CIRRUS Supplier Requirements Manual

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1.0 INTRODUCTION

1.1 PURPOSE

CIRRUS recognizes the role of quality management in ensuring that our products and services comply with customer and regulatory requirements. To ensure we achieve this objective, we are committed to the development, implementation, and maintenance of a quality system based on the requirements of 14CFR Part 21.

CIRRUS has created the CIRRUS Supplier Requirements Manual to communicate our requirements to achieve this objective.

For more information visit the CIRRUS Supplier website at: http://Suppliers.cirrusaircraft.com

1.2 SCOPE

This document applies to all Suppliers, foreign and domestic, providing parts, products and services to CIRRUS unless exempted in writing.

In the event that the purchase order or long term agreement conflict with the requirements of this document, the purchase order or long term contract agreement supersedes this document.

1.3 REFERENCED DOCUMENTS

The following documents and specifications were used in the development of this document.

- 14 CFR Part 21, Title 14 of the US Code of Federal Regulations
- AC 21-20, Supplier Surveillance Procedures

The following documents and specifications are associated with this document.

- AS9100, Quality Management Systems
- AS9102, Aerospace First Article Inspection Requirement
- AS7103, NADCAP Requirements for Accreditation of Pass Through Distributors
- ISO9001, Quality Management and Quality Assurance Standard
- ISO17025, General Requirements for the Competence of Testing and Calibration Laboratories
- FAA Form 8130-3, Authorized Release Certificate
- RTCA DO0178, Software Considerations in Airborne Systems and Equipment Certification
- CIRRUS QAF 6.9, Supplier Quality System Evaluation

1.4 RESPONSIBILITY

The FAA requires that CIRRUS, under its production certificate, ensure its Suppliers have an acceptable quality and inspection system. CIRRUS shall be responsible for:

- Ensuring that each Supplier provided product, article or service conforms to CIRRUS' requirements.
- Ensuring there is a Supplier reporting process for products, articles or services that have been released from the Supplier and subsequently found not to conform to CIRRUS' requirements.

- Approving Suppliers
- Providing Suppliers with latest revisions of CIRRUS documents
- Ensuring each Supplier's execution of requirements is adequate.

The Supplier shall be responsible for;

- Providing and maintaining a system for the control of quality and configuration, including that of their sub-tier Suppliers.
- Maintaining the current version of all documents referenced in contracts or purchase orders. This shall include all relevant military, commercial, federal, and industry specifications.
- Fulfilling the quality requirements of the CIRRUS purchase order.

2.0 SUPPLIER APPROVAL & CLASSIFICATION

2.1 SUPPLIER APPROVAL

After initial contact by CIRRUS Procurement, Suppliers seeking approval or re-approval may be requested to submit the following documentation to CIRRUS Quality Assurance. Other documentation may be requested throughout the Supplier approval process. All quality documentation used for Supplier approvals shall be submitted in English.

- Uncontrolled copy of Quality Manual (as required).
- Completed CIRRUS QAF 6.9, Supplier Quality System Evaluation.
- Appropriate third-party registration certificates (ISO9001, AS9100, etc).
- Appropriate FAA certificates (Repair Station Certificate, TC, PC, STC, TSO, PMA)
- NADCAP Special Process certificates, where appropriate.
- Point of Contact List with EMAIL addresses and telephone numbers.

When appropriate, a CIRRUS or FAA site audit may be scheduled at the Supplier or sub-tier Supplier. This audit team may be comprised of individuals from CIRRUS Quality Assurance, Procurement, Process Engineering, Design Engineering or any other operational group deemed appropriate. Areas of focus include but not limited to:

- Quality Management System
- Management Responsibility
- Resource Management
- Production Capability
- Inspection Capability
- Product Development and Engineering Processes

Approval of a Supplier does not guarantee or imply obligation for CIRRUS to issue purchase orders. Suppliers failing to submit requested documentation will not be eligible for approval status. Re-approval of a Supplier does not guarantee or imply an obligation of CIRRUS to issue purchase orders.

CIRRUS Quality Assurance will perform surveillance activities during the time a Supplier is listed on the Approved Supplier List. This can include on-site audits of Supplier and sub-tier Suppliers, issuance of corrective and preventive actions, workshops, and improvement programs targeted at Supplier development. Suppliers failing to submit requested documentation will not be eligible for re-approval.

Suppliers removed from an approved status will be notified. Suppliers requesting re-approval must submit approval documentation plus any pertinent completed corrective actions addressing deficiencies in product/services.

Suppliers may receive performance scorecards that measure quality and delivery. Suppliers are strongly encouraged to review and take appropriate actions for low scores and performance. Suppliers not meeting expectations may be required to respond to formal corrective actions or other action plans deemed necessary by CIRRUS Quality Assurance.

2.2 SUPPLIER CLASSIFICATION

There are four classifications of Suppliers. Certain quality requirements are applicable to the classification levels as described below.

- LEVEL I: OEMs including FAA Certificate Holder (TC, PC, PMA) or AS 9100
- LEVEL II: Manufacturer including Special Processors
- LEVEL III: Distributor or Supplier of raw material
- LEVEL IV: Service Suppliers*

  *Note: Service Suppliers are those who provide a service to CIRRUS Aircraft. These services are not associated with the manufacturing or fabrication of a part and/or assembly, they are services such as metrology and calibration services, testing laboratories, etc.

Supplier specific requirements are listed under the Classification Levels and are used in addition to the Quality Requirements outlined in Section 3.0. These apply to all Suppliers and sub-tier Suppliers.

Topic	**Requirement**	LEVEL I	LEVEL II	LEVEL III	LEVEL IV
Quality Management System	Quality Assurance Manual certified to one of the following; AS9100, ISO 9001, FAA approved, or CIRRUS approved.	X			
	Quality Management System certified to one of the following; AS9100, ISO 9001, NADCAP, or CIRRUS approved.		X		
	Quality Management System certified to ISO 9120 or CIRRUS approved.			X	
	Quality Management System certified to ISO 17025 or CIRRUS approved.				X
Product Support Literature	Product requiring specific manufacturer's application instructions, maintenance schedules, maintenance procedures, troubleshooting guides, handling procedures, and operating instructions; must have relevant documentation such as service bulletins, service advisories, service letters, overhaul manuals, illustrated parts catalogs, parts lists, and operator manuals be available, at no cost, to CIRRUS Design Corporation. All future updated publications must be sent to: Manager, Customer Service	X			

	Department, and to Manager, Field Service Department, and to Manager, Technical Publications Department. All three are addressed at 4515 Taylor Circle, Duluth, Minnesota 55811. Service publications may be delivered electronically via e-mail, CD-ROM or access to publications through vendor hosted Internet sites.				
	If the product requires specific manufacturer's application instructions and/or handling procedures, they shall be included with the shipping documents or be legible and conspicuous on the container or packing of the product.			X	
Deliverable (Airborne) Software Quality Control	RTCA (Requirements Technology and Concepts for Aviation)/DO-178, "Software Considerations in Airborne Systems and Equipment Certification" or equivalent shall be used as guidance for development, test and control of airborne software.	X			
Data Control	Software used for storing approved data, product manufacturing and product acceptance shall be protected from unauthorized access, inadvertent damage, and degradation.		X	X	
Data Availability	Upon request, distributors must have the ability to provide all original manufacturer test, inspection, and material conformance data within two business days.			X	
MSDS	Supplier is to provide Material Safety Data Sheet, when applicable, with each shipment.	X	X	X	
Castings and Forgings	Parts manufactured using casting methods must be radiographed unless otherwise stated on the engineering drawing or specification. Sample size shall be per ANSI/ASQ Z1.4, C=0, unless otherwise stated on the engineering drawing. Radiography films or electronic files must be kept on file and made available to CIRRUS for a minimum period of two years after the production date.		X		
IMTE	Supplier shall maintain a calibration system with traceability to the National Institute of Standards and Technology, or equivalent foreign agency. A process for recall shall be established for any IMTE that is found out of tolerance.		X		X
Quality Planning	Supplier shall establish and maintain a process that controls quality and can demonstrate conformity of products and services to requirements. This can be accomplished by, but not limited to the following; Inspection Plans, Process Flow Diagrams, Statistical Techniques, PFMEA, FMEA, etc. Certified tooling may be used in lieu of dimensional inspection. The supplier's quality assurance system must have a procedure for the use, control and re-certification for certified tooling.		X		
CIRRUS 90000 Type	Unless otherwise specified on the engineering drawing or approved engineering documentation, all specifications		X		

Design Specs	listed in CIRRUS 90000, general requirements (G), are applicable to all parts and assemblies.				
Chemical Processing	All processes including anodizing, chemical cleaning and milling, conversion of phosphate and chromate coatings, electroless and electrolytic plating, stripping, etching, and surface passivation shall have defined plans for chemical handling and storage, NDI, process test frequency and sampling methods, processing parameters, and laboratory test methods.		X		
Coatings	Processes including thermal spray, vapor deposition, liquid and powder coat painting, E-coating, and application of dry film lubrication shall have defined plans for chemical handling and storage, NDI, process test frequency and sampling plans, processing parameters, and laboratory test methods.		X		
Heat Treatment	Heat treatment of metals such as alloy steels, cast iron, aluminum, and titanium including processes for normalizing, nitriding, annealing, stress relieving, and hardening shall have defined plans, NDI, process test frequency and sampling methods, processing parameters, and hardness evaluations.		X		

3.0 QUALITY REQUIREMENTS

3.1 GENERAL REQUIREMENTS

Suppliers shall maintain a Quality Management System compliant to a standard appropriate to their business and type of product or service. Suppliers with third party certifications or accreditations are required to maintain those systems.

3.2 RECORD RETENTION AND TRACEABILITY

Record retention for all quality records shall be five years (as defined by 14 CFR Part 21.137). Record retention for critical components (as identified in 14 CFR 45.15) shall be ten years. This ten year requirement will be communicated to the Supplier by CIRRUS. Record retention for quality records produced after 7/1/2022, will default to ten years.

Suppliers shall maintain all quality records such that all parts are traceable to the raw material and the manufacturing history of the parts.

3.3 NOTIFICATION OF CHANGES

The Supplier shall provide notification to CIRRUS when;

- Intent to relocate production, manufacturing, repair or overhaul of parts and assemblies.
- Physical movement of critical manufacturing or inspection equipment which could affect production or inspection capability.
- Changes in the supply chain that affect the point of manufacture.
- Changes to items controlled by CIRRUS Source Control Drawings.

- Changes in ownership or key management positions.
- Changes in the Quality Management System that affects any third-party certifications or accreditations such as AS9100, ISO 9001, ISO 9120, ISO 17025, NADCAP, etc.

3.4 FIRST ARTICLE INSPECTIONS

The purpose of the first article inspection is to validate that product realization processes can produce parts and assemblies that meet all the CIRRUS requirements. The first article inspection report provides objective evidence the manufacture's processes can produce compliant product and that they have understood and incorporated all associated requirements.

First article inspection reports will be submitted in accordance with the AS9102 standard using forms 1, 2, and 3. The Supplier shall submit a first article inspection report when;

- Manufacturing a production or conforming part for the first time.
- A change in the design or configuration of the part.
- When the line or location of production changes.
- After a production lapse of 2 years or more.
- When specifically requested by CIRRUS.

Instructions and requirements for filling out first article inspection reports are located on the CIRRUS Supplier website at: http://Suppliers.cirrusaircraft.com

3.5 CERTIFICATE OF CONFORMANCE

Supplier shall provide a signed and dated Certificate of Conformance with each shipment. A packing slip may be considered an acceptable Certificate of Conformance provided it meets all the requirements.

The Certificate of Conformance must include:

- Name of company as the Letterhead
- Date of issue
- CIRRUS purchase order number
- Part number, revision level, and all engineering change notices as defined on the purchase order.
- Supplier part number and revision level, if applicable
- Quantity
- Part serial number, material lot and/or oven run number, if applicable
- Age control data, if applicable
- A statement of declaration that the product was tested in accordance with the CIRRUS Acceptance Test Procedure (ATP) including a reference to the ATP number, if applicable.
- A statement certifying that the product supplied conforms to the drawing, specification, and purchase order requirements. Statements shall not contain ambiguous language such as, "To the best of my knowledge…" or "I believe the product meets…"
- A signature and title of a company officer or authorized designee of operations, engineering, or quality management will be required on all Certificate of Conformances. Electronic signatures are only permissible when proof of secure procedures can be demonstrated.

A signed FAA form 8130-3, 8130-9 or signed EASA Form-1 is an acceptable Certificate of Conformance. The CIRRUS part number is preferred, but not required unless it is the only part

number defined on the purchase order. Devices repaired or remanufactured shall be labeled "Return to Service". Form 8130-3, 8130-9 or EASA form 1 shall be completed in the English language

For Calibration Services, a certificate of calibration must be provided. A certificate of calibration should contain the following:

- A title (ex. Certificate of Calibration and Traceability)
- Name and address of the laboratory where the calibrations were carried out
- Name and address of the customer
- Unique identification of the calibration certificate
- Identification of the calibration procedure used
- Due date of the calibrated item
- List of standards used to perform the calibration including their calibration dates and traceability
- Unambiguous identification of the item calibrated (ex. serial number)
- The environmental conditions under which the calibrations were made that have an influence on the measurement results
- Name, function, and identification of individual authorizing the calibration certificate (technician)
- Calibration completion date and calibration results with the unit of measurement

3.6 GRANTED AUTHORITIES

The Supplier shall not have authority to make changes to CIRRUS drawings or specifications

The Supplier shall not have MRB authority over non-compliances unless given formal MRB authority by CIRRUS.

An Advanced Deviation Request, ADR, shall be submitted and approved by CIRRUS for any known non-compliance against an engineering requirement.

The Supplier shall not have Direct Ship authority unless given formal Direct Ship authority by CIRRUS.

3.7 SUB-TIER SUPPLIER SYSTEM

The Supplier shall have;

- A formal system for approval of a sub-tier or a method of evaluating the product to assure conformance to the approved engineering design data.
- Assuring that all sub-tier Suppliers of products, articles, and/or services have in place the appropriate quality assurance programs necessary to meet all requirements.
- A system for evaluating and maintaining their Suppliers' and sub-tiers' performance in terms of quality and shall maintain a system to correct unsatisfactory conditions.
- The supplied components, assemblies and material shall be traceable to lower level inspection and material sources.
- Maintain records on all parts received from their sub-tiers' to include: purchase order, lot number, date received.
- Point of manufacture for all supplied components, special processes, and assembly work must be documented and made available to CIRRUS upon request.

3.8 LATENT DEFECTS

The Supplier shall notify CIRRUS of any latent defects delivered in its products, articles, and/or services. Notification shall be made immediately in writing to CIRRUS Procurement and Quality Assurance. Notification shall include a clear description of the nonconformity, part number(s) affected, quantities, serial numbers if applicable, and delivery date(s).

3.9 EXPORT CONTROL

ITAR- Due to the merger with CAIGA, CIRRUS and its employees cannot be involved with “defense articles” (anything designed for military application) or “defense services” (training on use of such articles), and related technical data as defined by the International Traffic in Arms Regulations (ITAR). CIRRUS Suppliers must notify CIRRUS immediately if products that are going to be supplied to CIRRUS are ITAR controlled.

EAR – In order to ensure compliance with the Export Administration Regulations, CIRRUS OEM Suppliers are required to provide the ECCN, Export Control Classification Number, for all products and/or technologies provided to CIRRUS. This can be communicated through CIRRUS Quality Assurance or CIRRUS Procurement.

3.10 PRESERVATION OF PARTS AND MATERIAL

All material shall be identified either by bag and tag (small parts) or by individual permanent marking (larger parts), reference the appropriate CIRRUS engineering specifications or drawing requirements.

Supplier shall provide special packaging and preservation to ensure against surface scratches, denting, and damage to the external and internal assemblies, moisture protection, and for safety while handling during the shipping process.

The Supplier shall clearly mark the manufacturing or cure date, shelf life and if applicable, the after open shelf life on the certification document, on any parts or products and/or the container to permit validation without having to expose the initial shipment. Items date-controlled and shipped to CIRRUS shall have no less than 75 percent of their shelf life remaining.

3.11 SPECIAL PROCESSES

Suppliers and supplier sub-contractors providing special processes shall have a documented process control plan suitable of meeting all defined requirements. CIRRUS may require special processes have NADCAP accreditation or be approved by CIRRUS. Special processes include:

- Chemical Processing
- Surface Treatments or Coatings
- Composites
- Heat Treating
- Non-Destructive Testing
- Welding and/or Hot Dip Brazing
- Castings/forgings

3.12 COUNTERFEIT PARTS

Supplier shall implement and maintain a Counterfeit Item risk mitigation process internally and with sub-tier Suppliers. Supplier is contractually required to deliver products to CIRRUS that are:

- Obtained either from OEMs or authorized OEM resellers or distributors;
- Not Counterfeit Items; and
- Authentically marked with OEM labels and other markings.
- Any items identified by Supplier as counterfeit must be removed from shipments to CIRRUS. At any time if CIRRUS has reasonable cause to believe Supplier has provided counterfeit material, whether material remains in CIRRUS inventory, WIP, or in the form of finished goods, Supplier will be responsible for all costs deemed necessary and reasonable to investigate and replace counterfeit materials. These costs include, but may not be limited to, travel expense, legal expenses, shipping costs, fines or penalties, labor, replacement materials, administrative expenses, and the like.

3.13 FLOW DOWN TO SUPPLY CHAIN

Supplier is required to ensure its subcontractors or sub-tier Suppliers adhere to any contractual, regulatory, statutory, and material flow down requirements as may be communicated to Supplier by purchase order, specification, or other written notification from CIRRUS. Examples may be but are not limited to FAR or other regulatory requirements, test reports, special processes, and so forth.

3.14 SUPPLIER CONTRIBUTI0N TO PRODUCT OR SERVICE CONFORMITY

Supplier shall have qualified personnel to perform set tasks. The supplier shall ensure those persons are aware of their contribution to product and service conformity, product safety, and the importance of ethical behavior.

4.0 Appendix

CIRRUS Supplier website at: http://Suppliers.cirrusaircraft.com

AS9102 forms can be found on the Society of Automotive Engineers website located at the following address: http://www.sae.org/aaqg/publications/as9102a-faq.htm.