

# **New Program Quality Requirements for Suppliers (NPQR)**

**For Limited Manufacturing of  
Components and/or Processes for  
Engineering Certification**

Revision A

## New Program Quality Requirements for Suppliers

<u>Rev.</u>	<u>Effectivity</u>	<u>Description</u>
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A	02/01/2016	Update to incorporate non-FAA accreditation and consolidation of Beechcraft and Cessna into Textron Aviation Inc.

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## PURPOSE

To define conformity tasks, documentation, engineering requirements and processes that must be adhered to for certification of articles that are manufactured by suppliers and conformed by the supplier, Textron Aviation Inc., or the Textron Aviation Inc. ODA quality unit members for certification projects.

## REFERENCES

- Textron Aviation Inc. ODA Manual,
- CFR 14 Part 21, Certification Procedures for Products and Parts
- FAA Form 8100-1, Conformity Report
- FAA Form 8100-9, Statement of Compliance with Airworthiness Standards
- FAA Form 8110-3, Statement of Compliance with Federal Aviation Regulations
- FAA Form 8120-10, Request for Conformity
- FAA Form 8130-3, Authorized Release Certificate
- FAA Form 8130-9, Statement of Conformity
- FAA Form 8130-13, Designee Geographic Expansion Authorization
- FAA Order 8110.4, Type Certification
- MIL-HDBK-516, Department of Defense Handbook: Airworthiness Certification Criteria
- CQRS, Cessna Quality Requirements for Suppliers

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## **1.0 SCOPE AND INTRODUCTION**

This document describes specific activities for limited manufacturing and testing of articles for Engineering certification purposes by suppliers for Textron Aviation Inc. It covers activities whereby articles, Acceptance Test Procedures (ATP), and Qualification Test Procedures (QTP) are accomplished to engineering design definition for eventual certification purposes. The requirements herein adhere to FAA Order 8110.4 Type Certification for FAA/ TC ODA projects or Military Handbook 516 for Tailored Airworthiness Certification Criteria (TACC) military projects.

## **2.0 Requirements for Supplier Designed Components**

All revisions, including deviations from supplier's drawings, must be approved in writing by Textron Aviation Inc. Engineering prior to their incorporation. The supplier shall notify Textron Aviation Inc. Engineering of the request for change or deviation by submitting recommendations to Textron Aviation Inc.'s certification TC ODA Engineering UM for FAA/ TC ODA projects and the appropriate Compliance Engineer for military TACC projects. Performance changes to ATP's and QTP's shall also be approved by Textron Aviation Inc. Engineering.

## **3.0 Supplier Quality System Requirements**

Textron Aviation Inc. Quality may conduct audits at any time to confirm conformance to the following criteria. These criteria are specifically for Experimental Approval only. If a supplier would like production approval they need to see Textron Aviation Inc.'s Cessna Quality Requirements for Suppliers (CQRS) document.

### **3.1 Criteria for Engineering Projects**

Suppliers for engineering projects shall meet the following criteria:

- Be an established business with a physical address
- Have a responsible associate in charge
- Understand industry and marketing requirements in their field
- Have effective procedures and process controls with historical documentation
- Be able to provide appropriate documentation during shipment
- Provide supporting documentation on request
- Understand and be able to consistently perform to this guideline
- All correspondence or data submitted in support of the requirements contained herein are to be in English

### **3.2 Manufacturing Process Controls and Compliance**

The supplier's manufacturing processes and procedures are the basis for achieving compliance. The supplier's quality systems and documentation substantiates compliance to assure that products manufactured and delivered are in compliance with engineering type design data.

### 3.3 Product Inspection

A Product inspection can involve the final product, gate inspection, or in-process inspection (inspection points or stations) to determine compliance. Some articles may require documentation of specific inspection techniques (e.g. penetrate, magnetic particle, x-ray). Documentation of a product inspection must indicate product compliance and must be maintained as part of the product record. The Supplier should be able to provide the calibration records of tools, gages and test equipment.

### 3.4 Special Processors

Special process suppliers for engineering certification program shall be approved. Until revised the list of all processes requiring Supply Chain Quality approval can be found at the following website: <https://ww2.txtav.com/Supplier/>

Any suppliers performing work to the specifications at the website above will require approval by appropriate Supply Chain Quality called out in the engineering prior to conducting any processing.

Requests can be made at the above website to add suppliers to the approved special processor list. Addition will be made at the discretion of Textron Aviation Inc.

### 3.5 Software Quality Control

Engineering programs for certification will have suppliers maintain configuration control of components containing software throughout the development of an article towards certification. Articles delivered to Textron Aviation Inc. will be tracked by the supplier and Textron Aviation Inc. to maintain compliance to engineering.

All software and firmware will be approved by the supplier and Textron Aviation Inc. prior to installation and/or conformity inspection for either FAA certification or military TACC projects.

Articles manufactured with software/firmware will be clearly identified by the supplier's manufacturing and verification processes to ensure all software/firmware "loads" can be readily traced. Field loaded software in the form of a physical media (e.g. tape, chip, disk) will be manufactured, validated, approved with FAA Form 8100-9 and released in the same manner as any other aircraft article. TACC products will be released based on engineering approval.

## 4.0 **Nonconformances**

Nonconformances must be coordinated with Textron Aviation Inc. New Programs Quality prior to the parts being shipped. Reference Textron Aviation Inc.'s Letter of Delegation for contact information and instructions on handling of FAA programs.

The Supplier may use their own nonconformance document and submit to TXTAV for disposition and approval.

Any nonconformances associated with material/parts are to be listed on the FAA Form 8130-9 or C of C depending on the type of program.

Any material/parts failing to meet TXTAV contractual requirements upon receipt will be held and/or returned to the Supplier at the Suppliers expense.

## **5.0 Failure Reporting**

All failures shall be analyzed and reported to Textron Aviation Inc. Reliability following the first part produced. During the aircraft certification period, a thorough root cause analysis shall be performed for each failure. The root cause analysis shall be maintained for a minimum of two years. Subsequent failure reporting shall be in accordance with the purchase order or the supplier's normal procedures. Repeated failures or trends where the cause is not apparent from normal test, inspection and repair procedures may be subject to a Textron Aviation Inc. Quality and Engineering investigation.

### **Notification of Escaped Defects**

When the supplier identifies or becomes aware of a suspect product/service that has escaped from the supplier's facility to Textron Aviation Inc. the supplier shall notify Textron Aviation Inc. within 48 hours. The Notification shall be in writing, addressed to Textron Aviation Inc., on the supplier's own letterhead. Notifications of Escape shall be sent to the appropriate Quality Contact and to the cognizant, Textron Aviation Inc. buyer.

**Note:** For escapes that affect "**Safety of Flight**" the suppliers are required to contact and submit all available information **IMMEDIATELY**.

## **6.0 Purchase Orders and Quality Notes**

### 6.1 Purchase Orders

For engineering certification articles, a purchase order shall be issued for all deliverable components. Quality notes are used to identify the level of conformity inspections that are required. For TACC projects note 62 will be the request for C of C. For FAA projects notes 28 and 29 will be the request for the conformity statement.

### 6.2 PO Quality Notes

PO Quality Notes and guidelines for meeting quality note requirements can be found at the following website: <https://ww2.txtav.com/Supplier/>

## **7.0 Conformity (General)**

Parts to be used for certification testing will require a conformity inspection prior to testing. The type of conformity inspection required will be communicated to the supplier through quality notes on the purchase order and/or a letter authorizing the supplier to perform a conformity inspection on Textron Aviation Inc.'s behalf.

The following paragraphs provide clarification regarding conformity requirements and are intended to provide guidance to our suppliers for certification programs. A supplier article used for FAA/ TC ODA certification will be in accordance with specific FAA Form 8120-10 Request for Conformity as defined by Textron Aviation Inc. TC ODA Engineering UM. A supplier article used for TACC will follow company conformity/accreditation requirements.

## 7.1 Company Conformity/Certificate of Conformance

In support of company conformity Textron Aviation Inc. may request the supplier to provide a Statement of Conformity, signed by the person responsible for quality control, attesting that product was manufactured in accordance with all applicable consensus standards, government requirements, Textron Aviation Inc. and/or supplier design control documents and functional test requirements:

Certificate of Conformance should include at a minimum

- Part number and revision level
- Name of actual manufacturer
- Production Order Number the part was built under
- Enter any applicable authorized MRB activities which includes any deviations/waivers associated with material/parts in the assembly are to be listed on the C of C along with the affected part number.
- Supporting documentation (e.g. work orders, travelers, ATP results, the origin and certifications of materials used in the manufacture of airframe components)
- For Manufacturers – manufactured, inspected, tested and unless otherwise stated above conform in all respects to specifications, and drawing.
- For Distributors – the materials and/or parts covered by this certificate have been received under cover of the release certificates, are in the same condition as when received and have been re-issued. A copy of the manufacturers original release documentation should be included with the delivery when seller is a distributor.

## 7.2 MRB Level of Conformity Purpose

Textron Aviation Inc. may request the supplier to provide a Material Review Board (MRB) research level of conformity inspection on articles that have been, or will be provided by a supplier. For an article already delivered to Textron Aviation Inc., the request will be by FAA form 8120-10 to the supplier defining the article that Textron Aviation Inc.'s TC ODA Quality UM has on hold for use in conformity efforts. The request will have the appropriate information and should include; part number, serial number, description, quantity and other pertinent traceable data that is retrievable from the supplier's manufacturing inspection system.

## 7.3 Conformity Request for FAA/ODA projects

Textron Aviation Inc. Inspection TC ODA will use FAA Form 8120-10 to request conformity inspections for all FAA/ODA projects. All conformity requests that are issued for certification are processed through the Textron Aviation Inc. TC ODA. The Quality UM at the supplier will be provided with a copy from the Textron Aviation Inc. TC ODA. The conformity request FAA Form 8120-10 will list the forms that are required to support the conformity activity.

At times, there may be quantity differences between the released FAA Form 8120-10 and the purchase order. In such cases, the FAA Form 8120-10 will take precedence. Quantities requested on the FAA Form 8120-10 may be separated from the purchase order quantity and conformed when the articles are ready for shipment. Therefore, the PO quantity and the quantity of conformed articles may not match. The FAA Form 8120-10 may need to be revised; this must be coordinated through Textron Aviation Inc. engineering.



#### 7.4 Required Content for FAA/ ODA Conformity Packages

- FAA Form 8120-10, Request for Conformity
- FAA Form 8100-9, Statement of Compliance with Airworthiness Standards
- FAA Form 8130-9, Statement of Conformity (original documentation required)
- FAA Form 8100-1, Conformity Inspection Record (original document required)
- FAA Form 8130-3, Authorized Release Certificate (copy if required, the original to be mailed)
- ATP Results (if applicable)
- Inspection documentation

#### 8.0 **Failure to Comply**

There may be additional requirements for various engineering documents on the purchase order along with accompanying need dates. The supplier must ensure that these documents are completed in a timely manner to support the delivery schedule.

It is of the utmost importance to provide Textron Aviation Inc. the correct documentation with the components per the purchase order and as established in this document.

Failure to address these requirements will result in the return of the article to the supplier for re-inspection and completion of the appropriate paperwork at the supplier's expense.

#### 9.0 **Records**

Supplier work history documentation must be available and provided when requested by Textron Aviation Inc. or the FAA. The supplier will retain a copy of all documentation for their files for the period as required in CQRS. All original documents shall be mailed to Textron Aviation Inc. This documentation is subject to audit by Textron Aviation Inc., the FAA or other Accreditation Entity.