology in order to address product, process, performance, Quality System and audit nonconformances.
- 10.1.2. Responses for corrective action are designated within the E-SCAR process

### 10.2. Initiation of a Supplier Corrective Action Request

- 10.2.1. Triumph and / or Triumph Business Unit's may initiate an Electronic Supplier Corrective Action Request (E-SCAR) process by documenting the nonconforming product, process, Quality System or performance condition and notifying the supplier
  - 10.2.1.1. Supplier corrective action is accomplished by logging into [triumphsupplysource.com](http://triumphsupplysource.com) and accessing open E-SCAR's from your home page.
- 10.2.2. A supplier E-SCAR should be given the highest priority within the supplier's operations and thus requires the urgent and active participation of the supplier's management team. A request for supplier corrective action can be prompted by either nonconforming supplied parts / materials, supplier performance, Quality System issue or process / assessment finding that has produced a need for corrective action.



12.2.2.	AS9102 First Article Inspection	The SAE Aerospace Standard (AS) that establishes requirements for First Article Inspection. Method of gathering objective evidence to support that all design and specification requirements are properly understood, accounted for, and verified
12.2.3.	Authorized or Responsible Quality Representative	A supplier employee that has the responsibility and authority to make authoritative statements for the supplier in association with part/material quality and process compliance
12.2.4.	Business Unit ASL or BU ASL	Triumph Group Business Unit Approved Supplier List. Business Unit Approved Supplier List is a subset of the Triumph Group Approved Supplier List
12.2.5.	Certificate of Conformance	A statement of quality by the supplier that ensures all inspections and tests have been performed. It must be signed and dated by an authorized agent of the supplier with appropriate identification of the position held by the signer
12.2.6.	Corrective Action	Actions planned and implemented to eliminate or reduce the causes of a nonconforming product, process or service in order to prevent recurrence
12.2.7.	DFAR	Defense Federal Acquisition Regulation
12.2.8.	DPD	Digital Product Definition- The electronic data elements that specify the 3-D Computer Aided Design (CAD) geometry and all design requirements for a product (including notation and parts lists), and the use of this data throughout an integrated CAC/Computer Aided Manufacturing (CAM) and Coordinate Measurement Systems (CMS)
12.2.9.	Disposition	Engineering determination of the appropriate further actions associated with nonconforming parts/materials. Typical options include Scrap, Rework, Use as Is, etc.
12.2.10.	E-SCAR Electronic Supplier Corrective Action Request (E-SCAR)	A request to a supplier for formal documented corrective and preventive action in response to a nonconformance or performance concern
12.2.11.	Feature	Any hardware design attribute or characteristic. This includes physical portion of hardware such as a surface, face, edge, radius, hole, tab, slot, pin, etc., and requirements such as non-destructive inspection (NDI) and interchangeability and replaceability (I&R). All features require validation to conform the product to the design authority. All features have associated notes and/or Geometric Dimensioning and Tolerance Feature Control Frames (FCF) and one note or FCF may refer to several features
12.2.12.	First Article Inspection	The development of objective evidence to support that all engineering design and specification requirements are properly understood, accounted for, and verified
12.2.13.	GD&T	Geometric Dimensioning and Tolerancing

12.2.14. NC	Numerical Control
12.2.15. On-Site Supplier Assessment	An on-site review of a supplier's processes, systems, and capabilities as conducted by Triumph personnel, Customer or regulatory authority
12.2.16. NoE	Notification of Escape
12.2.17. Pay for Source	Triumph Group source inspection is required and the supplier is required to contract with a Triumph Group approved service provider
12.2.18. Partial FAI	A Partial FAI addresses differences between the current configuration and prior approved configurations, and/or addresses features that failed the original FAI. When a partial FAI is performed, the Organization shall complete only the impacted fields in the original or partial FAI form(s). The partial FAI will inspect 100% only those features that have been addressed for the current configuration and/or that failed the original/partial FAI
12.2.19. Permanent Specification Change	A modification to any specified product requirement (blueprint, specification, etc.) as approved by the appropriate design authority which is unbounded by quantity or time
12.2.20. PO	Purchase Order
12.2.21. Process Change	Any change to the materials, methods, machinery, or location from that previously approved by a Triumph Business Unit
12.2.22. Quality Assurance Requirements	A defined special purchase order condition relative to quality assurance needs for procured direct parts/materials or processing services
12.2.23. RAB	Registrar Accreditation Board
12.2.24. SPIP	Supplier Performance Improvement Program. The process used to address unsatisfactory supplier performance
12.2.25. SPR	Supplier Process Reviews - Periodic detailed on-site examination of the manufacturing processes, procedures, and controls used in the fabrication, assembly, inspection, and delivery of individual purchased parts/materials
12.2.26. SQAM001	Triumph Group Supplier Quality Assurance Manual
12.2.27. SQPR	Supplier Quality Performance Rating – the Triumph quantified measure of supplier performance
12.2.28. SQPR Report Scorecard	Monthly report detailing the performance rating (SQPR) for the supplier. This report consists of the Supplier Quality Rating and the Supplier Delivery Rating
12.2.29. Supplier Application	A Supplier Application provides an overall representation of a new Supplier's business. It is the 1st step of the new Supplier approval process

12.2.30.	Supplier Assessment	A formal documented activity performed at a Supplier's facility by Triumph personnel in order to assess compliance with targeted systems and measures of performance prior to addition to the Triumph Group Approved Supplier List
12.2.31.	Supplier-Responsible Nonconformance	Any violation of a specified contractual requirement imposed by a Triumph purchase order
12.2.32.	Temporary Specification Change	A modification to any specified product requirement (blueprint, specification, etc.) as approved by the appropriate design authority which is bounded by quantity or time
12.2.33.	Triumph Group ASL	Triumph Group Approved Supplier List
12.2.34.	Triumph Group BU or BU	A Triumph Company Business Unit Location
12.2.35.	<a href="http://triumphsupplysource.com">triumphsupplysource.com</a>	Triumph Supplier Portal. Website that houses the Triumph Group approved supplier list, supplier performance and supplier requirements. Often referred to as "the system" or "the portal"
12.2.36.	3-D	Three Dimensional

**12.3. Revision History**

<b>Revision</b>	<b>Description of Change</b>	<b>Effectivity Date</b>
Original	Initial Release	10 September 2007
A	Complete update. Re-formatted and added new requirements. Combined Triumph Legacy SQAM001 and Triumph Aerostructures – Vought Aircraft Division Legacy SQAR documents	01 April 2014

**12.4. Approvals (Authorizing Signatures on File)**

/s/ E.F. Mariot, Corporate Senior Supplier Quality Manager, Triumph Group	06 March 2014
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