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Title: AS9100 QUALITY MANUAL		

Astronautics Corporation of America



AS9100

QUALITY MANUAL

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Revision Date	Nature of Change(s)
11/25/2003	Complete rewrite of previous Quality Manual which was based on ISO-9001:1994
09/18/2004	Added Quality V.P to Fig. 5.5.1-1 and changed Management Review interval in 5.6.1.
03/18/2005	Section 5.5.1: added that customers will be notified of top management changes when required by contract. Updated Appendix A to reflect consolidation of QAMs into QDP. Updated the manual and added Appendix B to address Federal Aviation Administration (FAA) requirements.
10/04/2006	Updated portions of the manual to ensure compliance with AS9100 standard
07/13/2009	Updated manual to the AS9100 revision C.
03/18/2010	Updated manual to include FAA requirements related to the applicable Title 14 Code of Federal Regulations effective April 2010.

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1.0 Scope

This manual describes the quality system in operation within the design, manufacturing and servicing of search, detection, navigation and guidance aeronautical and nautical vehicle systems and instruments in order to meet the requirements of the customer and applicable statutory and regulatory requirements for which Astronautics Corporation of America conducts business. The quality assurance system is organized to comply with the requirements of the current issue of AS9100 covering design, manufacture, inspection, installation and servicing, [as well as the applicable requirements in the Code of Federal Regulations \(CFR\) Title 14, "Aeronautics and Space", Chapter I, "Federal Aviation Administration, Department Of Transportation", Subchapter C "Aircraft"](#). Detailed quality system procedures, departmental procedures and inspection instructions, work standards, specification and standard operating procedures support this manual. Together they describe the documented quality assurance system. [Due to Federal Aviation Administration \(FAA\) requirements, this manual specifically addresses 14 CFR Part 21 and Part 45.](#)

Revision of this manual is requested by those management personnel who are responsible for its implementation with review and approval by the Vice President of Quality and the President of Astronautics. A controlled copy is maintained on Astronautics' internal intranet site. Uncontrolled copies may be made available, as needed, to customers and other agencies and will be marked as uncontrolled.

[The FAA's 14 CFR Part 21 requires each applicant for, or holder of, a production certificate must provide a manual describing its quality system to the FAA for approval. The further requires that the quality manual be written in the English language and be retrievable in a form acceptable to the FAA. This manual has been written to meet those requirements.](#)

1.1 *Application*

This manual applies to all employees whose actions affect product quality. Compliance with the quality manual, procedures, and instructions developed to support it, are mandatory for all functions and personnel of Astronautics. In addition, it is used to inform Astronautics' customers what controls are implemented to assure product and process quality.

2.0 Quality Policy and Quality Objective

Astronautics' is dedicated to a quality policy which is effectively understood, implemented and maintained at all levels of the organization. This ensures that products are supplied to achieve consistent customer satisfaction.

Astronautics Quality Policy

Astronautics will achieve or exceed our customer' requirements for quality, schedule, and price. Astronautics will foster an environment for continuous improvement in all operational areas, meet applicable regulatory requirements, and comply with our internal standards and procedures.

Astronautics Quality Objectives

The quality policy is supported by the following quality objectives, which are monitored regularly and supported with the necessary resources.

1. Achieve or exceed our customer's quality requirements.
2. Deliver products on time by developing metrics to continuously improve delivery performance.
3. Transition to Lean Manufacturing by implementing Lean practices on key manufacturing processes.
4. Improve product reliability by developing metrics to track and improve product field reliability.

3.0 Process Interface Diagram

The following diagram represents the key processes and their interrelationships within the quality management system.

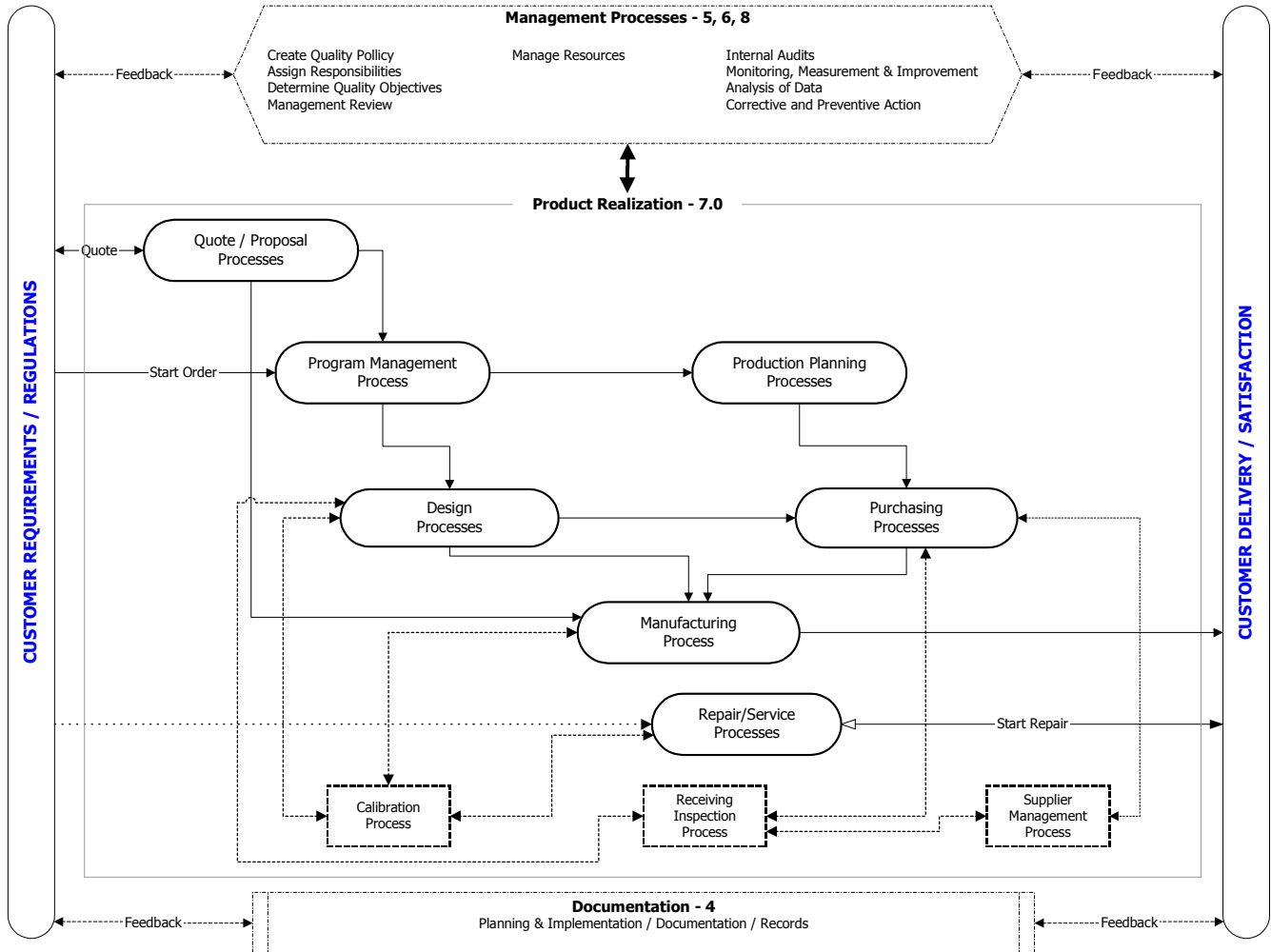


Figure 1 – Process Interface Diagram

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4.0 Quality Management System

4.1 General Requirements

Astronautics Corporation of America (ACA) shall establish, document, implement and maintain a quality management system and continually improve its effectiveness in accordance with the requirements of this International Standard [and the applicable requirements of 14 CFR Part 21 and Part 45](#).

ACA's quality management system shall also address customer and applicable statutory and regulatory quality management system requirements

ACA shall:

- a) Determine the processes needed for the quality management system and their application throughout ACA,
- b) Determine the sequence and interaction of these processes,
- c) Determine criteria and methods needed to ensure that both the operation and control of these processes are effective,
- d) Ensure the availability of resources and information necessary to support the operation and monitoring of these processes,
- e) Monitor, measure where applicable, and analyze these processes, and
- f) Implement actions necessary to achieve planned results and continual improvement of these processes.

These processes shall be managed by ACA in accordance with the requirements of this International Standard.

Where ACA chooses to outsource any process that affects product conformity to requirements, ACA shall ensure control over such processes. The type and extent of control to be applied to these outsourced processes shall be defined within the quality management system

4.2 Documentation Requirements

4.2.1 General

The quality management system documentation shall include

- a) Documented statements of a quality policy and quality objectives,
- b) A quality manual,
- c) Documented procedures and records required by this International Standard, and
- d) Documents, including records, determined by ACA to be necessary to ensure the effective planning, operation and control of its processes.

ACA shall ensure that personnel have access to, and are aware of, relevant quality management system documentation and changes.

4.2.2 Quality Manual

ACA shall establish and maintain a quality manual that includes

- a) The scope of the quality management system, including details of and justification for any exclusions,
- b) Documented procedures established for the quality management system or reference to them, and
- c) A description of the interactions between the processes of the quality management system.

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ACA's quality system procedures include amending this Quality Manual as necessary to reflect changes in our organization and to provide those amendments to the FAA for approval before implementation.

4.2.3 Control of Documents

Documents required by the quality management system shall be controlled. Records are a special type of document and shall be controlled according to the requirements given in 4.2.4.

Within ACA's quality system are procedures for controlling quality system documents and data, as well as subsequent changes. Those procedures are in place to ensure only current, correct, and approved documents and data are used. Such procedures are listed Appendix A of this procedure, under section 4.2.3 of that Appendix.

A documented procedure shall be established to define the controls needed

- a) To approve documents for adequacy prior to issue,
- b) To review and update as necessary and re-approve documents,
- c) To ensure that changes and the current revision status of documents are identified.
- d) To ensure that relevant revisions of applicable documents are available at points of use,
- e) To ensure that documents remain legible and readily identifiable,
- f) To ensure that documents of external origin determined by ACA to be necessary for the planning and operation of the quality management system are identified and their distribution controlled.
- g) To prevent the unintended use of obsolete documents, and to apply suitable identification to them if they are retained for any purpose.

4.2.4 Control of Records

Records established to provide evidence of conformity to requirements and of the effective operation of the quality management system shall be controlled.

ACA shall establish a documented procedure to define the controls needed for the identification, storage, protection, retrieval, retention and disposition of records.

The documented procedure shall define the method for controlling records that are created by and/or retained by suppliers.

Records shall remain legible, readily identifiable and retrievable.

ACA's quality system includes procedures for identifying, storing, protecting, retrieving, and retaining quality records. Those procedure are listed in Appendix A under section 4.2.4.

5.0 Management Responsibility

5.1 Management Commitment

Top management shall provide evidence of its commitment to the development and implementation of the quality management system and continually improving its effectiveness by

- a) Communicating to ACA personnel the importance of meeting customer as well as statutory and regulatory requirements.
- b) Establishing the quality policy,
- c) Ensuring that quality objectives are established,
- d) Conducting management reviews, and
- e) Ensuring the availability of resources.

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5.2 Customer Focus

Top Management shall ensure that customer requirements are determined and are met with the aim of enhancing customer satisfaction.

Top Management shall ensure that product conformity and on-time delivery performance are measured and that appropriate action is taken if planned results are not, or will not be, achieved.

ACA's quality system includes a procedure for notifying a customer, customers, or a regulatory agency when the location of, or a change to, manufacturing facilities occurs that may affect the inspection, conformity, or airworthiness of its product or article. That procedure listed in Appendix A under section 5.2. ACA must obtain the FAA's approval before making any changes to the location of any of ACA's manufacturing facilities.

5.3 Quality Policy

Top management shall ensure that the quality policy

- a) Is appropriate to the purpose of ACA,
- b) Includes a commitment to comply with requirements and continually improve the effectiveness of the quality management system,
- c) Provides a framework for establishing and reviewing quality objectives,
- d) Is communicated and understood within ACA, and
- e) If reviewed for continuing suitability.

5.4 Planning

5.4.1 Quality Objectives

Top management shall ensure that quality objectives, including those needed to meet requirements for product are established a relevant functions and levels within ACA. The quality objectives shall be measureable and consistent with the quality policy.

5.4.2 Quality Management System Planning

Top management shall ensure that

- a) The planning of the quality management system is carried out in order to meet the requirements given in 4.1, as well as the quality objectives, and
- b) The integrity of the quality management system is maintained when changes to the quality management system are planned and implemented.

5.5 Responsibility, Authority and Communication

5.5.1 Responsibility and Authority

Top management shall ensure that responsibilities and authorities are defined and communicated within ACA.

Quality Assurance (QA), which is an independent organization and reports directly to the President of Astronautics, has the organizational freedom and authority to:

- Initiate action to prevent the occurrence of any non-conformities related to product, process and quality systems.
- Identify and record any product, process and quality system problems
- initiate, recommend, or provide solutions through designated channels
- verify the implementation of solutions, and

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- control further processing, delivery, or installation of non-conforming product until the deficiency or unsatisfactory condition has been corrected.

The Astronautics organization is shown in the organizational chart, Figure 2. All departments are independent and are responsible for the quality of the work they perform. Specific responsibilities include initiation action to prevent the occurrence of any nonconformities, identifying and recording any problems relating to the product, process and quality system, initiating, recommending or providing solution through designated channels relating to product, process, and the quality system, also, each department verifies the implementation of solutions and controls further processing, delivery, or installation of nonconforming product until the deficiency or unsatisfactory condition has been corrected.

Each departmental Vice President and manager has the responsibility to ensure that the stated Quality Policy is implemented throughout their respective departments. Each departmental Vice President, Director or Manager must ensure compliance with the paragraphs assigned to them, making sure they are both understood and implemented.

When required by contract or by regulation, customer or regulatory agencies or both will be notified of top management changes or changes in the status of ACA's AS9100 certification.

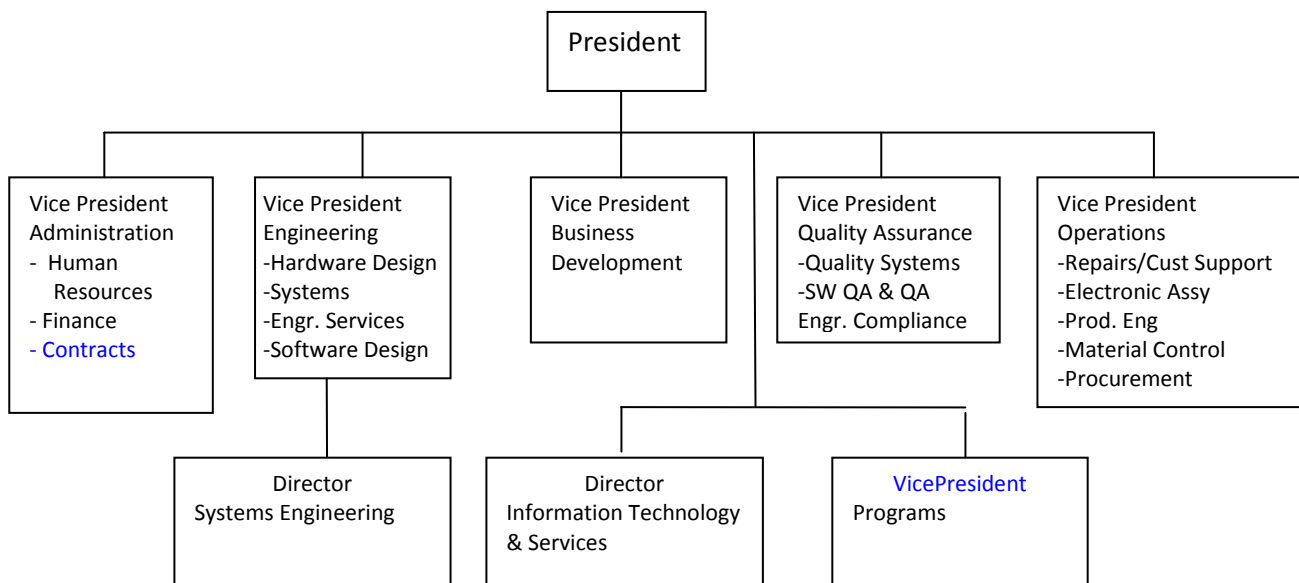


Figure 2 – ACA Organizational Chart

5.5.2 Management Representative

Top management shall appoint a member of ACA's management who, irrespective of other responsibilities, shall have responsibility and authority that includes

- Ensuring that processes needed for the quality management system are established, implemented and maintained,
- Reporting to top management on the performance of the quality management system and any need for improvement,
- Ensuring the promotion of awareness of customer requirements throughout ACA, and
- The organizational freedom and unrestricted access to top management to resolve quality management issues.

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5.5.3 Internal Communication

Top management shall ensure that appropriate communication processes are established within ACA and that communication takes place regarding the effectiveness of the quality management system.

5.6 Management Review

5.6.1 General

Top management shall review ACA's quality management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness. This review shall include assessing opportunities for improvement and the need for change to the quality management system, including the quality policy and quality objectives.

Records from management reviews shall be maintained.

5.6.2 Review Input

The input to management review shall include information on

- a) Results of audits
- b) Customer feedback,
- c) Process performance and product conformity
- d) Status of preventive and corrective actions,
- e) Follow-up actions from previous management reviews,
- f) Changed that could affect the quality management system, and
- g) Recommendations for improvement.

5.6.3 Review Output

The output from the management review shall include any decisions and actions related to

- a) Improvement of the effectiveness of the quality management system and its processes,
- b) Improvement of product related to customer requirements, and
- c) Resource needs

6.0 Resource Management

6.1 Provision of Resources

ACA shall determine and provide the resources needed

- a) To implement and maintain the quality management system and continually improve its effectiveness, and
- b) To enhance customer satisfactions by meeting customer requirements.

6.2 Human resources

6.2.1 General

Personnel performing work affecting conformity to product requirements shall be competent on the basis of appropriate education, training, skills and experience.

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6.2.2 Competence, Training and Awareness

ACA shall

- a) Determine the necessary competence for personnel performing work affecting conformity to product requirements,
- b) Where applicable, provide training or take other actions to achieve the necessary competence,
- c) Evaluate the effectiveness of the actions taken,
- d) Ensure that its personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives, and
- e) Maintain appropriate records of education, training, skills and experience.

6.3 Infrastructure

ACA shall determine, provide and maintain the infrastructure needed to achieve conformity to product requirements, infrastructure includes, as applicable,

- a) Buildings, workplace and associated utilities,
- b) Process equipment (both hardware and software), and
- c) Supporting services (such as transportation, communication or information systems).

6.4 Work Environment

ACA shall determine and manage the work environment needed to achieve conformity to product requirements.

7.0 Product Realization

7.1 Planning of Product Realization

ACA shall plan and develop the processes needed for product realization. Planning or product realization shall be consistent with the requirements of the other processes of the QMS.

In planning product realization, ACA shall determine the following, as appropriate.

- a) Quality objectives and requirements for the product.
- b) The need to establish processes and documents, and to provide resources specific to the product.
- c) Required verification, validation, monitoring, measurement, inspection and test activities specific to the product and the criteria for product acceptance.
- d) Records needed to provide evidence that the realization processes and resulting product meet requirements.
- e) Configuration management appropriate to the product.
- f) Resources to support the use and maintenance of the product.

The output of this planning shall be in a form suitable to ACA's method of operations.

7.1.1 Project Management

As appropriate to ACA and the product, ACA shall plan and manage product realization in a structured and controlled manner to meet requirements at acceptable risk, within resource and schedule constraints.

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7.1.2 Risk Management

ACA shall establish, implement and maintain a process for managing risk to the achievement of applicable requirements that include, as appropriate, the ACA and the product:

- a) Assignment of responsibilities for risk management;
- b) Definition of risk criteria (e.g., likelihood, consequences, risk acceptance);
- c) Identification, assessment and communication of risks throughout product realization;
- d) Identification, implementation and management of actions to mitigate risks that exceed the defined risk acceptance criteria; and
- e) Acceptance of risks remaining after implementation of mitigating actions.

7.1.3 Configuration Management

ACA shall establish, implement and maintain a configuration management process that includes, as appropriate to the product:

- a) Configuration management planning;
- b) Configuration identification;
- c) Change control;
- d) Configuration status accounting; and
- e) Configuration audit.

7.1.4 Control of Work Transfers

ACA shall establish, implement and maintain a process to plan and control the temporary or permanent transfer of work (e.g. from one ACA facility to another, from ACA to a supplier, from one supplier to another supplier) and to verify the conformity of the work to requirements.

7.2 Customer-Related Processes

7.2.1 Determination of Requirements Related to the Product

ACA shall determine:

- a) Requirements specified by the customer, including the requirements for delivery and post-delivery activities;
- b) Requirements not stated by the customer, but necessary for specified or intended use, where known;
- c) Statutory and regulatory requirement applicable to the product; and
- d) Any additional requirements considered necessary by ACA.

7.2.2 Review of Requirements Related to the Product

ACA shall review the requirements related to the product. This review shall be conducted prior to ACA's commitment to supply a product to the customer (e.g. submission of tenders, acceptance of contracts or orders, acceptance of changed to contracts or orders) and shall ensure that:

- a) Product requirements are defined;
- b) Contract or order requirements differ from those previously expressed are resolved;
- c) ACA has the ability to meet the defined requirements;
- d) Special requirements of the product are determined; and
- e) Risks (e.g. new technology, short delivery time frame) have been identified.

Records of the results of the review and actions arising from the review shall be maintained.

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Where the customer provides no documented statement of requirement, the customer requirements shall be confirmed by ACA prior to acceptance.

Where product requirements are changed, ACA shall ensure that relevant documents are amended and that relevant personnel are made aware of the changed requirements.

7.2.3 Customer Communication

ACA shall determine and implement effective arrangements for communicating with customers in relation to

- a) Product requirements
- b) Enquiries, contracts or order handling, including amendments, and
- c) Customer feedback, including customer complaints

7.3 Design and Development

7.3.1 Design and Development Planning

ACA shall plan and control the design and development of product.

During the design and development planning, ACA shall determine:

- a) The design and development stages;
- b) The review, verification and validation that are appropriate to each design and development stage; and
- c) The responsibilities and authorities for design and development.

When appropriate, ACA shall divide the design and development effort into distinct activities and, for each activity, define the tasks, necessary resources, responsibilities, design content, input and output data and planning constraints.

The different design and development tasks to be carried out shall be based on the safety and functional objectives of the product in accordance with customer, statutory and regulatory requirements.

Design and development planning shall consider the ability to produce, inspect, test and maintain the product.

ACA shall manage the interfaces between different groups involved in design and development to ensure effective communication and clear assignment of responsibility.

Planning output shall be updated, as appropriate, as the design and development progresses.

7.3.2 Design and Development Inputs

Inputs relating to product requirements shall be determined and records maintained. These inputs shall include:

- a) Functional and performance requirements;
- b) Applicable statutory and regulatory requirements;
- c) Where applicable, information derived from previous similar designs; and
- d) Other requirements essential for design and development

The inputs shall be reviewed for adequacy. Requirements shall be complete, unambiguous, and not in conflict with each other.

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7.3.3 Design and Development Outputs

The outputs of design and development shall be in a form suitable for verification against the design and development input and shall be approved prior to release.

Design and development outputs shall:

- a) Meet the input requirements for design and development;
- b) Provide appropriate information for purchasing, production and service provision;
- c) Contain or reference product acceptance criteria;
- d) Specify the characteristics of the product that are essential for its safe and proper use; and
- e) Specify, as applicable, any critical items, including any key characteristics, and specific action to be taken for these items.

ACA shall define the data required to allow the product to be identified, manufactured, inspected, used, and maintained, including, for example:

- The drawings, part lists and specifications necessary to define the configuration and the design features of the product, and
- The material, process, manufacturing and assembly data needed to ensure conformity of the product.

7.3.4 Design and Development Review

At suitable stages, systemic reviews of design and development shall be performed in accordance with planned arrangements:

- a) To evaluate the ability of the results of design and development to meet requirements;
- b) To identify any problems and propose necessary actions; and
- c) To authorize progression to the next stage.

Participants in such reviews shall include representatives of functions concerned with the design and development stages being reviewed. Records of the results of the reviews and any necessary actions shall be maintained.

7.3.5 Design and Development Verification

Verification shall be performed in accordance with planned arrangements to ensure that the design and development outputs have met the design and development input requirements. Records of the results of the verification and any necessary actions shall be maintained.

7.3.6 Design and Development Validation

Design and Development validation shall be performed in accordance with planned arrangement to ensure that the resulting product is capable of meeting the requirements for the specified application or intended use, where known. Whenever practicable, validation shall be completed prior to the delivery or implementation of the product. Records of the results of validation and any necessary actions shall be maintained.

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7.3.6.1 Design and Development Verification and Validation Testing

Where tests are necessary for verification and validation, these tests shall be planned, controlled, reviewed and documented to ensure and prove the following:

- a) Test plans or specifications identify the product being tested and the resources being used, define test objective and conditions, parameters to be recorded and relevant acceptance criteria;
- b) Test procedures describe the method of operation, the performance of the test and the recording of the results;
- c) The correct configuration of the product is submitted for the test;
- d) The requirements of the test plan and the test procedures are observed; and
- e) The acceptance criteria are met.

7.3.6.2 Design and Development Verification and Validation Documentation

At the completion of design and/or development, ACA shall ensure that reports, calculations, test results, etc., demonstrate that the product definition meets the specification requirements for all identified operational conditions.

7.3.7 Control of Design and Development Changes

Design and development changes shall be identified and records maintained. The changes shall be reviewed, verified and validated, as appropriate, and approved before implementation. The review of design and development changes shall include evaluation of the effect of the changes on constituent parts and product already delivered. Records of the results of the review of changes and any necessary actions shall be maintained.

Design and development changes shall be controlled in accordance with the configuration management process.

[ACA's quality system includes procedures for controlling design data and subsequent changes to ensure that only current, correct, and approved data is used. Those procedures are listed in Appendix A of this manual, in sections 7.3 through 7.3.7.](#)

7.4 Purchasing

7.4.1 Purchasing Process

ACA shall ensure that purchased product conforms to specified purchase requirements [and approved design data requirements](#). The type and extent of control applied to the supplier and the purchased product shall be dependent upon the effect of the purchased product on subsequent product realization or the final product.

ACA shall be responsible for the conformity of all product purchased from suppliers, including product from sources defined by the customer.

ACA shall evaluate and select supplier based on their ability to supply product in accordance with ACA's requirements. Criteria for selection, evaluation and re-evaluation shall be established. Records of the results of evaluations and any necessary actions arising from the evaluation shall be maintained.

ACA shall:

- a) Maintain a register of its suppliers that includes approval status (e.g., approved, conditional, disapproved) and the scope of the approved (e.g., product type, process family);

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- b) Periodically review supplier performance; the results of these reviews shall be used as a basis for establishing the level of controls to be implemented;
- c) Define the necessary actions to take when dealing with suppliers that do not meet requirements;
- d) Ensure where required that both ACA and all suppliers use customer-approved special process sources;
- e) Define the process, responsibilities and authority for the approval status decision, changes of the approval status and conditions for a controlled use of suppliers depending on the supplier's approval status; and
- f) Determine and manage the risk when selecting and using suppliers.

7.4.2 Purchasing Information

Purchasing information shall describe the product to be purchased, including, where appropriate:

- a) Requirements for approval of product, procedures, processes and equipment;
- b) Requirements for qualification of personnel;
- c) Quality management system requirements;
- d) The identification and revision status of specifications, drawings, process requirements, inspection/verification instructions and other relevant technical data;
- e) Requirements for design, test, inspection, verification (including production process verification), use of statistical techniques for product acceptance, and related instructions for acceptance by ACA, and as applicable critical items including key characteristics;
- f) Requirements for test specimens (e.g. production method, number, storage conditions) for design approval, inspection/verification, investigating or auditing;
- g) Requirements regarding the need for the supplier to
 - a. Notify ACA of nonconforming product [including those products found nonconforming after shipment](#),
 - b. Obtain ACA approval for nonconforming product disposition,
 - c. Notify ACA of changes in product and/or process, changes of supplier, changes of manufacturing facility location and, where required, obtain ACA approval, and
 - d. Flow-down to the supply chain the applicable requirements including customer requirements;
- h) Records retention requirements; and
- i) Right of access by ACA, their customer and regulatory authorities to the applicable areas of all facilities, at any level of the supply chain, involved in the order and to all applicable records.

ACA shall ensure the adequacy of specified purchase requirements prior to their communication to the supplier.

[ACA shall have access to type design data necessary to determine conformity and airworthiness for each product and article produced under the production certificate, PMA, or TSO authorization approval. ACA shall retain its production certificate, TSOA approvals, and PMAs, and make them available to the FAA upon request. ACA shall also make required information available to the FAA regarding delegation of authority to suppliers, as may be applicable.](#)

7.4.3 Verification of Purchased Product

ACA shall establish and implement the inspection or other activities necessary for ensuring that purchased product meets specified purchase requirements.

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Where purchased product is released for production use pending completion of all required verification activities, it shall be identified and recorded to allow recall and replacement if it is subsequently found that the product does not meet requirements.

Where ACA delegates verification activities to the supplier, the requirements for delegation shall be defined and a register of delegations maintained.

Where ACA or its customer intends to perform verification at the supplier's premises, ACA shall state the intended verification arrangements and method of product release in the purchasing information.

7.5 Production and Service Provision

7.5.1 Control of Production and Service provision

ACA shall plan and carry out production and service provision under controlled conditions. Controlled conditions shall include, as applicable:

- a) The availability of information that describes the characteristics of the product;
- b) The availability of work instructions, as necessary;
- c) The use of suitable equipment;
- d) The availability and use of monitoring and measuring equipment;
- e) The implementation of monitoring and measurement;
- f) The implementation of product release, delivery and post-delivery activities;
- g) Accountability for all product during production (e.g. parts quantities, split orders, nonconforming product);
- h) Evidence that all production and inspection/verification operations have been completed as planned, or as otherwise documented and authorized;
- i) Provision for the prevention, detection and removal of foreign objects;
- j) Monitoring and control utilities and supplies (e.g., water, compressed air, electricity, chemical products) to the extent they affect conformity to product requirements; and
- k) Criteria for workmanship, specified in the clearest practical way (e.g., written standards, representative samples, illustrations).

Planning shall consider, as appropriate

- Establishing, implement and maintaining appropriate processes to manage critical items, including process controls where key characteristics have been identified,
- Design, manufacturing and using tooling to measure variable data,
- Identifying in-process inspection/verification points when adequate verification of conformance cannot be performed at later stages of realization, and
- Special processes

ACA's quality system includes procedures for controlling manufacturing processes to ensure that each product and article conforms to its approved design data. Those procedures are listed in Appendix A, in sections 7.5.1 and 7.5.2.

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7.5.1.1 Production Process Verification

ACA shall use a representative item from the first production run of a new part of assembly to verify that the production processes, production documentation and tooling are capable of producing parts and assemblies that meet requirements. This process shall be repeated when changes occur that invalidate the original results (e.g., engineering changes, manufacturing process changes, tooling changes).

7.5.1.2 Control of Production Process Changes

Personnel authorized to approve changes to production processes shall be identified.

ACA shall control and document changes affecting processes, production equipment, tools or software programs.

The results of changes to production processes shall be assessed to confirm that the desired effect has been achieved without adverse effects to product conformity.

7.5.1.3 Control of Production Equipment, Tools and Software Programs

Production equipment, tools and software programs used to automate and control/monitor product realization processes, shall be validated prior to release for production and shall be maintained.

Storage requirements, including periodic preservation/condition checks, shall be defined for production equipment or tooling in storage.

7.5.1.4 Post-Delivery Support

Post-delivery support shall provide as applicable for the:

- a) Collection and analysis of in-service data;
- b) Actions to be taken, including investigation and reporting, when problems are detected after delivery;
- c) Control and updating of technical documentation;
- d) Approval, control and use of repair schemes; and
- e) Controls required for off-site work (e.g., ACA's work undertaken at the customer's facilities).

7.5.2 Validation of Process for Production and Service Provision

ACA's shall validate any processes for production and service provision where the resulting output cannot be verified by subsequent monitoring or measurement and, as a consequence, deficiencies become apparent only after the product is in use or the service has been delivered.

Validation shall demonstrate the ability of these processes to achieve planned results.

ACA shall establish arrangements for these processes including, as applicable:

- a) Defined criteria for review and approval of the processes;
- b) Approval of equipment and qualification of personnel;
- c) Use of specific methods and procedures;
- d) Requirements for records; and
- e) Revalidation.

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7.5.3 Identification and Traceability

Where appropriate, ACA shall identify the product by suitable means throughout product realization.

ACA shall maintain the identification of the configuration of the product in order to identify any differences between the actual configuration and the agreed configuration.

ACA shall identify the product status with respect to monitoring and measurement requirements throughout product realization. [ACA's quality system includes procedures for documenting the inspection and test status of products and articles supplied or manufactured to the approved design data. Those procedures are listed in Appendix A under section 7.5.3.](#)

When acceptance authority media are used (e.g., stamps, electronic signatures, passwords), ACA shall establish appropriate controls for the media.

Where traceability is a requirement, ACA shall control the unique identification of the product and maintain records.

[As is required of an FAA Production Approval Holder \(PAH\), ACA's quality system includes instructions for marking the product or article for which a production certificate, PMA, or TSO authorization approval has been issued. Marking must be in accordance with 14 CFR Part 45, and must include the marking of critical parts, if critical parts are produced. The part marking is controlled via FAA approved data, such as an approved drawing.](#)

[ACA's quality system includes instruction to identify -- with ACA's part number and name, trademark, symbol, or other ACA identification as is required by the FAA -- any portion of the approved product or article \(e.g. sub-assemblies, component parts, or replacement articles\) that leave ACA's facility as FAA approved.](#)

7.5.4 Customer Property

ACA shall exercise care with customer property while it is under ACA's control or being used by ACA. ACA shall identify, verify, protect and safeguard customer property provided for use of incorporation into the product. If any customer property is lost, damaged or otherwise found to be unsuitable for use, ACA shall report this to the customer and maintain records.

7.5.5 Preservation of Product

ACA shall preserve the product during internal processing and delivery to the intended destination in order to maintain conformity to requirements. As applicable, preservation shall include identification, handling, packaging, storage and protection. Preservation shall also apply to the constituent parts of a product.

Preservation of product shall also include, where applicable in accordance with product specifications and applicable statutory and regulatory requirements, provisions for:

- a) Cleaning;
- b) Prevention, detection and removal of foreign objects;
- c) Special handling for sensitive products;
- d) Marking and labeling including safety warnings;
- e) Shelf life control and stock rotation; and
- f) Special handling for hazardous materials.

[ACA's quality system includes procedures to prevent damage and deterioration of each product and article during handling, storage, preservation, and packaging. These procedures are listed in Appendix A under section 7.5.5.](#)

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7.6 Control of Monitoring and Measuring Equipment

ACA shall determine the monitoring and measurement to be undertaken and the monitoring and measuring equipment needed to provide evidence of conformity of product to determined requirements.

ACA shall maintain a register of the monitoring and measuring equipment and define the process employed for their calibration/verification including details of equipment type, unique identification, location, frequency of checks, checking method, and acceptance criteria.

ACA shall establish processes to ensure that monitoring and measurement can be carried out and are carried out in a manner that is consistent with the monitoring and measurement requirements.

ACA shall ensure that environmental conditions are suitable for the calibration, inspection, measurement, and testing being carried out.

Where necessary to ensure valid results, measuring equipment shall:

- a) Be calibrated or verified, or both, at specified intervals, or prior to use, against measurement standards traceable to international or national measurement standards; where no such standards exist, the basis used for calibration or verification shall be recorded;
- b) Be adjusted or re-adjusted as necessary;
- c) Have identification in order to determine its calibration status;
- d) Be safeguarded from adjustments that would invalidate the measurement results; and
- e) Be protected from damage and deterioration during handling, maintenance and storage.

ACA shall establish, implement and maintain a process for the recall of monitoring and measuring equipment requiring calibration or verification.

In addition, ACA shall assess and record the validity of the previous measuring results when the equipment is found not to conform to requirements. ACA shall take appropriate action on the equipment and any product affected.

Records of the results of calibration and verification shall be maintained.

When used in the monitoring and measurement of specified requirements, the ability of computer software to satisfy the intended application shall be confirmed. This shall be undertaken prior to initial use and reconfirmed as necessary.

[ACA's quality system includes procedures to ensure the calibration and control of all inspection, measuring, and test equipment that is used in determining conformity of each product and article to its approved design data. Those procedures are listed in Appendix A under section 7.6.](#)

8.0 Measurement, Analysis and Improvement

8.1 General

ACA shall plan and implement the monitoring, measurement, analysis, and improvement processes needed:

- a) To demonstrate conformity to product requirements;
- b) To ensure conformity of the quality management system; and
- c) To continually improve the effectiveness of the quality management system.

This shall include determination of applicable methods, including statistical techniques and the extent of their use.

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8.2 Monitoring and Measurement

8.2.1 Customer Satisfaction

As one of the measurements of the performance of the QMS, ACA shall monitor information relating to customer perception as to whether ACA has met customer requirements. The methods for obtaining and using this information shall be determined.

Information to be monitored and used for the evaluation of customer satisfaction shall include, but not limited to, product conformity, on-time delivery performance, customer complaints and corrective action requests. ACA shall develop and implement plans for customer satisfaction improvement that address deficiencies identified by these evaluations, and assess the effectiveness of the results.

8.2.2 Internal Audit

ACA shall conduct internal audits at planned intervals to determine whether the QMS:

- a) Conforms to the planned arrangements, to the requirements of this International Standard and to the QMS requirements established by ACA; and
- b) Is effectively implemented and maintained.

An audit program shall be planned, taking into consideration the status and importance of the processes and area to be audited, as well as the results of previous audits. The audit criteria, scope, frequency and methods shall be defined. The selection of auditors and conduct of audits shall ensure objectivity and impartiality of the audit process. Auditors shall not audit their own work.

A documented procedure shall be established to define the responsibilities and requirements for planning and conducting audits, establishing records and reporting results.

Records of the audits and their results shall be maintained.

The management responsible for the area being audited shall ensure that any necessary corrections and corrective actions are taken without undue delay to eliminate detected nonconformities and their causes. Follow-up activities shall include the verification of the actions taken and the reporting of verification results.

ACA's Quality System includes a procedure for planning, conducting, and documenting internal audits to ensure compliance with the approved quality system. This procedure is listed in Appendix A under section 8.2.2. This procedure covers reporting results of internal audits to the manager responsible for implementing corrective and preventive action.

ACA's quality system includes procedures to ensure ACA, as a PAH, maintain the quality system in compliance with the data and procedures approved for the production certificate, PMA or TSO, as applicable.

8.2.3 Monitoring and Measurement of Processes

ACA shall apply suitable methods for monitoring and, where applicable, measurement of the QMS processes. These methods shall demonstrate the ability of the processes to achieve planned results. When planned results are not achieved, correction and corrective action shall be taken, as appropriate.

In the event of process nonconformity, ACA shall:

- a) Take appropriate action to correct the nonconforming process;
- b) Evaluate whether the process nonconformity has resulted in product nonconformity;

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- c) Determine if the process nonconformity is limited to a specific case or whether it could have affected other processes or products; and
- d) Identify and control any nonconforming product.

8.2.4 Monitoring and Measurement of Product

ACA shall monitor and measure the characteristics of the product to verify that product requirements have been met. This shall be carried out at appropriate stage of the product realization process in accordance with the planned arrangements. Evidence of conformity with the acceptance criteria shall be maintained.

Measurement requirements for product acceptance shall be documented and shall include:

- a) Criteria for acceptance and/or rejection;
- b) Where in the sequence measurement and testing operations are to be performed;
- c) Required records of the measurement results (at a minimum, indication of acceptance or rejection; and
- d) Any specific measurement instruments required and any specific instructions associated with their use.

When critical items, including key characteristics, have been identified, ACA shall ensure they are controlled and monitored in accordance with the established processes.

When ACA uses sampling inspection as a means of product acceptance, the sampling plan shall be justified on the basis of recognized statistical principles and appropriate for use (i.e., matching the sampling plan to the criticality of the product and to the process capability).

Where product is released for production use pending completion of all required measurement and monitoring activities, it shall be identified and recorded to allow recall and replacement if it is subsequently found that the product does not meet requirements.

Records shall indicate the person(s) authorizing release of the product for delivery to the customer.

Where required to demonstrate product qualification, ACA shall ensure that records provide evidence that the product meets the defined requirements.

The release of product and delivery of service to the customer shall not proceed until the planned arrangements have been satisfactorily completed, unless otherwise approved by a relevant authority and, where applicable, by the customer.

ACA shall ensure that all documents required to accompany the product are present at delivery.

ACA's quality system includes procedures for inspections and tests used to ensure that each product and article conforms to its approved design, including flight testing in applicable. These procedures are listed in Appendix A, under section 8.2.4.

The FAA requirement for a functional test of each aircraft engine or propeller produced does not apply to Astronautics Corporation of America, because ACA does not design or manufacture aircraft engines or propellers.

ACA's quality system includes the responsibilities of a Production Certificate Holder, a PMA holder, and a TSO holder, as applicable. ACA must ensure that each completed product or article for which a production certificate, PMA or TSO has been issued, and which is presented for airworthiness certification or approval, does in fact conform to its approved design and is in a condition for safe operation. Procedures to assure this are listed in Appendix A under section 8.2.4.

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8.3 Control of Nonconforming Product

ACA shall ensure that product which does not conform to product requirements is identified and controlled to prevent its unintended use or delivery. A documented procedure shall be established to define the controls and related responsibilities and authorities for dealing with nonconforming product.

ACA's documented procedure shall define the responsibility and authority for the review and disposition of nonconforming product, and the process for approving personnel making these decisions.

Where applicable, ACA shall deal with nonconforming product by one or more of the following ways:

- a) By taking action to eliminate the detected nonconformity;
- b) By authorizing its use, release or acceptance under concession by a relevant authority and, where applicable, by the customer;
- c) By taking action to preclude its original use or application;
- d) By taking action appropriate to the effects, or potential effects, of the nonconformity when nonconforming product is detected after delivery or use has started.

ACA's nonconforming product control process shall provide for timely reporting of delivered nonconforming product:

- a. By taking actions necessary to contain the effect of the nonconformity on other processes or products.

Dispositions of use-as-is or repair shall only be used after approval by an authorized representative of ACA responsible for design.

ACA shall not use dispositions of use-as-is or repair, unless specifically authorized by the customer, if the nonconformity results in a departure from the contract requirements.

Product [that is dispositioned as a discarded article](#) shall be conspicuously and permanently marked, or positively controlled, until physically rendered unusable. [As required, ACA's quality system includes procedures to ensure that discarded articles are rendered unusable. Those procedures are listed in Appendix A under section 8.3.](#)

When nonconforming product is corrected it shall be subject to re-verification to demonstrate conformity to the requirements.

Records of the nature of nonconformities and any subsequent actions taken, including concessions obtained, shall be maintained.

[Although ACA does not build type-certificated products per se, ACA does build articles to be used on type-certificated products. As a result, within the confines of its processes and facilities, ACA's quality system includes procedures to ensure that only products or articles that conform to their approved design are installed on a type-certificated product. As required, these procedures provide for the identification, documentation, evaluation, segregation, and disposition of nonconforming products and articles. Those procedures are listed in Appendix A under section 8.3. Only authorized individuals may make disposition determinations.](#)

[ACA's quality system includes procedure for identifying, analyzing, and initiating appropriate corrective action for products or articles that have been released from the quality system and that do not conform to the applicable design data or quality system requirements. Those procedures are listed in Appendix A, under section 8.3](#)

[Also as required, ACA's quality system includes procedures for reporting failures, malfunctions and defects. This FAA required procedure is listed in Appendix A under section 8.3.](#)

[ACA's Quality system includes procedures for receiving and processing feedback on in-service failures, malfunctions and defects. These procedures are listed in Appendix A under section 8.3. The procedures include a process for assisting the design approval holder to](#)

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- a) Address any in-service problem involving design changes; and
- b) Determine if any changes to the Instructions for Continued Airworthiness are necessary.

8.4 Analysis of Data

ACA shall determine, collect and analyze appropriate data to demonstrate the suitability and effectiveness of the quality management system and to evaluate where continual improvement of the effectiveness of the QMS can be made. This shall include data generated as a result of monitoring and measurement and from other relevant sources.

The analysis of data shall provide information related to:

- a) Customer satisfaction;
- b) Conformity to product requirements;
- c) Characteristics and trends of processes and products, including opportunities for preventive action; and
- d) Suppliers.

8.5 Improvement

8.5.1 Continual Improvement

ACA shall continually improve the effectiveness of the QMS through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management review.

ACA shall monitor the implementation of improvement activities and evaluate the effectiveness of the results.

8.5.2 Corrective Action

ACA shall take action to eliminate the causes of nonconformities in order to prevent recurrence. Corrective actions shall be appropriate to the effects of the nonconformities encountered.

A documented procedure shall be established to define requirements for:

- a) Reviewing nonconformities (including customer complaints);
- b) Determining the causes of nonconformities;
- c) Evaluating the need for action to ensure that nonconformities do not recur;
- d) Determining and implementing action needed;
- e) Records of results of action taken;
- f) Reviewing the effectiveness of the corrective action taken;
- g) Flowing down corrective action requirements to a supplier when it is determined that the supplier is responsible for the nonconformity;
- h) Specific actions where timely and/or effective corrective actions are not achieved; and
- i) Determining if additional conforming product exists based on the causes of the nonconformities and taking further action when required.

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As required by 14 CFR Part 21, ACA's quality system includes procedures for implementing corrective and preventive actions to eliminate the causes of an actual or potential nonconformity to the approved design or noncompliance with the approved quality system. These procedures are listed in Appendix A under sections 8.5.2 and 8.5.3.

8.5.3 Preventive Action

ACA shall determine action to eliminate the causes of potential nonconformities in order to prevent their occurrence. Preventive actions shall be appropriate to the effects of the potential problems.

A documented procedure shall be established to define requirements for:

- a) Determining potential nonconformities and their causes;
- b) Evaluating the need for action to prevent occurrence of nonconformities;
- c) Determining and implementing action needed;
- d) Records of results of action taken; and
- e) Reviewing the effectiveness of the preventive action taken.

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Appendix A – AS9100 Procedure Matrix

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4.1	General Documentation Requirements	QAP 2003/5, Company Document Control Procedure QDP 1.1 – QA Documents
4.2. 4.2.1	Documentation Requirements General Requirements	QAP 2003/5, Company Document Control Procedure QAP 2003/4, Company Quality Records Procedure CMP-024 – Document Control PDOI 04 – Production Document Control QDP 1.1 – Quality Assurance Documents
4.2.2	Quality Manual	QM-ISO – Quality Manual QDP 6.5.6-1 Customer Notification Procedure QDP 1.1 – Quality Assurance Documents
4.2.3	Control of Documents	QAP 2003/5, Company Document Control Procedure EDP-0006 – Doc. Control of Internal Operating Procedures CMP-024 – Document Control PDOI 04 – Production Document Control QDP 1.1 – Quality Assurance Documents
4.2.4	Control of Records	QAP 2003/4, Company Quality Records Procedure QDP 3.4.1-1 – Quality Assurance Records PDOI 08 – Production Document Retention PDOI 21 – Production Quality Records PDOI 35 – Production Forms Control EDP0008 – Eng. Quality Records Control & Storage MDOI 100-4 – Control of Quality Records CDOI-010-1 – Contracts Dept. Op Instructions CMP-025 – Forms Control
5.1	Management Commitment	QM ISO – Quality Manual QDP 3.7.1 – QM Review
5.2	Customer Focus	QM ISO – Quality Manual QDP 6.5.6-1 Customer and Regulatory Notification Procedure
5.3	Quality Policy	QM ISO – Quality Manual QDP 3.7.1 – QM Review
5.4.1, 5.4.2	Planning, Quality Objectives, QMS Planning	QM ISO – Quality Manual QDP 3.7.1 – QM Review
5.5.1, 5.5.2, 5.5.3	Responsibility and Authority. Management Rep. Internal Communication	QM-ISO – Quality Manual QDP 3.7.1 – Quality Management Review
5.6.1, 5.6.2, 5.6.3,	Management Review, General	QM-ISO – Quality Manual QDP 3.7.1 – QM Review
6.1,	Provision of Resources,	QM-ISO – Quality Manual
6.2 all	Human Resources	QDP 2.4.1-1 – Instruction of QA Personnel LST-001, Training Certification Program EDP-0005 – Orientation of New Employees

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AS9100 Section #, Para. No.	Title	Astronautics Procedure Nos.
		MDOI 100-10 Training of Materiel Department Personnel PDOI 29 Production Personnel Responsibilities CDOI010-1 Contract Department Operating Procedures
6.3, 6.4	Infrastructure, Work Environment	PDOI 29 Production Personnel Responsibilities QM-ISO – Quality Manual
7.1	Planning of Product Realization, Project Management, Risk Analysis, Configuration Management, Control of Work Transfers	PDOI-01 – Process Control ACP09787 – ACA Program Management Procedure QDP 3.2.2-1 – New or Follow-On Contract Req. Analysis QDP 3.3.1-1 – Prep & Review of Inspection, Test & Work Instructions EDP-0004 – Contract Review and Proposal Generation ACP10333 Risk Management Procedure CMP-001 Configuration Management System SCMP-001 – Software Configuration Management System SCMP-002 – Software Configuration Management Process
7.2	Customer-Related Processes, Determination of Requirements Related to the Product, Review of Requirements Related to the Product, Customer Communications	CDOI 010-1 – Contracts Dept. Op Instructions CDOI 010-2 – Proposal Submittal Procedures QDP 3.2.1-1 – Potential Contract Quality Requirements Analysis and Pricing QDP 3.2.2-1 – New or Follow-On Contract Req. Analysis EDP-004 – Contract Review and Proposal Generation ACP10333 Risk Management Procedure QDP 6.5.6-1 Customer and Regulatory Notification Procedure
7.3	Design Control - General	EDP-0001 – Policy of Engineering Department SEDP-001 – Software Engineering Department Procedure
7.3.1	Design and Development Planning	EDP-0002 – Procedure for Development of Products EDP-0003 – Guidelines for Development Stages of a Project EDP-0004 – Contract Review & Proposal Generation
7.3.2	Design and Development Inputs	PDG-1, Part Derating Guidelines CMP-001 – Configuration Mgmt. System EDP-0002 – Procedure for Development Of Products EDP-0003 – Guidelines for Development Stages of a Project EDP-0004 – Contract Review & Proposal Generation SEDP-001—Software Engineering Department Procedures
7.3.3	Design and Development Outputs	EDP-0003 – Guidelines for Develop Stages of Project SEDP-001—Software Engineering Department Procedures CMP-001 – Configuration Management System CDOI010-1 Contract Department Operating Procedure EDP-0010 – Engineering Document Review Process
7.3.4	Design and Development Review	EDP-0003 – Guidelines for Develop of Products CMP-001 – Configuration Mgmt. System SEDP-003 – Usage of Tracker SCR/Review Form EDP-0010 – Engineering Document Review Process
7.3.5	Design and Development Verification, Design and	EDP-0002 – Procedure for Development Of Products EDP-0003 – Guidelines for Develop of Products

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AS9100 Section #, Para. No.	Title	Astronautics Procedure Nos.
	Development Verification and Validation Testing and Documentation	SEDP-016 – Software Verification Review and Analysis Process SEDP-018—Software Verification Test Cases and Test Procedures
7.3.6	Design and Development Validation, Design and Development Verification and Validation Testing and Documentation	EDP-0002 – Procedure for Development Of Products EDP-0003 – Guidelines for Develop of Products SEDP-002 – Usage of Tracker Release Form SEDP-017 – Test Coverage Analysis Process
7.3.7	Design and Development Changes	CMP-001 – Configuration Mgmt. System CMP-007 – Engineering Change Request Prep. Inst. CMP-008 – Engineering Change Order Prep. Inst.
7.4.1	Purchasing Process	MDOP 100-1 – Materiel Department Policies and Procedures MDOP 100-7 – Department Files MDOP 100-9 – Approval of Suppliers MDOP 200-1 – Purchasing Mgmt System MDOP 200-2 – Supplier Mgmt MDOP 200-4 – Purchase Order Acknowledgements MDOP 200-17 – Supplier Selection QDP 5.1.1-1 – Supplier Surveys & Audits QDP 5.1.3-1 – Purchase Order (PO) Review Notification and Flow Downs Form F5125 on ACA website
7.4.2	Purchasing Information	MDOP 200-1 – Purchasing Mgmt System MDOP 100-4 – Control of Quality Records QDP 5.1.1-1 –Supplier Surveys & Audits QDP 5.1.3-1 – Purchase Order (PO) Review
7.4.3	Verification of Purchased Product	MDOP 200-1 – Purchasing Mgmt System QDP 5.1.3-1 – Purchase Order (PO) Review QDP 6.1.2-3 – First Article Inspection – Procured Material QDP 6.1.3-1 – Receiving Inspection
7.5.1- 7.5.1.4 , 7.5.2	Control of Production and Service Provision, Production Process Verification, Control of Production Process Changes, Control of Production Equipment, Tools and Software Programs, Post Delivery Support	PDOI 01 – Process Control PDOI 02 – Routing Generation, Maintenance and Control PDOI 38 – Process Changes QDP 6.2.2-1 – Control of Processes CDOI-010-4 – Repair Order Procedures CDOI 010-7 – Gov't Property Op Procedures QDP 6.3.2 – Final Inspection QDP 6.3.3 – Final Acceptance Testing QDP 7.2.1-1 – Gov't & Customer Property PS 3007 – Handling MDR/PQDR Field Returns PS 3008 - FAA Repair Station Applicable production Process Specifications (equipment dependant) MDOI 60-2 – Units Returned for Repair MDOI 80-9 – Repair Units
7.5.3	Identification and Traceability	MDOI 70-6 – Receiving Material to Stock PDOI 02 – Routing Generation, Maintenance & Control

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		PDOI 05 – In-House Product Traceability PDOI 36 – Traceability of Critical/High Risk Components QDP 6.7.1-1 – Indication of Inspection Status
7.5.4	Customer Property	CDOI 010-7 – Gov't Property Op Procedures MDOI 70-6 – Receiving Material to Stock MDOI 70-7 – Kitting MDOI 70-13 – Customer-Furnished Material QDP 7.2.1-1 – Gov't & Customer Property
7.5.5	Preservation of Product (Handling)	MDOI 70-4 – ESD and FOD Control MDOI 60-3 – ESD and FOD Control MDOI 80-3 – ESD and FOD Control PDOI 29 Production Personnel Responsibilities QDP 6.4.1 Protecting Product Quality
7.5.5	Preservation of Product (Storage)	MDOI 70-6 – Receiving Material to Stock MDOI 70-7 – Kitting MDOI 70-8 – Material Transfers QDP 6.4.1 Protecting Product Quality
7.5.5	Preservation of Product (Packaging)	QDP 6.3.2 – Final Inspection QDP 6.3.4-2 – Final Acceptance Testing MDOI 80-5 – Shipping General MDOI 80-6 – Packaging QDP 6.4.1 Protecting Product Quality
7.5.5	Preservation of Product (Preservation)	PS3081 Material Shelf Life QDP 6.4.1-1 – Limited Life Items QDP 6.4.1 Protecting Product Quality
7.5.5	Preservation of Product (Delivery)	QDP 6.3.2 – Final Inspection QDP 6.3.4-2 – Final Acceptance Processing MDOI 80-3 – ESD and FOD Control MDOI 80-5 – Shipping General MDOI 80-6 – Packaging QDP 6.4.1 Protecting Product Quality
7.6	Control of Monitoring and Measuring Equipment	QDP 4.2.1-1 – Calibration of Measuring & Test Equip QDP 4.2.1-2 – Calibration Out-of-Tolerance Report (Form #4.2.1/1) QDP 4.2.2-1 -- Control & Documentation of Test Equip Entry QDP 4.2.2-2 – Certification of Product Acceptance Test Equip QDP 4.2.2-.3 – Calibration of Newly Manufactured or Purchased Test Equipment QDP 6.7.1-2 – Calibration Indication PDOI 29 Production Personnel Responsibilities
8.1	Measurement, Analysis, and Improvement—General	QDP 6.6.1 – Statistical Quality Control and Analysis
8.2.1	Customer Satisfaction	QDP 3.7.1-1 – Determining and Maintaining Measureables Assigned to the QA Department ACP10148 – ACA Corrective Action Procedure ACP10149 – ACA Internal Corrective Action Procedure

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		ACP10150 – ACA Customer Corrective Action Procedure ACP10151 – Supplier Corrective Action Procedure ACP10152 – AS9100 Corrective Action Procedure
8.2.2	Internal Audits	QDP 2.3.1-3 – Quality Management System Auditing
8.2.3	Monitoring and Measurement of Processes	QDP 2.3.1-3 – Quality Management System Auditing QDP 3.5.1-2 – AS9100 Corrective Action Procedure QDP 3.7.1-1 – Determining and Maintaining Measureables Assigned to the QA Department SEDP-002 – Usage of Tracker Release form
8.2.4	Monitoring and Measurement of Product	QDP 6.2.1-1 – In-Process Inspection QDP 6.3.1-1 – First Article Inspection QDP 6.3.2 – Final Inspection QDP 6.3.3 – Final Acceptance Testing QDP 6.3.4-2 – Final Acceptance Processing PDOI26 – Operation Analysis Data Collection QDP 6.2.1-4 OSR Maintenance Procedure SEDP-002 – Usage of Tracker Release form EDP-003 – Guidelines for the Development of a Project
8.3	Control of Nonconforming Product	QDP 6.1.3-1 – Receiving Inspection QDP 6.5.1-1 – Preliminary Review QDP 6.5.2-1 – Material Review Board (MRB) Procedure QDP 6.5.6-1 Customer and Regulatory Notification Procedure QDP 3.1.5-5 Reporting Failures, Malfunctions and Defects ACP10148 – ACA Corrective Action Procedure ACP10149 – ACA Internal Corrective Action Procedure ACP10150 – ACA Customer Corrective Action Procedure ACP10151 – Supplier Corrective Action Procedure ACP10152 – AS9100 Corrective Action Procedure SEDP-002 – Usage of Tracker Release form MDOI 80-10 Processing of Scrap PDOI 31 MID/MTT Production Reject Process
8.4	Analysis of Data	QDP 6.6.1 – Statistical Quality Control and Analysis Sample Inspection QDP 3.7.1-1 – Determining and Maintaining Measureables Assigned to the QA Department QDP 3.7.1 – Quality Management Review PDOI26 – Operation Analysis Data Collection ACP10333 Risk Management Procedure SEDP-002 – Usage of Tracker Release form
8.5.1	Continual Improvement	EDP-0007 – Value Engineering Program CMP-016 Configuration Accounting QDP 3.7.1 – Quality Management review SEDP-002 – Usage of Tracker Release form
8.5.2	Correction Action	ACP10148 – ACA Corrective Action Procedure

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		ACP10149 – ACA Internal Corrective Action Procedure ACP10150 – ACA Customer Corrective Action Procedure ACP10151 – Supplier Corrective Action Procedure ACP10152 – AS9100 Corrective Action Procedure SEDP-002 – Usage of Tracker Release form
8.5.3	Preventive Action	ACP10148 – ACA Corrective Action Procedure ACP10149 – ACA Internal Corrective Action Procedure ACP10150 – ACA Customer Corrective Action Procedure ACP10151 – Supplier Corrective Action Procedure ACP10152 – AS9100 Corrective Action Procedure SEDP-002 – Usage of Tracker Release form