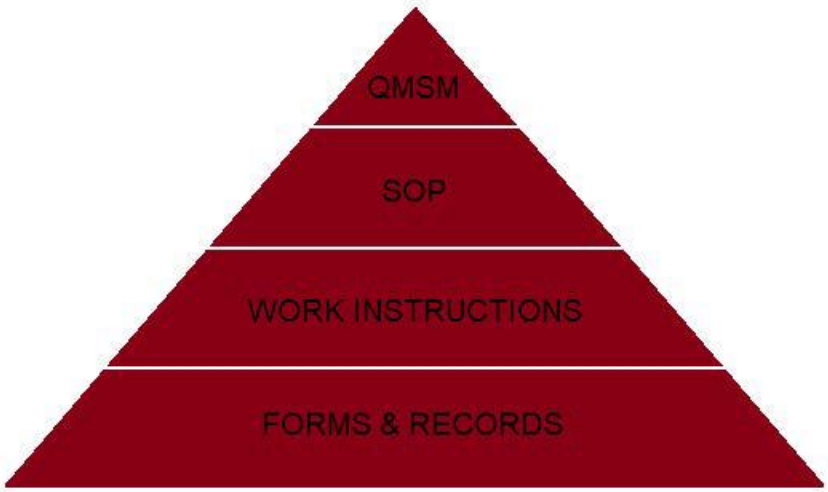
S-TEC
dba Genesys Aerosystems, a Moog Company

Quality Management System Manual

One S-TEC Way Mineral Wells,
Texas 76067



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List of Revisions

Revision	Date	Description of Change
-	06/03/1994	Original – Replaces Document # 8701, Rev 7
A	10/14/1996	Change of Address & Restructuring of Marketing
B	11/11/1998	Addition of Ex. Vice-President to Organization
C	07/24/2001	Changes of organization structure, changes to location address on Repair Station, an update of Employee Titles, DAS & CRS statements added, updated process statements.
D	05/14/2002	Change personnel, Director of Quality, Organizational change, Operations Organization.
F	08/26/2002	Organizational change, Company reorganization, Addition of "Associate" Status to Meggitt Avionics facility, Manchester, New Hampshire MAGIC Display products.
G	10/05/2004	Reformatted and rewritten to reflect and clearly define compliance to ISO 9001:2008/ AS9100 and FAA Requirements.
H	02/18/05	Addition of Scope, Vision, Mission, and Values. Updated the Organization Chart and section 5.5.1 – Responsibility and Authority. Added reference to sections 4.1.1 and 7.2.1.1. Added SOP-7.3-02 to section 4.2.3.1
J	06/20/05	Updated the Organization Chart and sections 5.5.1.2 – Responsibility and Authority and 6.1.2.2 – Determination of resource requirements.
K	10/18/05	Updated the Quality Assurance Organization Chart (page 36), changed Director of Quality Assurance to Vice President of Quality Assurance, and changed Advanced Quality Systems to Quality Assurance throughout this document.
L	12/20/05	Updated the S-TEC Company Organization Chart (page 36). Removed "Revision" column from the Table of Content (pages 1 & 2); because each page is updated with each revision. Corrected the Revision History for "K" to clarify changes. Removal of "Associate" Status to Meggitt Avionic s facility, Manchester, New Hampshire MAGIC Display products, due to approval of TSO for S-TEC.
M	06/20/06	Updated to the following sections: Control of quality records 4.2.4; Management Reviews 5.6.1; Infrastructure and Facilities 6.3.2.1; and Supplier evaluation 7.4.1
N	03/12/2010	Updated to remove DAS & to include ODA. Included reference to Rebuild and Alteration to TSO articles. Included Reference to major/minor change determination. Included reference to S-TEC as a supplier to TSOA holders. Addition of latest SOP references. Changed Quality Policy. Included ref to FOD program.
P	10/12/2010	Updated to include the location of Inspection stations. Update of Organization charts reflected. Removed references to SOP 7.5-06/07 & 08, included references to SOP 7.5-16. Included reference to SOP-3.0-03 Part Marking To Satisfy STC/PMA Requirements & SOP-3.0-04 Part Marking To Satisfy TSOA Requirements
R	10/28/2011	Updated Mgt Approval (page 3). Added CFR 45.15 ref to 3.5.1.3. Revis ed doc retention period 4.2.4.5. Updated the company Org chart (pg. 33) & QA org chart (pg. 34). Updated all references to ISO9001:200 to 9001:2008. Added MIDO notification ref to. 6.3.1.3

Revision	Date	Description of Change
S	03/16/2012	Pg. 1 & 2: Revised: Page No. references Pg. 5: Added: Customer satisfaction to S-TEC mission. 5.2.1.2: Added: Reference to SOP7.2-06 Program Management Plan Pg. 34: Updated: QA Org chart 5.6.1.2: Updated: Mgt review frequency, adding monthly ops reviews. 6.3.1.3: Added: Reference to reporting changes to the facility. 7.1: Added: Consideration of risk & configuration mgt reference. 7.1.1.1.2: Added: Life Cycle Mgt process ref. & possible LCM requirements reference. 7.1.1.2 : Added: "Risk Management" to the title. 7.1.1.2.1 : Added: Configuration management reference. 7.1.1.5: Added: Work transfer paragraph. 7.2.1.1: Added: Reference to configuration management 7.3: Added: Reference to SOP 4.2-05 Engineering Document Control 7.4.1.2: Added: Work transfer paragraph 7.4.2.2: Added: Paragraph speaking to supplier quality board & use of external data. 7.5: Added: Reference to configuration management. 8.2: Added: "Including Internal Audit" to the title. Appendix 1: Added: Reference to SOP 7.2-06 Program Management Plan Appendix 3: Updated: Revision history.
T	01/25/13	Pg. 1 & 2: Revised: Page No. references Figure 1: Changed Company Org chart. Figure 2: Changed QA Org chart Figure 3: Changed Deployment Flow Chart to reflect current processes. Appendix 2: Removed Production Floor Layout Appendix 3: Updated: Revision history.
U	4/26/14	Pg3: Revised Management Approval List to include S. Durairaj 0.3: Removed ref. to Cobham, removed ref. to shareholders 5.3 : Revised Quality Policy 5.3.1 : Changed General Manager to CEO (several fields) 5.5.1.2: Changed General Manager to CEO (several fields) , changed Director of Finance to CFO 5.5.1.2 page 30: Changed customer service/repair station ownership to Director of Customer Support 5.5.2.1: Changed General Manager to CEO (several fields) Figure 1. Updated company Org. chart 6.1.2.2 Changed responsibility to the Director of Customer Support 7.1 Associated doc's: Removed reference to Cobham 8.2.7: Changed Manager of Business Systems to Director of Customer Support Appendix 1: Added reference to Proquis SOP listing

Revision	Date	Description of Change
V	6/21/2016	Made several formatting changes throughout the document. Added doing business as statement below S-TEC Pg3: Revised to reflect position changes. Pg. 5 Revised vision and mission statement; Removed To Ensure S-TEC… and replaced with Quality Policy Revised Manual to refer to CFR revision levels as (as revised) 7.3.6.3 added electronic or hard copy. Revised 7.5.1 to indicate the use of the latest FAA and company-approved data to be used in the Quality System and the released product. Revised Figure 1 & Figure 2 to reflect changes in management titles.
W	10/17/2016	Revised Fig 2 - Quality Organizational Chart; 7.4.5.4 changed to align with CFR 21.137(c)(1); 7.4.5.6 added wording to align with CFR 21.137 (c)(2)
Y	3/6/2018	Complete re-write document layout per AC 21-43 versus AS9100.
AA	3/30/18	Added Interested Parties page 8; Identified management representative for SAE AS9100
AB	8/15/2018	Revised section 18 in compliance with Title 14 CFR 21.137(o)
AC	3/28/2019	Replaced PDCA with Implementation Process per AS9100 auditor
AD	7/26/2021	Revised both organizational charts to reflect the current organization; Minor grammatical corrections throughout the document; Updated company logo. Added section 7.6.2; Added SOP-7.5-17 to Figure 3.
AE	6/27/2022	Updated section 6.5.3, corrected section 7.3; update section 10.2.3; Updated figure 1.
AF	1/23/2023	Revised section 17.1.1; Updated Interaction of processes map; Updated Figure 1 & 2, Org Charts to reflect current positions.
AG	02/06/2025	Updated references of MIDO to CMS. Updated Section 6, Supplier Control; Removed reference to a Supplier Quality Board (SQB). Updated Organization Charts. Miscellaneous corrections.

Management Approval

The Senior Staff of Genesys Aerosystems affirms the commitment to uphold the established policies and procedures, which allows for the continuous improvement of our products, meeting our customers' expectations. By accepting electronically, we acknowledge our responsibility for the implementation and daily support of the Quality Management System.

Company Vision and Mission

The Genesys Vision

Enhancing aircraft safety and mission performance with leading solutions for avionics.

The Genesys Mission

- Lead in the application of technology and the flexibility, ease, and elegance of integration.
- Improve pilots' ability to fly the aircraft for the intended purpose.
- Sustain and grow the business.

Quality Policy

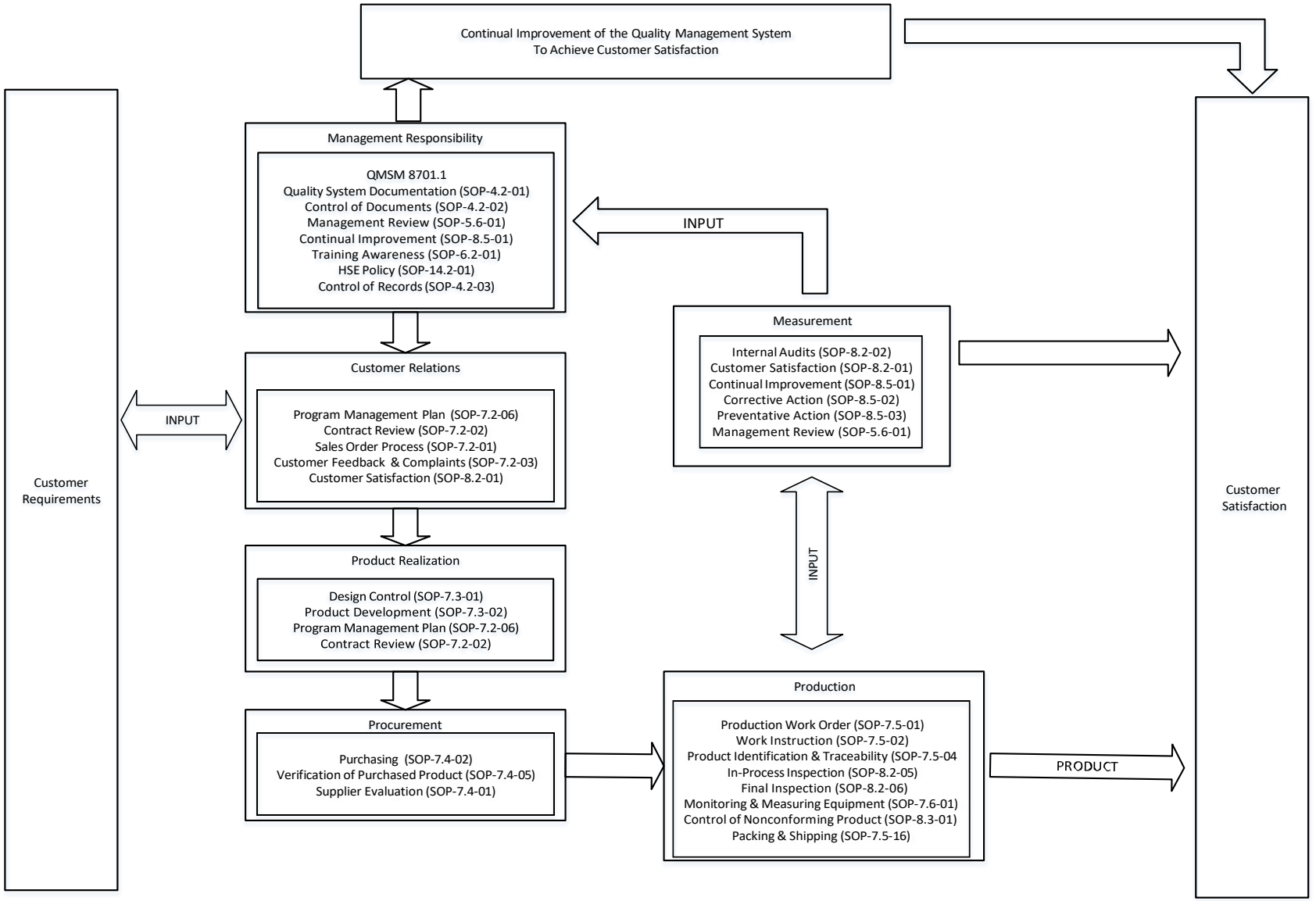
Genesys Aerosystems is committed to demonstrated, measurable quality performance, and in meeting or exceeding our customers' requirements, needs, and expectations in the development, integration, delivery, and support of our products that improve aircraft safety.

Our staff is responsible, both as a team and individually, for the application of continuous improvement processes, using structured and disciplined approaches to identify and resolve opportunities for improvement in a safe working environment.

Interested Parties

The company's management identifies interested parties to the company through the Management Review meetings and reviewed for relevance and/or changes, along with any applicable internal or external issues.

Interaction of Processes



1 INTRODUCTION AND QUALITY SYSTEM REQUIREMENTS

1.1 Quality Manual - Introduction

1.1.1 Genesys Aerosystems holds Parts Manufacturer Approval (PMA) on several Supplemental Type Certificates (STC), and Technical Standard Order Authorizations (TSOA), and as a result, is a production approval holder (PAH). This quality manual is written to fulfill the requirements for such a manual as a PAH, as outlined in Title 14 of the Code of Federal Regulations (CFR) Part 21, in "Quality manual" paragraph §21.138, and §21.308 and the requirements under SAE AS9100 Quality Management Systems.

1.2 Quality System – General

1.2.1 To the extent possible, this quality manual, as noted in 14 CFR §21.138, and §21.308 and §21.608 is organized in the order outlined in 14 CFR Part 21 while still adhering to the AS9100 Standard. For clarity and ease of review, the required elements of the quality system in this manual are found in the next sections of this manual, and they follow the order in 14 CFR Part 21 Subpart G, §21.137 "Quality system", which is called out as the quality system requirement of §21.307 and §21.607.

1.2.2 This manual is written to meet the FAA requirements of 14 CFR Part 21, Subpart K, "*Parts Manufacturer Approvals*" and Subpart O, "*Technical Standard Order Approvals*", Advisory Circular 21-43 and SAE AS9100, *"Quality Management System – Requirements for Aviation, Space and Defense Organizations"*, were key inputs into the construction of Genesys Aerosystems Quality System and of this FAA quality manual.

1.2.3 This Quality Manual has been written to ensure the conformity of components and assemblies to Genesys Aerosystems FAA-approved design data. The FAA Parts Manufacturer Approval (PMA) and Technical Standard Order (TSO) programs are under the management of Genesys Aerosystems, with the Accountable Manager acting as the FAA's point of contract. Company management recognizes it is fully responsible for the quality of its PMA and TSOA parts, whether manufactured in-house at Genesys Aerosystems or subcontracted to approved suppliers and/or third tire suppliers.

1.2.4 This Quality Assurance (QA) Manual describes, for customers and employees, the Quality Management System (QMS) of Genesys Aerosystems facility. This Manual, and by extension the QMS, is approved by the U.S Federal Aviation Administration (FAA). This manual references procedures and other documents where further details regarding specific topics may be found.

1.3 Quality Manual Revisions

1.3.1 This manual shall be revised as necessary to ensure the current requirements are addressed, and that current procedures are being followed in the company's quality system. All proposed manual revisions will be submitted to the local CMS, which is responsible for the production certificate oversight of Genesys Aerosystems. Revisions to this manual cannot be used until approved by the FAA.

1.3.2 Applicable comments resulting from the FAA's review shall be incorporated and an updated preliminary version of the document shall then be resubmitted to the CMS for review. The proposed revision will not be released for use by the Genesys Aerosystems quality system until written documentation approving the revision has been received from the managing FAA Certificate Management Section (CMS).

1.3.3 Proposed updates will be submitted when considered necessary and will be submitted whenever revisions to this manual are necessary. The new revision will be identified by a revision letter and a revision date located within the document.

2 COMPANY LOCATION

2.1 Genesys Aerosystems Facility

2.1.1 A design and manufacturing facility comprised of 56,727 square feet, located at One S-TEC Way, Mineral Wells, Texas 76067, is where S-TEC performs design, manufacturing operations, receiving inspection, testing, and generation of airworthiness approval tags for all general aviation controls, airborne information systems and provider of related aviation services of S-TEC PMA and TSOA articles.

2.2 Notification of Change in Facilities

2.2.1 In accordance with Title 14 CFR §21.309(b) and §21.609(b), FAA approval will be obtained before making any changes to the location of manufacturing facilities. The FAA will be notified immediately in writing of any changes to the manufacturing facilities that may affect the inspection, conformity, or airworthiness of our products as per Title 14 CFR §21.309(c) and §21.609(c).

3 ORGANIZATION

3.1 Organizational Structure

3.1.1 S-TEC's organizational chart (figure 2) was included in compliance with Title 14 CFR Part §21.305 and §21.605, the requirement to describe the functional relationship of those responsible for quality to management and other organizational components. Top management ensures that the responsibilities and authorities for relevant roles are assigned, communicated, and understood within the organization.

3.2 Executive Management

3.2.1 To administrate the Quality Management System, top management is defined to include the General Manager, Vice Presidents, Directors, and Managers responsible for operations, engineering, flight test, sales and marketing, human resources, customer service, and quality assurance. Management ensures compliance and demonstrates its commitment to meeting customer and Federal Aviation Regulatory requirements through the development and implementation of the quality management system and continually improving its effectiveness by:

- Creating an environment for awareness and fulfillment of customer requirements
- Complying with statutory and regulatory requirements
- Establishing a quality policy and quality objectives
- Establishing a Quality Management System that integrates all the business processes within the company
- Ensuring the availability of necessary resources
- Ensure that all processes are delivering their intended outputs
- Ensuring customer focus throughout the organization

3.3 Accountable Manager

3.3.1 The Director of Quality or authorized delegate is the accountable manager for Genesys Aerosystems, responsible for this production approval holder's organization, and has the authority over, all production operations conducted under Title 14 CFR Part 21, Subparts K and O and serves as the primary point of contact with the FAA. Overall responsible for ensuring the quality management system conforms to SAE AS9100 International Standard. Reports on quality management system performance and any opportunities for improvement. Maintains the integrity of the quality management system before changes to the quality management system are implemented.

Figure 1
Organizational Chart

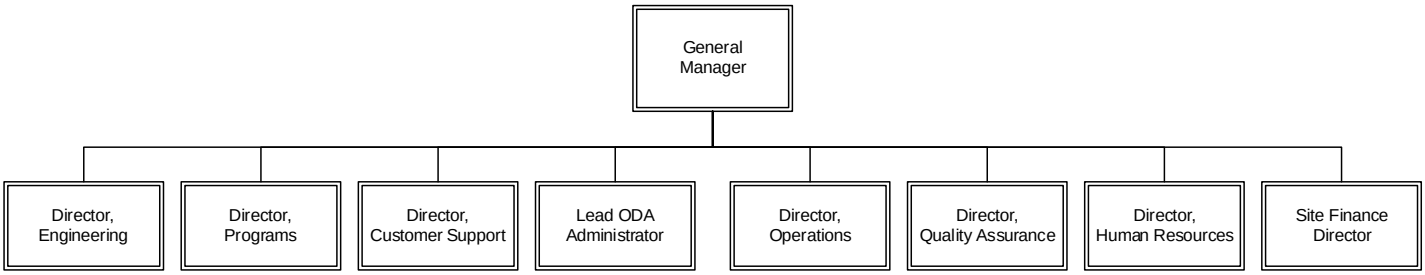
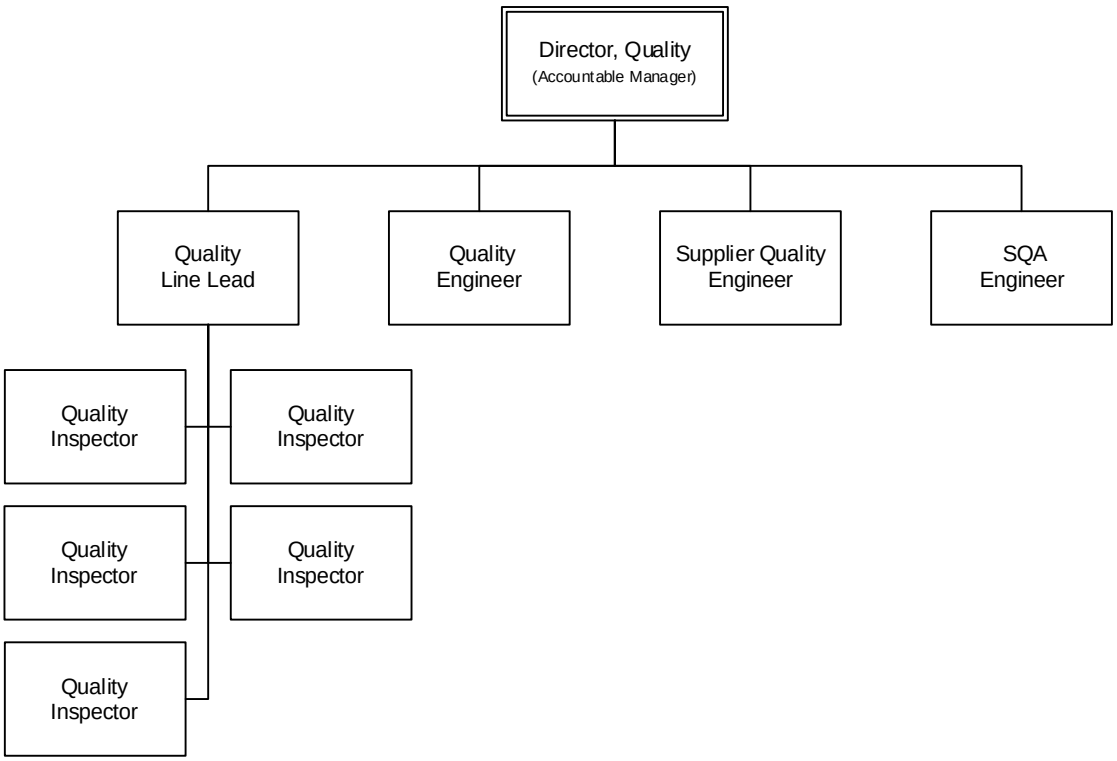


Figure 2
Quality Organizational Chart



4 QUALITY MANAGEMENT SYSTEM

4.1 General Requirements

4.1.1 Genesys Aerosystems QMS has been established and implemented to meet the requirements of Title 14 CFR § 21.137 (AC 21-43) and AS9100 International Standard, to enhance customer satisfaction through the effective application of the Quality Assurance System. The QMS ensures conformance to the customer and applicable regulatory requirements in an environment that promotes continual improvement.

4.1.2 The processes that comprise the QMS are described within this manual. Throughout this manual, there are references to other documents where additional information may be found regarding the applicable processes.

4.1.3 To ensure that the QMS is operating effectively, processes are managed and controlled as described in the Monitoring and Measurement of Processes, Analysis of Data, and Continual Improvement sections of this manual. Audits are performed to assess the conformance of each part of the Quality Management System (see section 15).

4.1.4 An outsourced process that affects product conformity with requirements is identified within the QMS and is controlled as described in the Supplier Control section of this manual.

4.1.5 Rebuild, test, and/or alteration of articles for which Genesys Aerosystems holds either PMA or TSO authorization will be accomplished in accordance with Title 14 CFR Part 43 using Genesys Aerosystems SOP-8.3-04, *Rebuild and Alteration of TSO Articles*.

4.1.6 Reissuance of articles for which Genesys Aerosystems holds PMA or TSO authorization will be accomplished by the interaction of the departments responsible to produce PMA and TSO articles. All processes shall be accomplished in accordance with the established Quality System accepted by the FAA.

5 DOCUMENTATION REQUIREMENTS

5.1 General

5.1.1 QMS documents include the following:

- Quality Management System Manual (QMSM 8701.1)
- Documented Procedures, instructions, forms, drawings, and software related to the requirements of regulatory requirements and/or those needed by

Genesys Aerosystems to ensure the effective planning, operation, and control of processes.

- Records required by the Quality System
- Quality System requirements imposed by applicable regulatory authorities.

5.2 Quality Management System Manual (QMSM)

5.2.1 This Quality Manual contains a high-level overview of Genesys Aerosystems QMS, outlining its structure, the interaction between its processes, and referencing procedures and other documents, where additional details may be found.

5.3 Design Data Control

5.3.1 Genesys Aerosystems has established a process for managing product hardware and software configuration in compliance with Title 14 CFR §21.137 (a). All approved hardware designs are controlled by maintaining either pdf copies in the PDF Vault on a shared network drive or in an electronic repository (Proquis) and design changes are processed through the Engineering Change Order (ECO) process. These processes are outlined in SOP-7.3-01, *Design Control,* and SOP-4.2-05, *Engineering Documentation Control*. For software, data control refer to Section 7.5, *Software Usage*.

5.4 Document Control

5.4.1 The document control system is in place to control QMS documents and ensure that the documents and changes to them are reviewed and approved before release, revision, or obsolescence is Proquis and the process is outlined in SOP-4.2-02, *Control of Documents*. The department owner will review procedures for necessary changes annually. The procedures also ensure the use of the correct revision level documents, proper distribution of new releases and revised documents, and removal of obsolete documents.

5.4.2 External documents, such as drawings, procedures, specifications, and standards not generated by Genesys Aerosystems, that are referenced in the company's QMS documents, are controlled either by the originating organization and/or by adding to the Genesys document control system by purchasing the current revision from a specification or standard source (i.e. AN, NAS, SAE).

5.4.3 If customer-furnished data is used for design, production, and/ or inspection, Genesys Aerosystems controls it in accordance with the customer's contractual requirements.

5.4.4 When required by customer contracts and/or regulatory requirements, the incorporation of changes is coordinated with the customer and agency, and records of the incorporation of changes are maintained. Customer and regulatory authority representatives have access to QMS documentation as required.

5.4.5 The Quality Assurance department is responsible for ensuring that suppliers receive and return copies of current revision-level documents and software as required.

5.4.6 A real-time list of all objects, records, files (Configuration Items) held under Genesys Aerosystems SOP-7.3-07, *Hardware Configuration Management for Programmable Logic Devices* and their current revision levels can be accessed through the Proquis document system. This system is a searchable relational database and is the method used to control and release documents; reports of existing documents are generated through this system.

5.4.7 In cases where electronic access to documents is made available to employees, access to employees who are unauthorized to make changes will be “read-only” and be password protected as described in the database users’ manual or other company procedures.

5.4.8 The Information Technology department is responsible for system backups as described in the SOP-4.2-10, *Server, and Data Backup Procedures.*

5.4.9 When work instructions and other similar documents are restricted in scope within a single department or function, they may be controlled locally, as described in the SOP-7.3-01, *Design Control*. Otherwise, they must be managed through the electronic database document control system.

5.5 Control of Quality Records

5.5.1 Genesys Aerosystems ensures that quality records, including records created by and/or retained by suppliers, are maintained to demonstrate the effective implementation of the QMS. SOP-4.2-03, *Control of Records* describes the process used for record maintenance.

5.5.2 Each department is responsible for the identification, collection, storage, and disposal of QMS records and the records to be maintained are to be identified in each process document. The preferred method for all documents in electronic and hard copy records may be scanned in with the electronic record then being the official one. SOP-4.2-03, *Control of Records* describes the process used for record maintenance.

5.5.3 Employees are responsible for ensuring that records are complete, accurate , and legible. Records are readily retrievable and available to customers or regulatory authorities as required. The electronic storage method used eliminates the concern for damage, deterioration, or loss, and ensures that the records maintain identification to the corresponding product as applicable as per SOP-4.2-03, *Control of Records.*

5.5.4 Records maintained on electronic media are backed up and protected to prevent tampering or loss. The Information Technology department is responsible for backups per SOP-4.2-10, *Server Backup, and Restore Procedure*.

6 SUPPLIER CONTROL

6.1 General

6.1.1 Genesys Aerosystems, suppliers/subcontractors are reviewed and approved as outlined in SOP-7.4-01, Supplier Evaluation.

6.2 Contractual Requirements

6.2.1 Contractual requirements are communicated to suppliers via the Genesys Aerosystems purchase orders (PO) and Procurement Quality Requirements (PQR) to ensure all products and articles conform to company design data and requirements.

6.3 Purchase Orders

6.3.1 Company purchase orders are generated and maintained through SyteLine, a local server-based manufacturing enterprise resource planning (ERP) software through the purchasing department and only issued to suppliers listed on the approved supplier list (ASL) for use in the production of PMA and TSOA articles.

6.3.2 Genesys Aerosystems issues purchase orders to suppliers for detailed parts, components, and subassemblies. Once the items are received from the approved supplier Genesys Aerosystems Incoming Quality Control will inspect the items as outlined in SOP-7.4-03, *Verification of Purchased Product* and lot sampling in accordance with ANSI/ASQC Z 1.4 and SOP-7.4-07, *Acceptance Sampling*.

6.4 Procurement Quality Requirements (PQR)

6.4.1 Procurement Quality Requirements (PQR) are used to communicate terms and conditions to suppliers. These requirements include but are not limited to, first article inspections, documentation, traceability, special processes, etc., and are located on our company website for approved supplier access.

6.5 Supplier Approval and Monitoring

6.5.1 The Quality department is responsible for supplier completion of the supplier survey form and the review of a potential new supplier. A supplier is approved after review and concurrence from the Quality department per SOP-7.4-01, Supplier Evaluation. The type and extent of a supplier's approval are dependent upon the type of service/product provided.

6.5.2 The supplier reporting process used for notifying Genesys Aerosystems of products, articles, or services that have been released from or provided by the supplier and subsequently found not to conform to the production approval holder's requirements is handled via the Supplier Nonconformance Disclosure Form, EFRM 8.3-01-04 and dispositioned through the Material Review Board process as outlined in SOP-8.3-03, *Material Review Board* (see also Section 11 for Control of Nonconforming Product) to comply with Title 14 CFR §21.137(c)(2).

6.5.3 Monitoring of approved suppliers is conducted on a recurring basis through either a completed survey or an audit at the supplier's facility. The monitoring of a supplier's performance is conducted on a regular basis by Quality Management through supplier scorecards. Quality Management is responsible for determining inspection plan requirements (see SOP-7.4-01, *Supplier Evaluation*).

7 MANUFACTURING PROCESS CONTROL

7.1 General

7.1.1 Genesys Aerosystems must have procedures for controlling manufacturing processes to ensure that each product and article conforms to its FAA-approved design and requirements.

7.2 Manufacturing Processes

7.2.1 Manufacturing is controlled through Genesys Aerosystems supplier's Manufacturing Work Procedures and Procurement Quality Requirements (PQR).

7.3 Work Procedures and Revisions

7.3.1 All work Instructions and revision controls are maintained at the Manufacturer's facility. All final test procedures are maintained, and revision controlled through an electronic repository by the product line. These procedures are reviewed periodically and approved by the Engineering, Manufacturing, and Quality departments, in accordance with the approved design data. Change requests can also be submitted to request any necessary changes to the procedures to Engineering.

7.4 Traceability

7.4.1 All materials received go through the supplier's receiving inspection and are issued lot numbers for traceability by the supplier. The issued lot number is traceable back to the purchase order for that material. Once the material is accepted the material is transferred either to the supplier's stock room and/or issued to the supplier's job order where the issued lot number is recorded in the individual job order. This process is contained in SOP-7.4-03, *Verification of Purchased Product*.

7.5 Software Usage

7.5.1 The development, design, verification, and control of software (both airborne and non-airborne) complies with Genesys Aerosystems, customer, and government regulatory requirements. All approved software is secured and stored in Subversion (SVN). Subversion is a software versioning and revision control system utilized for our released product software. The procedures and established processes are contained in document 9431.29, *Software Quality Assurance Plan for Generic* (SQAP) to be used as part of the Software Life Cycle Data.

7.5.2 The SQAP document referenced above presents general software quality assurance procedures for Genesys Aerosystems' software programs. The software quality assurance procedures comply with the objectives of DO-178 for all the software level definitions.

7.6 Software Quality Assurance

7.6.1 All Software Quality Assurance personnel report directly to the Director of Quality and have full authority and responsibility for the oversight of all software release and related digital input/output data used for product acceptance as outlined in applicable company/supplier Software Quality Assurance Program (SQAP), SOP-7.1-01, *Software Quality Assurance*.

7.6.2 When supporting customers that have taken delivery of TSOA articles (black-labeled), and it becomes necessary to provide prototype software with new or updated features for customer evaluation in a test environment, whether airborne or field loadable that is unapproved the process outlined in SOP-7.5-17, Distribution of Unapproved Airborne Software will be followed with Software Quality Assurance (SQA) oversight.

8 INSPECTION AND TESTING

8.1 General

8.1.1 Genesys Aerosystems must have procedures for inspections and tests used to ensure that each article conforms to its FAA-approved design and/or contractual requirement. A functional test will be performed on each unit produced. All work is performed at the facility as described in Section 2.

8.2 Inspection Procedures

8.2.1 Each article produced is subjected to an in-process and final assembly inspection at the manufacturer's facility, to the company's manufacturing work procedures, and to final inspection. Test conducted at the company' s facility in accordance with product-specific final inspection and test procedures to ensure each article conforms to its FAA-approved design as outlined in SOP-8.2-05, *In-Process Inspection* and SOP-8.2-06, *Final Inspection*.

8.2.2 Completion of each stage of the process is identified by a stamp/label on the unit as evidence of the process completion. One identifies the manufacturing completion of article/unit/assembly and one tamper-proof inspection label with the inspector's number is applied to each article/assembly after successful completion of the inspection process as outlined in SOP-8.2-05, *In-Process Inspection*.

8.2.3 These procedures are maintained on the supplier/company's intranet and/or electronic repository for all personnel to access and review. These documents are revision controlled and periodically reviewed for accuracy (e.g., Engineering Change Order (ECO).

8.3 Testing Procedures

8.3.1 Each article, unit, and or assembly produced is functionally evaluated to the company's functional test procedures to ensure each article, unit, and or assembly functions as per the FAA approved the design as outlined in SOP-7.5-05, *Inspection Test Status*.

8.3.2 Completion of the functional test stage of the process is identified by a stamp/label of the company personnel who performed the functional test of the unit.

8.3.3 These procedures are maintained on the supplier/company's intranet and/or electronic repository for all personnel to access and review. These documents are revision controlled and periodically reviewed for accuracy (e.g., ECO implementation).

8.4 Statistical Process

8.4.1 Genesys Aerosystems does not use a statistical process control standard since all units are inspected 100% to design requirements; however, our suppliers may choose to utilize a statistical process of their choosing as appropriate.

8.5 Nondestructive Testing

8.5.1 Not applicable.

8.6 Flight Test Procedures

8.6.1 Not applicable.

9 INSPECTION, MEASURING, AND TEST EQUIPMENT CONTROL

9.1 General

9.1.1 Genesys Aerosystems maintains a calibration system to ensure the accuracy of inspection, measuring, and test equipment that is used to verify the quality of products and materials and that they are uniquely identified. The Quality Assurance department is responsible for measurement and monitoring devices that can affect product quality and placing them in the calibration system.

9.2 Approval, Inspection, and Calibration Procedures

9.2.1 All monitoring and measuring equipment used for product acceptance or to calibrate monitoring and measuring equipment is approved, periodically inspected, calibrated through the calibration system as contained in SOP-7.6-01, *Monitoring and Measuring Equipment*. Calibrations are conducted at established intervals that are based on usage, historical data, and the manufacturer's recommendations that are traceable back to standards acceptable to the FAA.

9.3 Tool Control Procedures

9.3.1 Inspection, measuring, and test equipment control is managed in accordance with SOP-7.6-01, *Monitoring and Measuring Equipment*, ensuring all equipment used for article acceptance is protected, maintained, and utilized in an acceptable environment. Calibrated measurement and monitoring devices are identified with a unique tool identification number and a label that reflects the current calibration status.

9.3.2 The process used to confirm the ability of test software to satisfy the intended application is defined in SOP-7.1-01, *Software Quality Assurance*.

9.3.3 When calibrated monitoring and measuring equipment is found not to conform to requirements or is past its due date, the item is immediately removed from service and identified with an "Out-of-Service" tag. The item is also identified in the calibration system as inactive. If articles were accepted using the out-of-tolerance equipment and move to the next manufacturing area, then Quality will be notified and follow the non-conforming process as outlined in SOP-7.6-01, *Monitoring and Measuring Equipment,* and SOP-8.3- 01 *Control of Non-Conforming Product*.

10 INSPECTION AND TEST STATUS

10.1 Procedures

10.1.1 The process for indicating inspection and test status is indicated by Quality stamping completed manufacturing job travelers throughout the manufacturing cycle completion as defined in SOP-7.5-05, *Inspection and Test Status,* and section 7. All completed manufacturing paperwork becomes a quality record once Quality has stamped or affixed their mark on the completed Job Traveler. These records are then maintained as outlined in section 5.

10.2 Inspection

10.2.1 All operations and processes where the status of inspection and testing must be maintained to ensure that only a product that has passed the required inspections and tests is stocked, dispatched, used, or installed.

10.2.2 It is the responsibility of all personnel who are issued stamps to indicate the status of the product accurately as the product is processed through its manufacturing cycle.

10.2.3 The Quality Department has the responsibility of maintaining control of issuance, traceability, accountability, and removal of stamps from service. Also, to conduct inspections of all issued inspection and testing stamps to ensure impression legibility and verify possession of assigned stamps to appropriate personnel.

11 NONCONFORMING PRODUCT AND ARTICLE CONTROL

11.1 Procedures

11.1.1 The procedures for identifying, reporting, segregating, controlling, and processing non-conforming material found at any point during the manufacturing process are contained in SOP-8.3-01, *Control of Nonconforming Product*.

11.2 Disposition Determinations

11.2.1 Material Review Board members meet through either recurring meetings or on an as-needed basis to review and evaluate non-conforming material to determine if the acceptance of the nonconformance constitutes a major or minor change to the FAA-approved design data. If it is collectively determined to not accept the nonconformance the material will either be re-worked, scrapped, or returned to the supplier for replacement.

11.3 Data Analysis

11.3.1 Quality department senior management review and analyze nonconforming material data and dispositions to aid in detecting adverse trends and determining appropriate levels of corrective and preventative action as appropriate.

11.4 Disposition of Scrap and Salvageable Articles

11.4.1 Articles dispositioned as “Scrap” shall be either permanently marked or rendered useless for its intended purpose in accordance with SOP-8.3-01, *Control of Nonconforming Product*. These articles are segregated from other articles by either being placed into a controlled scrap container or mutilated to ensure they are unusable for their original application and render them incapable of being reworked or camouflaged to provide the appearance of being serviceable. Any containers or shelves used to store scrap material to be used as set-up pieces shall be marked “NOT FOR PRODUCTION USE.”

12 CORRECTIVE AND PREVENTIVE ACTION

12.1 Corrective Action

12.1.1 Quality management system processes are regularly reviewed by the organization to identify any failures or breakdowns, as well as opportunities for improvement. Actions necessary to address actual or potential problems and to improve the quality system are implemented through corrective and preventive actions and management improvement projects.

12.1.2 To aid in the elimination of nonconformities, quality system breakdown, or process failures Genesys Aerosystems has developed and implemented a process that focuses on the systemic issues and their root causes and identifying the best solutions in eliminating them and preventing their reoccurrence. This process is outlined in SOP-8.5-02, *Corrective Action* as well as identifies when to use a Corrective Action Request (CAR).

12.1.3 When the need for a CAR has been identified, the creator will input all necessary information documenting the nonconformities, quality system breakdown, or process failure and the CAR will then be assigned to the responsible department or supplier identifying the specific nonconformity, quality system breakdown, or process failure requesting corrective action and root cause analysis to prevent the reoccurrence.

12.2 Preventive Action

12.2.1 The need for preventive action is determined when trends indicate decreasing quality capability and/or effectiveness of the quality system that creates a risk for a potential nonconformity. This could come from a regarding capability and performance of processes, product nonconformity rates, post-production experience feedback, service records, customer complaints, and quality system audit findings. This process is described in SOP-8.5-03, *Preventive Action*.

12.3 Monitoring of Actions

12.3.1 The responses and status of corrective and preventive actions are regularly reviewed for implementation and effectiveness through either email or scheduled meetings, as necessary.

13 HANDLING AND STORAGE

13.1 Procedures

13.1.1 Procedures to prevent damage and deterioration of each article, component, and sub-component during handling, storage, preservation, and packaging are contained in SOP-7.5-16, *Material Handling, Storage, and Shipment.* SOP-7.5-04, *Product Identification and Traceability* outlines how each is identified throughout the manufacturing process as required per Title 14 CFR 21.137(j).

13.2 Storage, Handling, Manufacturing, and Assembly

13.2.1 All articles, assemblies, and sub-assemblies are managed and stored in a manner to prevent damage and deterioration in accordance with any special environmental controls to include during the manufacturing, assembly, or testing of articles, assemblies, or sub-assemblies. Additionally, all items that have a shelf-life or environmentally sensitive are identified and controlled accordingly.

13.2.2 All items in the facility for storage or manufacturing are properly identified and separated as to their condition and status as identified in SOP-7.5-04, *Product Identification and Traceability.*

13.2.3 All shelf-life controlled articles, if any will be managed in accordance with SOP-7.4-09, *Age Controlled Material* by either labeling the expiration date of the material or by the manufacturer's expiration date. Shelf-life-controlled material shall be removed from stores or assembly operations before the material's useful shelf life expires.

13.3 OEM Returned Articles with Zero Flight Time

Note: (ref: SOP-8.3-05, Re-Issuance of 8130-3 for OEM Returned Articles)

13.3.1 Articles returned from an Aircraft Original Equipment Manufacturer with zero flight hours will only be introduced back into the quality system with the following at a minimum:

- Return Material Authorization (RMA) from the Sales Department.
- Signed repairable/maintenance tag from OEM attesting to aircraft hours.

- Quality Control personnel perform an incoming inspection.
- All paperwork matches the article that is being returned (i.e., part number, serial number, etc.).

14 CONTROL OF QUALITY RECORDS

14.1 Procedures

14.1.1 Quality records are established and maintained to provide evidence that materials and processes meet specified requirements and that finished products conform to the specification, and to ensure the quality system is operating in accordance with documented procedures and is effective. Where required, records will also provide traceability information. This process is contained in SOP-4.2-03, *Control of Records*.

14.1.2 Quality records to be retained include but are not limited to, inspection and test records, calibration records, supplier records, special process certifications, Material Review Board (MRB) records, and job travelers.

14.2 Record Retention Schedule

14.2.1 As a production approval holder, all quality records are maintained for a minimum period of five years in accordance with §21.137(k), unless a customer contract requires record retention for a longer period.

14.3 Record Disposition

14.3.1 Quality records will be retained indefinitely on the Genesys network or withdrawn after the required retention period as indicated in section 14.2.1.

15 INTERNAL AUDITS

15.1 Procedures

15.1.1 An internal audit program as outlined in SOP-8.2-02, *Internal Audits* assess the conformance of each part of the Quality Management System to the requirements of this manual and associated Standard Operating Procedures (SOP) on a recommended annual cycle as outlined in the internal audit schedule. This schedule and the audit results are maintained in the company's network drive.

15.2 Reporting

15.2.1 The results of all internal audits are reported to the appropriate levels of management, and they are used for improving the quality system and/or articles, using the Corrective Action Reporting (CAR) system (see section 12).

16 IN-SERVICE FEEDBACK

16.1 Procedures

16.1.1 Customer feedback, complaints, and internal customer support observations are managed through direct telephone calls, direct emails, trade shows, symposiums, and surveys. This complete process is outlined in SOP-7.2-03, *Customer Feedback and Complaints*.

16.1.2 All complaints and reports of deficiencies that do not require notification to the Federal Aviation Administration (FAA) as a malfunction or defect or have an impact on the safety of flight shall be recorded in the Syteline Enterprise Resource Planning (ERP) system. Complaints and reports deemed to be an FAA recordable malfunction and defect shall be executed in accordance with SOP 3.0-02, *Reporting of Failures, Malfunctions, and Defects*.

16.2 Corrective Actions

16.2.1 The Director of Customer Support reviews applicable submissions with the Quality Director and determines if action is required. If action is required, the Quality Director will issue either a corrective action or preventative action request to the appropriate department and/or personnel (see section 12).

16.3 Service Bulletins and Maintenance Manuals

16.3.1 Service bulletins and maintenance manuals are managed by the Supplier's Technical Publications department. When major type design changes are involved, the FAA or FAA Designee (as applicable) approval is required and only the type certification data will be indicated as approved. Approval will only be included when there is a regulatory basis for the approval. Each new or revised document (SIL, SL, or SB) must be signed by the Director, Manager, or designated alternate of the requesting department before the Technical Publications Department (see SOP-8.3-02, Service Publications) will release it.

17 QUALITY ESCAPES

17.1 Procedures

17.1.1 If it is discovered that the Company has released, from its Quality System, an article that does not conform to design data, or quality system requirements (14 CFR §21.137(n)), then the following actions will be executed immediately. Supply Chain and Production containment action will be implemented by

following the process outlined in SOP-7.4-06, *Stock Screen*. The Quality department will then promptly notify the customer and a Corrective Action document will be issued to the appropriate party following the process outlined in SOP-8.5-02, *Corrective Action*. If it is determined that the nonconformance has or could result in any of the occurrences listed Title 14 CFR §21.3(c), then the process contained in SOP-3.0-02, *Reporting of Failures, Malfunctions and Defects* will be followed.

17.2 Analytical Tools

17.2.1 Statistical analysis is the method used to provide a means of determining process performance in conjunction with performance goals. This is accomplished using the corrective and preventative action system as addressed in section 12. Also, by determining the root cause and corrective action implementation to prevent any reoccurrence.

17.3 Recalls

17.3.1 Notification to users of articles when those articles are recalled for a suspected or known nonconformance shall be accomplished through Service Publications or the Federal Aviation Administration's Airworthiness Directive process in coordination with the process in section 17.1.1

17.4 Voluntary Disclosure Reporting Program (VDRP) to the FAA

17.4.1 Apparent noncompliance with regulatory requirements (or quality escapes) will be reported as outlined in FAA Advisory Circular 00-68, section 10 as follows:

- To take immediate action to cease the conduct that resulted in the noncompliance
- To make monthly qualifying voluntary disclosure notification to the FAA in writing via a combination of a formal letter and email
- To voluntarily disclose non-compliances that –
    - Were inadvertent
    - Do not reflect a lack of qualifications
    - Do not pose more than a remote risk to safety
    - Do not involve a quality escape other than cosmetic flaws (i.e., flaws that do not affect form/fit/function)
    - Do not involve a systemic discrepancy to production quality system procedural requirements
- That their informal disclosure notification will include at a minimum.

- Description of the noncompliance
- Causal analysis of the noncompliance
- Corrective action is taken or planned
- Proposed corrective action completion date

- To initiate a Corrective Action Plan, Schedule of Implementation, and self-verify the effectiveness of the corrective action for all non-compliances that were informally disclosed

18 ISSUING AUTHORIZED RELEASE DOCUMENTS

18.1 Procedures

18.1.1 Genesys Aerosystems process for authorizing individuals to issue Authorized Release Documents (FAA Form 8130-3) is covered in SOP-8.3-06, *Process for Authorizing Personnel to Issue Authorized Release Documents*. This procedure describes how individuals in the Quality Department are selected, appointed, trained, managed, and removed from the company's roster of authorized individuals.

18.2 Selection, Appointment, and Training

18.2.1 Upon satisfactory completion of candidate qualifications review and training in accordance with SOP-8.3-06 an individual will be added to the roster of authorized individuals to issue Authorized Release Documents (FAA Form 8130-3) for articles produced under Production certificate PQ0445SW.

18.3 Management

18.3.1 A roster of authorized individuals will be maintained by management and a period review of their performance will be conducted by either management oversight and/or internal quality audit (SOP-8.2-02, *Internal Audits*).

18.4 Removal

18.4.1 Any person can have their authorization revoked by a member of Quality management at any time for any reason as deemed appropriate by management following the guidance in SOP-8.3-06, *Process for Authorizing Personnel to Issue Authorized Release Documents*.

Figure 3

Reference Documents

Document Number	***Document Title***
SOP-3.0-02	Reporting of Failures, Malfunctions, and Defect
SOP-4.2-02	Control of Documents
SOP-4.2-03	Control of Records
SOP-4.2-10	Server and Data Backup Procedures
SOP-7.1-01	Software Quality Assurance
SOP-7.2-03	Customer Feedback and Complaints
SOP-7.3-01	Design Control Procedure
SOP-7.3-03	Classification of Design Changes to TSOA and PMA Articles
SOP-7.3-07	Hardware Configuration Management for Programmable Logic Devices
SOP-7.4-01	Supplier Evaluation
SOP-7.4-03	Verification of Purchased Products
SOP-7.4-09	Age Controlled Material
SOP-7.5-04	Product Identification and Traceability
SOP-7.5-05	Inspection and Test Status
SOP-7.5-16	Material Handling, Storage, and Shipment
SOP-7.5-17	Distribution of Unapproved Airborne Software
SOP-7.6-01	Monitoring and Measuring Equipment
SOP-8.2-02	Internal Audits
SOP-8.2-05	In-Process Inspection
SOP-8.2-06	Final Inspection
SOP-8.2-09	First Article Inspection Procedure for Sub-Assemblies/Completed Unit Assemblies
SOP-8.3-01	Control of Nonconforming Product
SOP-8.3-02	Service Publications
SOP-8.3-03	Material Review Board
SOP-8.3-04	Rebuild and Alteration of TSO Articles
SOP-8.3-05	Re-Issuance of 8130-3 for OEM Returned Articles
SOP-8.3-06	Process for Authorizing Personnel to Issue Authorized Release Documents
SOP-8.5-02	Corrective Action
SOP-8.5-03	Preventive Action