

Gulfstream
Production Certificate Operations

SUPPLIER QUALITY ASSURANCE SYSTEM REQUIREMENTS

SQAR – 0001 REV D

Supplier's Quality System

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REVISIONS

| DATE | REV | REVISION & ADDED PAGES | REMARKS |
|-------------|------------|--|--|
| 4/1/2002 | D | Complete Revision | . |
| 9/4/03 | - | Editorial clarification of paragraph 5.31.1G | To clarify MRB Tag submittals for suppliers with Independent MRB |
| 7/30/07 | - | Clarification of paragraph 5.31.1G | - |

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1 PURPOSE AND SCOPE

This document establishes the Quality Assurance requirements for suppliers of major assemblies, critical parts or assemblies, functional components or priority parts to Gulfstream Aerospace, (Gulfstream) as reflected on purchase orders or other contract documentation. This document is applicable to the supplier of one or more of the above referenced products and shall be the governing document for the quality system established by the supplier.

1.1 Applicability - This document shall be incorporated into contractual obligations with suppliers who perform work or supply products to Gulfstream Aerospace. Previous editions of this document are acceptable for use when specifically denoted on the contract or purchase order. Supplier contracts shall be amended upon renegotiations/renewal or at five year intervals, which ever comes first, to incorporate the most current Supplier Quality Assurance Requirements (SQAR).

Reference Documents: The following documents shall form a part of these specifications to the extent specified herein. When referenced, the most current revision level in effect shall apply.

| | |
|--------------------------------|--|
| 14 CFR, Part 25.571 | Subpart C - Fatigue Evaluation, "Damage-tolerance and Fatigue Evaluation of Structure" |
| 14 CFR, Part 25.601 | Subpart D - Design and Construction, "General" |
| Advisory Circular 21-2 | "Export Airworthiness Approval Procedures - Article" |
| Advisory Circular 21-23 | "Airworthiness Certification of Aircraft, Engines, Propellers, and Related Products Imported to the United States" |
| SQAR-0001 | Supplier Quality Assurance Requirements (Revisions: N/C, A, B & C) |

Requirements for Parts:

| | |
|---------------|--|
| GAC14D | Gulfstream Standard , "Control, Serialization and Traceability Requirements for Parts." |
| GIV-GER-526 | Gulfstream Engineer Report - GIV Priority Parts |
| RTCA / DO-178 | Radio Technical Commission for Aeronautics / Software Considerations in Airborne Systems and Equipment Certification |

1.2 In case of a conflict between the contents of this document and any supplier documents, the terms of this document shall apply unless specifically negotiated and accepted in writing by Gulfstream Quality Assurance.

1.3 If a supplier proceeds without an agreed to understanding of this document, Gulfstream reserves the right to interpret the contents of this document.

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2 GULFSTREAM AUDITS, SURVEYS AND INSPECTIONS

- 2.1 Prior to the award of a procurement contract, a supplier Quality Assurance evaluation will be conducted to appraise the supplier's ability to comply with the requirements of this document. Upon completion of this initial evaluation, the supplier will be notified in writing of their acceptability or of any areas of nonconformance. Any documented nonconformances shall be resolved to Gulfstream Quality Assurance satisfaction before award of an approved status.
- 2.2 Gulfstream reserves the right to conduct audits, evaluations and inspections of the supplier's Quality Assurance System and products to be furnished to Gulfstream. In addition, Gulfstream reserves the right to conduct audits, evaluations and inspections of supplier's Subcontractors Quality Assurance Systems and products to be supplied to Gulfstream. These audits are in addition to the primary supplier's approved Quality Assurance System and does not relieve the primary supplier of the responsibility to maintain a system for the control of quality products and services from their subcontractors.

3 GULFSTREAM REPRESENTATIVES

- 3.1 Gulfstream may assign representatives from Quality Assurance, Purchasing, Engineering, Production Groups, or other personnel as required to the supplier's facility during its performance under any Gulfstream contract. These representatives will only be assigned to the supplier's facility in connection with the contract. The supplier will be required to provide these assigned personnel with reasonable facilities and equipment required to conduct their business within the supplier's facility.

4 GOVERNMENT REPRESENTATION

- 4.1 Gulfstream suppliers shall permit access and provide facilities and assistance, as necessary, to government representatives to enable them, initially and periodically, to evaluate supplier's facilities and to review procedural controls, records, process controls and products at all times and places during manufacture, for conformance with government regulations and applicable specifications.

5 REQUIREMENTS

Supplier shall provide and maintain a system for the control of quality and configuration. The Quality System in place at the time of the evaluation or audit approval shall be the system considered acceptable. Suppliers are required to submit subsequent changes to their Quality System (affecting Gulfstream products) to Gulfstream Quality Assurance for review and concurrence of the change prior to incorporation. Any changes to the system that do not have Gulfstream Quality Assurance acceptance are not considered approved. The system must be documented in the Supplier's Quality Assurance Manual by revision number and/or date of the Manual.

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The documented system shall include as a minimum, provisions to address the following:

5.1 Quality Program Management

- 5.1.1 The supplier must establish, document and maintain a Quality Program that includes identified functions and activities that directly affect quality, and assign specific authority and the responsibility for these functions.
- 5.1.2 The Quality Program shall provide for complete review of contract requirements prior to the award of contract in order to make timely provisions for the specific controls, processes, test equipment, support and diagnostic software, fixtures, tooling and skills required for assurance of a quality product. Systems, equipment, or skills not available at time of contract shall be documented by the supplier and provided to Gulfstream Quality Assurance with a procurement / implementation schedule. All purchase order amendments shall be subject to the provisions of this subsection.
- 5.1.3 The supplier shall document the Quality Assurance Procedures and provide them to Gulfstream upon request. The document shall include the basis used to create the system. (Reference paragraph 5.17.)
- 5.1.4 An Organizational Chart that depicts the Quality Organization and its functional relationship to the inspection function and other groups within the supplier's organization, shall be part of the quality procedures manual and be available for review. The Quality Organization should have a description of their roles and responsibilities and/or levels of authority.

5.2 Quality Program Plan (when specifically negotiated by contract)

- 5.2.1 The supplier shall develop a Quality Program Plan that will form a cross-reference between the line items of this SQAR-0001 and the supplier's procedures. The plan will consist of the cross-reference and all procedures referenced therein. If the supplier does not have procedures to address a given line item, a statement describing method of compliance or acceptance of the line item will be required. If a given line item is not applicable for the products supplied, then it shall be so stated in the plan. All line items of SQAR-0001 must be addressed. Items, which are determined to be unacceptable to Gulfstream, will be resolved prior to the award of the contract. All procedures identified in the plan, and subsequent revisions when specifically required by contract, shall not be implemented prior to concurrence by Gulfstream Quality Assurance.
- 5.2.2 The Quality Program Plan shall form a part of the contract and shall be approved by Gulfstream Quality Assurance prior to being valid. Once approved, the Quality Plan shall be the document that defines the agreement pertaining to the operation of the supplier's Quality System. In lieu of the Quality Program Plan approval, SQAR-0001 shall apply.

5.3 Manufacturing Planning System

- 5.3.1 The supplier shall develop and maintain a Manufacturing Planning System that outlines the requirements in a procedure to produce, process, inspect, and/or test the product or service. Gulfstream must approve the supplier's Manufacturing System.
- 5.3.2 Each Manufacturing Plan shall be organized in a sequence that delineates the manufacturing procedures that will consistently produce and assure conformance to the approved data. This plan is developed to control the manufacture of aircraft products. (Reference Gulfstream Standard GAC14D and/or GIV-GER-526 for critical or characteristic sensitive products).

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- 5.3.3 The Manufacturing System shall include the following items to form a baseline for the development of the plan or other operations as deemed necessary by Gulfstream.
- A. The approved part number, nomenclature, and engineering revision level.
 - B. All materials as specified in the engineering data (design bill of materials).
 - C. Serial or lot numbers on required products, (based on product type).
 - D. Shelf life dates, (based on product type).
 - E. Quantity of products.
 - F. A sequential listing of all operations utilized to manufacture the product including any subcontracted and controlled operations and special processes. These may be, but not limited to:
 - 1. Heat treating
 - 2. Shot peening
 - 3. Preparations, cleanings, coatings and plating
 - 4. Forming and straightening
 - 5. Bonding, adhesive or composite
 - 6. Nondestructive or other testing
 - 7. Identification
 - 8. Welding, brazing or soldering
 - 9. Laser cutting
 - G. Receiving inspection, in-process inspection and final inspection operations, and the requirement to include necessary certifications of material and subcontracted processes.
 - H. The Supplier's Quality Organization shall review and approve each Manufacturing Plan for all the required quality provisions.

5.4 Contract Review

- 5.4.1 All contracts received from Gulfstream shall be reviewed by the Supplier's Quality Assurance Organization or Designated Representative to assure that all of the quality requirements of the contract are addressed and implemented as defined.

5.5 Purchase Order Review

- 5.5.1 Purchase orders issued by the supplier, that apply to Gulfstream contracts, shall be reviewed by the Supplier's Quality Organization for the inclusion of the applicable Gulfstream quality requirements.

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5.6 Quality Audit

5.6.1 The supplier shall establish and maintain a procedure to periodically audit the effectiveness of his Quality Assurance and Configuration Control Systems as they relate to Gulfstream contract requirements.

5.7 Sub-tier Supplier System (reference paragraph 5.15 for Procurement Requirements)

5.7.1 The supplier shall have a system for evaluating and maintaining their suppliers' and sub-tiers' performance in terms of quality, and shall maintain a system to correct his suppliers' / sub-tiers' unsatisfactory conditions. The system is subject to audit and review by Gulfstream Quality Assurance personnel. Gulfstream Quality Assurance reserves the right to review, and disapprove for use, any sub-tier supplier that has been found to be an unacceptable performer by Gulfstream.

5.7.2 The use of a sub-tier by the Gulfstream supplier is allowed based upon the control methods used. It is required that the Gulfstream supplier either have a formal system for approval of a sub-tier, or a method of evaluating the product to assure conformance to the approved engineering design data.

5.7.3 The use of suppliers or sub-tier suppliers in countries that maintain a bilateral agreement with the United States, as listed in FAA Advisory Circular AC 21-23, will require a routine validation of the product / service supplied upon receipt or at source. This may be in the form of an inspection or test as determined for the type of product and must be documented. The validation of the product or service may be accomplished by the Foreign Civil Aviation Authority, and evidenced by an Airworthiness Tag supplied by that agency accompanying the shipment.

5.7.4 The use of suppliers or sub-tier suppliers in countries that do not maintain a bilateral agreement with the United States, must have the product or service completely inspected and/or tested either at the foreign supplier's facility by the Gulfstream Supplier's Quality Assurance Representative, or upon receipt at the supplier's facility. This inspection or testing must assure 100% that the product or service conforms to the approved engineering data. A plan, presented in advance for approval by Gulfstream Quality Assurance, must delineate how the supplier will control the product or service to assure conformance with all the approved design data. Secondly, the plan must incorporate how the foreign supplier's Quality Assurance Organization will specifically control their operations and any foreign sub-tier suppliers to assure conformance of the product / service to the approved plan.

5.7.5 The use of a supplier in a country that does not have a bilateral agreement with the United States is also predicated upon both that country's government and the supplier's documented assurance that the FAA will not be inhibited, in any manner, from performing a physical evaluation of the supplier.

5.8 Prototypes, Pre-Production and Mock-Ups

5.8.1 The supplier's Quality Organization shall participate in the evaluation, inspection, and test of all mock-ups, prototypes, and pre-production units. Results of the evaluation shall be documented and may be utilized for necessary improvements in engineering and quality. Gulfstream Engineering and Quality Assurance will be notified of these results, which are subject to their review.

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5.9 Configuration Verification

5.9.1 The supplier shall establish and maintain a system to assure that all end items, including any software incorporated therein, are of the proper configuration, and that all approved configuration changes are incorporated at the specified effectivity points.

5.9.2 A representative of the supplier's Quality Organization shall perform a Compliance Evaluation on units or unit parts, when designated in writing by Gulfstream Quality Assurance. The examination shall determine the product's compliance to applicable design drawings and specifications. This evaluation shall be documented as a "First Article Inspection".

5.9.3 Compliance or noncompliance shall be properly documented, stamped or signed by the supplier's Quality Representative. Copies of all documents reflecting the verification compliance will constitute a validation record, and shall be forwarded to Gulfstream Quality Assurance.

5.9.4 **Prior to incorporation, all changes to "Gulfstream Design" shall be coordinated with, and approved in writing, by Gulfstream Engineering.**

- Changes to other than "Gulfstream Design" of Class 1 (affecting fit, form, function, interchangeability, safety, strength, performance, flight characteristics, weight, balance, service life or installation of the next assembly) must be approved in writing, by Gulfstream Engineering prior to incorporation.
- Unless otherwise stated, all Class 2 changes (those that do not affect fit, form, function, interchangeability, safety, strength, performance, flight characteristics, weight, balance, service life or installation of the next assembly) shall be coordinated with Gulfstream Engineering.
- Any Class 2 changes to Gulfstream prototype, pre-production or mock-up parts must be approved in writing by Gulfstream Engineering.
- Gulfstream Engineering has the final authority as to the classification of the submitted changes (Class 1 or Class 2).
- Changes shall be submitted in writing by Drawing, Specification or Seller Engineering Memo (SEM) to Gulfstream Engineering, with copies required to be submitted to Gulfstream Purchasing and Quality Assurance.

5.9.5 Changes to the original design requirements will require re-evaluation of the unit as a First Article Inspection of the change or as stated in paragraph 5.9.2.

5.9.6 The supplier shall provide for and utilize a method to identify the software incorporated in the configuration of the end unit. Gulfstream Quality Assurance shall approve the method.

5.9.7 The supplier shall ensure compliance with these requirements on all Gulfstream products.

5.10 Drawing and Specification Control

5.10.1 The supplier shall have a procedure and designate a responsible organization for distribution to production, inspection areas, and suppliers as appropriate, all current approved specifications, drawings and changes thereto. The procedure shall also provide for the removal or control of obsolete data from points of issue and use.

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5.10.2 Supplier's Quality Organization must periodically audit this system for compliance and effectiveness.

5.11 Tool Control

5.11.1 The supplier shall be responsible for ascertaining the proper application and accuracy of all tooling to accomplish the requirements of the contract. Proper application and accuracy of tools shall be verified by valid tooling data, and through a first piece inspection to appropriate contract specifications. If the first piece inspection reveals that the tooling supplied by Gulfstream is not producing a conforming part, Gulfstream Quality Assurance shall be notified for further directions prior to commencing production runs. Production shall not proceed until Gulfstream has made a decision regarding use or modification of the tool.

5.11.2 Supplier shall maintain a system that is acceptable to Gulfstream Quality Assurance for the periodic inspection of all tooling used as a medium of inspection and/or control of interchangeability. All tooling used for inspection shall have objective evidence of the supplier's Quality acceptance.

5.11.3 All tooling, which is controlled by master gauges, will be inspected by installing those master gauges into the tooling at every periodic inspection. If an alternate method is proposed that method shall be negotiated with Gulfstream Quality Assurance and specifically outlined in the supplier's Quality Program Procedures.

5.11.4 Tools which are due for inspection or found to be discrepant shall not be used for production until the tool has been corrected / inspected and approved for use. If there is an assembly in a tool that is due for inspection or the tool is known to have a discrepancy, the assembly may be completed but that assembly cannot be released for further production until it has been accurately inspected and accepted by the supplier's Quality Organization.

5.12 Calibration of Inspection / Test Equipment

5.12.1 The supplier shall establish and maintain an equipment calibration system that requires all measuring and test equipment used for product or process acceptance, to be calibrated at defined intervals based upon type of equipment, frequency of usage and calibration history of out-of-tolerance conditions. The system shall provide for the control, calibration, and recall of all inspection, measuring, and test equipment.

5.12.2 The system shall provide for the use of equipment of the required degree of accuracy in order to assure the characteristic being measured is in conformance, (Note: This equates to a minimum of four times more accurate than the measured characteristic's requirement, where possible).

5.12.3 The system must also assure that calibrations are performed in a stable environment and allows for the "soaking" of the equipment in that environment to assure that it is not influenced by any temperature, humidity, vibration or cleanliness differentials.

5.12.4 The calibration system shall also address recall of product in the case of significantly out-of-tolerance measuring equipment found during calibration. This should also include the ability to assess the amount of uncertainty contributed to significantly out-of-tolerance equipment.

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5.12.5 Calibrations shall be traceable to a nationally or internationally recognized standard such as the National Institute of Standards and Technology. There shall be records of the equipment denoting its status through calibration. The records shall reflect the required tolerances, actual measurements, adjustments, equipment acceptance, and actions taken on out-of-tolerance equipment. The equipment should either reflect the calibration status or be traceable, by a control or serial number, to an acceptable calibration record.

5.13 Interchangeability Demonstrations (where specifically ordered by Gulfstream)

5.13.1 When required, the supplier shall perform the necessary inspection and tests required to demonstrate physical, structural and/or functional interchangeability. Demonstration shall be effected by actual interchange. Records of such demonstrations must be maintained as directed by applicable portions of this document.

5.13.2 When the products being procured require interchangeability with Gulfstream or other suppliers parts, tooling, interface signal sources or simulators, these items shall be inspected and tested by the supplier to Gulfstream-supplied or approved master tools, interface signal sources, or simulators prior to delivery of the first production article. All aircraft related software items will be inspected and verified to specification by comparison to approved software stored on master medium and / or by system integration testing.

5.13.3 All required interchangeability demonstration tests shall be witnessed and validated by supplier's Quality Assurance Representative. Reports of such inspections and tests shall list all interchanged units and serial numbers when applicable, and contain any pertinent comments. The report shall be subject to review by a Gulfstream Quality Assurance Representative, Gulfstream Engineer and/or Government Representative.

5.14 Processes

5.14.1 When processes are specified by contract for the product, it will be the supplier's responsibility to assure the applicable processes are in accordance with required specifications and/or purchase order requirements. These processes, such as: welding, x-ray, magnetic particle, fluorescent penetrant, heat treating, plating, chemical coating, precision cleaning, etc., will require certification of the process to the applicable specification(s).

5.14.2 The supplier must use process facility sources that are listed in Gulfstream's "Approved Process Sources" for items manufactured to Gulfstream drawings. Delegated-Duty Suppliers may use their own approved sources or those noted in Gulfstream's Approved Process Source Listing.

5.14.3 Subcontracted processes must be performed by facilities whose capabilities and performance are supported by objective evidence of control. Gulfstream reserves the right of disapproval of those facilities not considered satisfactory.

5.14.4 The supplier shall not substitute his own process specification for the Gulfstream Material Process Specification or other specifications without written approval from Gulfstream Engineering. Requests for approval shall be coordinated through Gulfstream Purchasing and Quality Assurance.

5.14.5 The supplier must have a system for controlling all in-house performed special processes to meet the requirements of the applicable drawings and specifications.

5.14.6 The supplier must have criteria for personnel qualification as required by the specification.

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5.15 Procurement Requirements (reference paragraph 5.7 for Sub-tier Supplier System)

- 5.15.1 All Gulfstream-approved suppliers are responsible for maintaining a list of their approved suppliers, and shall have it available upon request for review by Gulfstream Quality Assurance. Information shall include name, address, nomenclature of parts or services provided, part numbers and other pertinent information requested by Gulfstream Quality Assurance.
- 5.15.2 Suppliers shall only purchase aircraft related parts from suppliers which are controlled by the procuring Supplier's Quality Group by approval or inspection.
- 5.15.3 The supplier shall be responsible for ensuring that the requirements of SQAR-0001 are complied with by all Gulfstream Engineering-directed procurement sources. Supplier responsibility over these sources may include, but is not be limited to: quality audits, surveys, corrective action and product conformity.
- 5.15.4 Unless formally granted Delegation of Inspection Duties, the supplier must procure all special processes from Gulfstream approved sources. A listing of Gulfstream approved sources will be provided through Gulfstream Quality Assurance or Purchasing Departments.

5.16 (Reserved for future use)

5.17 Quality Assurance Procedures

- 5.17.1 The supplier shall create and use as a basis of his Quality Assurance System, a set of written procedures that provide for the control of quality and configuration of all Gulfstream products or services. Assemblies, subassemblies, materials, processes, software, testing, etc. produced or conducted within the supplier's facility or procured from any source, shall be governed by these procedures.
 - A. The procedures shall provide for methods of approval and/or performance evaluation of subcontractors of parts, materials, or services used in Gulfstream products. (Reference paragraph 5.7.1.)
 - B. The procedures shall incorporate a method of internal audits as required in paragraph 5.6.1.
 - C. The procedures shall provide for the accomplishment of First Article Inspections and periodic revalidation of those inspections.
 - D. The procedures shall provide for procurement of special processes from Gulfstream Approved Process Sources, unless the supplier has been granted a delegated inspection status (DDS - Delegated Duty Supplier) as defined in paragraph 5.14.2.
- 5.17.1.1 Supplier's of products that contain any components that are sensitive to Electrostatic Discharge (ESD) shall establish a procedure to address the manufacturing, handling, packaging and identification of these end items supplied to Gulfstream.
- 5.17.1.2 All software developed for use in supplied end items shall be reviewed by the Supplier's Quality Assurance Department prior to installation into the supplied product. The supplier shall assure compliance with software design standards (or equivalent) and DO-178, Software Documentation requirements.

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- 5.17.1.3 Product Acceptance Software used on Gulfstream products must be controlled by a method and procedure that assures:
- A. Only approved product acceptance software is released to the users.
 - B. Identification of the documentation that should be available with the software, whether hard copy or electronic.
 - C. The software configuration management system includes the following elements: identification, change control and approval, distribution and retrieval system (for the storage and retrieval of approved data).
 - D. The application of the proper software to the product to be inspected, and for the specific operating system and hardware.
 - E. How the software will be used in the production sequence: inspection, test, etc..
 - F. Methods to correct software problems and a tracking system to assure that found discrepancies are properly dispositioned.
 - G. Security from unauthorized alteration.
 - H. Obsolete software is not used for product acceptance.
 - I. Employee(s) responsible to verify that the proper software being used.
- 5.17.1.4 The supplier shall have a procedural plan to prevent Foreign Object Damage or Debris (FOD) within parts or assemblies. The plan must include a provision to prevent shipping a product to Gulfstream that contains foreign objects.
- 5.17.1.5 The supplier shall have a procedure for the identification, recall and timely replacement of products found to be nonconforming.
- 5.17.1.6 The supplier shall have a procedure to control inspection acceptance stamps or signatures.
- A. The stamp / signature shall be considered the individual's warranty that the inspection or delegated inspection of the product or service conforms to the established approved data.
 - B. All serialized inspection / acceptance stamps or marks shall be traceable back to the person performing the inspection operation. Stamps shall not be reissued for a minimum of six months after transfer or termination of an inspector.
 - C. If signatures are used instead of stamps, a record of the authorized signatures with the person's position must be part of the documented procedures.
 - D. Records of authorized signatures used on work orders, planning documents, inspection plans, test reports or certifications must be kept on file for seven (7) years unless specifically required by GAC14D to be ten (10) years.
- 5.17.2 The supplier's written procedures shall describe the system for the periodic review and incorporation of procedure changes.

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- 5.17.2.1 The procedures must also address the use of a system of validation of the planning documentation.
- 5.17.2.2 The supplier shall also address any other applicable paragraphs of this document.

5.18 Quality Control

- 5.18.1 All inspections or tests whether performed on a sample or by statistical methods, must assure that all products or services supplied to Gulfstream conform to the applicable requirements.
 - A. Parts or characteristics of parts annotated, as 100% inspection must be inspected as required by the applicable sections of the approved engineering data.
- 5.18.2 In the event that a Sampling Plan is used (where permitted), it must be a zero (0) acceptance type plan that does not allow known discrepancies to be accepted by the lot. Sampling plans used should be in accordance with a plan such as MIL-STD-105 or ANSI/ASQC Z1.A..

5.19 Statistical Process Control

- Statistical Process Control (SPC) may be utilized for products with "Key Characteristics" annotated in the engineering requirements or in accordance with a Statistical Process Control procedure derived by the supplier and audited by Gulfstream Quality Assurance.
- 5.19.1 If utilized, the Statistical Process Control (SPC) system should collect data for monitoring the manufacturing process. It should utilize SPC tools to measure, chart and control the quality of all aspects of a product or service deemed important due to fit, form, or function (Key Characteristics).
 - 5.19.2 If SPC is to be utilized on Gulfstream products, the supplier shall have a documented SPC plan that describes the overall procedure for performing SPC requirements.

The plan shall address the following:

 - A. **Goals and Scope of SPC** - Description of the overall goals, strategies, and scope of the SPC plan.
 - B. **Organizational Responsibilities** - Roles and responsibilities of various departments that support the SPC plan.
 - C. **Training** - An outline of topics covered in SPC training, employee positions receiving the training, and instructor credentials.
 - D. **Key Characteristics Selection Method** - The method in which Key Characteristics are selected shall be stipulated when not provided by the engineering data. The method shall include the persons / positions / procedures used when making the selections and manner in which the Key Characteristics are documented.

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- E. **Measurement, Charting and Control Procedures** - If the measurement, charting and control of Gulfstream products should be handled in accordance with the SPC Plan, there should be a description of the overall procedures to insure that Key Characteristics will be measured and charted. The identification of the responsibility for data interpretation and the guidelines for determining Process Control and Capability shall be included.
- F. **Corrective Action Procedures** - procedures for corrective action when a nonconformance of the SPC plan develops. Corrective action, based on the SPC data shall be used to bring each manufacturing process into statistical control, and shall continue until a capability index (Cpk) of 1.33 or greater is achieved.

5.20 Receiving Inspection

- 5.20.1 The supplier shall be responsible to assure all raw materials, parts, assemblies, tests, processes, hardware, and other items purchased from domestic or foreign suppliers conform to procurement requirements. When it is not feasible or practical to inspect upon receipt, the supplier may make provision for source inspection, or utilize a system of supplier control that is Gulfstream approved. Regardless of the method used, the supplier is responsible for the quality and configuration of all procured items.
- 5.20.2 A Gulfstream approved method of evaluation of a domestically located subcontractor should include initial approval and surveillance audits. Along with the evaluation, an acceptable First Article Inspection must be performed and the documentation assessed to assure the compliance of the product or service. The Supplier's procurement must comply with paragraphs 5.7 and 5.15, and the subcontractor's quality performance must be able to be assessed.

5.21 Stock Control

- 5.21.1 The supplier shall provide for control of products and material stored for use in Gulfstream parts and/or assemblies. Methods must address such items as identification of materials, methods of issue, age and/or obsolescence control, traceability, and product recall.
- 5.21.2 When an item, supplied to Gulfstream, contains software that is or will be an integral part of any end item, copies of master software documentation and actual code must be properly identified, and maintained in a minimum of two independent and protected storage areas.

5.22 In-Process Inspection

- 5.22.1 First Article Inspection is required from a supplier either initially producing a product or implementing a configuration change on a Gulfstream or Supplier designed product. Changes to engineering or tooling which affect fit, form, function, interchangeability, safety, strength, performance, flight characteristics, weight, balance, service life or installation of the next assembly shall require a first article inspection for those changes.

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- 5.22.2 One copy of the design drawing and all data pertaining to the first article inspection, shall accompany the first article delivered to Gulfstream. If the design drawing does not provide sufficient data to distinctly verify the configuration of incorporated software (identification number and version or modification), then the supplier shall also deliver nameplate or other drawings as necessary to enable verification of software configuration by Gulfstream Receiving Inspection.
- 5.22.3 First Article Inspection required data shall consist of, but not be limited to, the following:
- A. Material verification of type and condition.
 - B. All dimensional and angular characteristics including actual dimensions versus engineering dimensional callouts and tolerances. If a part has UN-dimensioned media (Mylar, electronic), the media used shall be recorded without dimensions.
 - C. Processes, NDT
 - D. Hardness / conductivity test results
 - E. Finish characteristics
 - F. Structural and functional tests to verify conformity to requirements.
 - G. Assembly of the product
- 5.22.4 All items manufactured to supplier's design will be subject to First Article Inspection as noted above, when the changes affect Gulfstream aircraft.
- 5.22.5 Each product / lot shall be inspected at appropriate points during manufacture. These points shall be designated on the manufacturing plan and are to reflect approval by the supplier's Quality Organization.

5.23 Final Inspection

- 5.23.1 Upon completion, all products shall be inspected and/or tested to the extent required to verify conformance to the engineering data and the contractual requirements. This is to be performed by an authorized representative of the supplier's Quality Organization.

5.24 Final Inspection Identification

- 5.24.1 Prior to delivery, the supplier shall identify the product, which has been inspected and accepted, by stamping or other acceptable method of marking as is delineated in the engineering data. Whenever practical, the inspection acceptance marks should be located near the part number. Parts shall be legibly identified as delineated in the contract requirements with a minimum of the Gulfstream and/or Supplier part number as applicable; lot or serial number if required; and date of manufacture.
- 5.24.2 Final identification shall be to the engineering data and contractual requirements.

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5.25 Quality Assurance Records

5.25.1 The supplier shall maintain records of all inspections and tests for seven (7) years. These records shall be available to Gulfstream upon request, and shall include but are not limited to, such items as: Receiving/ Receiving Inspection, First Article Inspections, In-Process and Final Inspection results, Traceability and Serialization, Calibrations, completed Manufacturing Plans, actual Material Test Reports (for materials used to fabricate priority parts), Process Certifications, actual test data of all qualification, functional, interchangeability and acceptance tests performed, and any other applicable inspection documents. Records of serialization and traceability shall be maintained for ten (10) years as designated in the Gulfstream Standard GAC14D.

5.25.2 Computer Generated or Stored Records

- A. A supplier's use of computer generated and stored records shall require a system that will detect and deter unauthorized disclosure, modification, or use of the records and protect the accuracy of the data entered throughout the required record retention storage period.
- B. There shall be a method to review data prior to computerized entry to ensure the integrity and accuracy of the information and provide for objective evidence that the review has been accomplished.
- C. A method shall be established to provide for backup of the required system data, protection against data destruction and storage of the primary and back-up data, as well as a contingency plan for disaster recovery. The storage method must provide for protection against physical hazards such as fire, water, and magnetic influences.

5.25.3 The supplier shall maintain all software-related development, design, or test documents, as well as records of all changes made to the software code and/or the specified documents, for the service life on an end item. The supplier shall establish a system for assuring software configuration traceability with respect to each end item installed in Gulfstream aircraft.

5.25.4 The supplier shall have a system for maintaining serial number traceability of parts, components, or assemblies requiring serialization or that are used in the manufacture of the end item.

Note: A serial number shall be unique to a part and shall not be reassigned for any reason. Parts, which are manufactured as replacements, shall not bear the same serial number of the part being replaced regardless of the reason for replacement. All pertinent number / letters used to make the serialization unique, must be identified on the product.

5.25.5 Accumulated component time or operating hours on aircraft must be retained as part of the component's records. The record of accumulated time on a component returned to a supplier must follow the component through any or all operations, and be carried forward upon return of the component to Gulfstream.

5.26 Packaging and Shipping

5.26.1 The supplier shall maintain a system that assures adequate quality of the packaging and shipping phase of the program. The use of commercial packaging practices does not relieve the supplier of the responsibility for properly controlling the packaging and shipping function in a manner which will prevent damage in transit and in handling.

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5.26.2 The supplier shall include with shipment of end items, adequate documentation and/or drawings to enable verification of exact configuration of those end items (including the configuration of any software incorporated therein) by Gulfstream Receiving Inspection. All documentation shall be accurate and legible. Failure to comply with this section may result in rejection or technical rejection of the shipment.

5.27 Returned Purchased Material

5.27.1 When Gulfstream returns material to a supplier for failure to comply with contractual requirements, the supplier will be notified by a Rejection Notice.

5.27.2 In the event a supplier does not accept the responsibility for a nonconforming condition, the supplier shall immediately initiate a letter of exception advising the Gulfstream Purchasing Department (Attention: Appropriate Buyer) that exception is being taken to the rejection. The letter shall make full reference to all applicable documents and shall be specific in defining the reason for the exception.

5.27.3 All shipping documents shall reference the Gulfstream rejection notice number and indicate the product or material is being returned as either Reworked, Repaired, Replaced or Functionally Tested & Serviceable

5.27.4 A supplier shall not return previously rejected material to Gulfstream as; "Returned as Received" or "No Cause for Rejection" without written authorization from Gulfstream Purchasing and Quality Assurance. In all cases when returning material as "Returned as Received," a statement is required on the shipping document defining why the material is being returned as received. A copy of the Gulfstream authorization shall accompany the shipping document.

5.27.5 When a Rejection Notice Change (RNC), GA 840 form has been issued by Gulfstream, the RNC number shall be referenced on all accompanying documentation.

5.27.6 For each component repaired per a Purchase Order / Rejection Notice, the Supplier shall provide a certification and repair report listing work performed, parts replaced and test results.

5.27.7 An item that is identified as a "Bad Actor" (reference definition in Appendix) by Gulfstream shall not be returned to Gulfstream.

5.28 Nonconforming Parts or Materials

5.28.1 All nonconforming parts and/or materials shall have a completed rejection tag attached to the parts or material and placed in the supplier's bond area, if physically possible.

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5.28.2 Any non-conformances that escapes the supplier's quality system requires notification of Gulfstream Aerospace Quality Assurance and Purchasing. This notification shall be completed in a timely manner and shall include:

- Part Number / Name
- Quantity of the parts
- Units affected
- Discrepancy
- Investigation of cause / root cause
- Corrective actions – immediate and long term
- Supplier engineering evaluation – where applicable

5.28.3 Preliminary review of nonconforming parts or material shall be performed by the supplier's Quality Organization and shall result in one of the following dispositions:

- A. Rework: Products that can be reworked to specification or drawing requirements shall be reworked.
- B. Scrap: When the product or material is unfit for use.

Note: If the nonconformance is determined to be Gulfstream's responsibility, the supplier shall notify Gulfstream Quality Assurance and Purchasing for disposition instructions.

- C. Disposition in accordance with Gulfstream Quality Assurance Engineer instructions.

Note: Item "C" shall only be considered when item "A" or "B" is not feasible.

5.28.4 If nonconforming supplier products or materials are detected at any Gulfstream facility, a formal rejection will be generated noting the discrepancy and disposition. If it is determined that the nonconformance is the supplier's responsibility, then all warranty limitations will no longer apply and the product or material may be returned to the supplier.

5.28.5 Gulfstream reserves the right to reject all nonconforming products or materials from a supplier. Gulfstream is not obligated to inspect or sort nonconforming supplier products or material rejected by lot sampling. Rejected lots will be returned at the supplier's expense for a satisfactory inspection and sorting.

5.29 Material Review Procedure

5.29.1 Gulfstream may utilize one of the following methods of delegating Material Review activity for disposition of nonconforming materials, parts, or assemblies manufactured for Gulfstream.

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A. **Supplier Material Review Board**. This authority is granted to suppliers who produce products that retain design authority, or those granted design authority by Gulfstream. This includes suppliers that produce:

- (1) Products of proprietary design.
- (2) Products to military / industry standards or specifications.
- (3) Products to Gulfstream specification control drawings (to the extent not affecting the Gulfstream drawing requirements).
- (4) Products of Gulfstream design that Gulfstream Engineering has delegated design authority to the supplier.

Exception: MRB repairs affecting fit, form, function, interchangeability, safety, strength, performance, flight characteristics, weight, balance, service life of the end product or installation of the next assembly must be approved, in writing, by Gulfstream Engineering prior to incorporation.

Approval of the MRB System is granted based upon a satisfactory Quality Assurance review at the time of the audit or evaluation. Authority limitations are listed in paragraph 5.30.

B. **Independent Material Review Board**. This authority must be formally granted to suppliers that produce products for Gulfstream, that Gulfstream retains the design control, or products manufactured to specific Gulfstream requirements. Gulfstream approval is contingent upon:

- (1) need; Gulfstream's desire to have the supplier support the MRB activity.
- (2) the supplier's MRB System approval by Gulfstream Engineering and Quality Assurance.
- (3) the approval of individuals authorized to make Quality and Engineering dispositions for Gulfstream.

Note: Details of this authority are defined in paragraph 5.31.

5.30 Supplier Material Review Board

5.30.1 Suppliers with MRB authority under this provision will establish and maintain a Material Review Board acceptable to Gulfstream Quality Assurance. This Board may not disposition discrepancies:

- (1) that affect fit, form, function, interchangeability, safety, strength, performance, flight characteristics, weight, balance, service life of the end product or installation of the next assembly.
- (2) discrepancies to critical or fatigue critical parts related to specific Gulfstream requirements.

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5.30.2 Suppliers of products of their own design, products to industry or government standards, etc., are authorized to disposition the products when their MRB System is approved by Gulfstream Quality Assurance.

5.31 Independent Material Review Board

Suppliers manufacturing products of Gulfstream design or products manufactured to specific Gulfstream requirements, shall not exercise Material Review Board (MRB) authority without written approval of Gulfstream Quality Assurance. Gulfstream may approve the supplier's Material Review Board procedures to disposition products of Gulfstream design provided:

(1) The supplier submits resumes of the designated, qualified Quality and Engineering personnel to Gulfstream Quality Assurance and Engineering for approval; to be submitted through the Purchasing Department.

(a) The resumes should include education, technical experience, and duties. The Engineering duties shall be defined as categorized below.

Primary Structure or Aerodynamics:

(a) Not permitted to be dispositioned by the supplier's system unless specifically authorized in writing by Gulfstream Engineering. This restriction shall include critical parts and areas of characteristic sensitive products designated as critical.

Secondary Structures:

(a) Metal Components / Parts / Assemblies

(b) Composite Components / Parts / Assemblies

Non-Structural Systems:

(a) Electrical

(b) Conventional Avionics

(c) Hydraulics

(d) Pneumatic

(e) Software –Airborne

5.31.1 When the supplier is approved for independent MRB action, the following limitations apply:

A. The Material Review Board may not disposition standard parts. These shall include but not be limited to NAS, AN, MS, all Gulfstream or industry standards.

B. Substitution for any approved-engineered product, as delineated on approved engineering data, shall not be performed by MRB action.

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- C. The MRB actions cannot make Type Design changes.
- D. All MRB actions shall meet FAA certification basis as specified in FAR Part 25.571, Far Part 25.601, and the subsequent sections of both.
- E. Independent MRB authority will be restricted to specified structures, parts, components, and systems as defined in the contract or letter of approval. Classification of these items shall be further defined as primary, secondary structures or non-structural systems. Gulfstream Quality Assurance shall accomplish any changes to MRB authority in writing.
- F. Any assigned, on-site Gulfstream Quality Assurance or Engineering representatives will be members of the supplier's Gulfstream MRB. All MRB actions will be processed through such representatives both for preliminary review (within 48 hours of the occurrence) and after engineering disposition, Rework to the disposition shall not proceed without the concurrence of the on-site Gulfstream Quality Representative. If the representative cannot be contacted, processing of the MRB action may continue subject to rejection by Gulfstream. An MRB action, which requires work to be performed at Gulfstream, must be approved by Gulfstream Purchasing and Quality Assurance prior to shipment of the item to Gulfstream.
- G. Gulfstream reserves the right to review and reject any decision of the Supplier's Material Review Board. Therefore, as part of a complete set of unitized MRB Actions one copy of each finalized MRB action linked to an END ITEM serial number / assembly shall be delivered to Gulfstream, ATTENTION: Procurement Quality. The rationale / analysis of each tag will be maintained at the supplier and made available upon request by Gulfstream. This shall be complied with at time of shipment. Unsatisfactory conditions found during review by Gulfstream Quality Assurance or Engineering may result in suspension, modification, or withdrawal of Material Review Board approval, and/or rejection of the MRB action. It will be the responsibility of the suppliers to see that any rejections are reworked to Gulfstream satisfaction.
- H. Any changes or additions to the supplier's approved material review procedure or personnel must be approved by Gulfstream Quality Assurance prior to use in connection with Gulfstream orders.
- I. The supplier is not authorized to re-delegate MRB authority to his suppliers involved in Gulfstream work without prior Gulfstream Quality Assurance approval.
- J. In the event that neither rework nor scrap is an appropriate disposition for the product, the discrepancy and the product (upon request) will be submitted for formal Independent MRB action provided the supplier is approved by Gulfstream for such activity. Deviations which may affect interchangeability of the article, safety, strength, stiffness, performance, flight characteristics, weight, balance, service life, or installation of subsequent next assembly must be submitted to Gulfstream Engineering for approval prior to incorporation.

5.32 Failure Analysis / Corrective Action

- 5.32.1 The supplier's Quality Organization shall provide for a failure analysis and corrective action program for all design, tooling, test equipment, manufacturing and test operations supplied to Gulfstream. Each type of nonconformance shall be documented, investigated, and the appropriate corrective action implemented.

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A. The supplier shall have a method for positive identification, recall, and replacement of parts in the event of a nonconformance.

B. Corrective Action items to be addressed:

- The discrepancy, part number(s), part name, serial numbers
- Cause of the discrepancy
- Root cause analysis
- Any interim fixes to the system or product to assure conforming products
- Extent of the discrepancy, with justification
- The final system or product changes that were implemented to prevent re-occurrence

5.32.2 To maintain effective control of quality throughout all phases of the program, the supplier shall be responsible for performing analysis of rejection data forwarded by Gulfstream Quality Assurance via the Gulfstream Quality Control Discrepancy Report (QCDR) form GA 100, and/or other Quality Assurance initiated correspondence. Failure to respond in writing to such correspondence within the prescribed time period will have a direct impact on the supplier's overall quality standing.

5.33 Research for New Methodology

5.33.1 The supplier's Quality Organization shall keep abreast of the state of the art relevant to the supplier's Quality Assurance facilities, equipment, methods, or techniques.

5.34 Government / Gulfstream Actions

5.34.1 Gulfstream reserves the right to inspect all products at their point of origin. Gulfstream's inspection will not replace the supplier's inspection duties, nor will it relieve the supplier of his responsibility to furnish an acceptable, conforming end item.

5.34.2 Gulfstream suppliers are subject to visits by Government representatives. Product audits may be conducted during these visits to ensure the products produced are safe and meet design requirements. Any information that is gathered during these visits might be used to determine if Gulfstream Supplier Control system is functioning as required.

5.34.3 All FAA Designated Manufacturing Inspection Representative (DMIR) appointments for Gulfstream programs shall be coordinated through Gulfstream Quality Assurance. The supplier shall submit a written DMIR application to Gulfstream Quality Assurance.

5.35 Gulfstream Furnished Property

5.35.1 When material is supplied by Gulfstream to be used in conjunction with or to be included in products to be supplied to Gulfstream, the supplier's internal procedures and practice shall include the following:

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- A. Examination of Gulfstream furnished material upon receipt for shipping or handling damage.
 - B. Conformance of inspection to applicable drawings and specifications upon receipt.
 - C. Functional testing, when applicable, to determine satisfactory operation.
 - D. Periodic inspection to assure adequate storage conditions and material preservation.
 - E. Provisions for scrap, return, or forwarding of unused or unusable material.
- 5.35.2 Damaged or discrepant Gulfstream-furnished property shall be identified with a rejection tag and placed in a restricted area if physically possible. The Gulfstream Purchasing Department shall be notified immediately.
- 5.35.3 Damage or discrepancies not identified at the time of receipt shall be the supplier's responsibility.

6 DELEGATED INSPECTION DUTIES

- 6.1** Gulfstream may formally delegate inspection duties to specific approved suppliers of Gulfstream designed products.
- 6.2** This delegation of inspection duties shall not constitute a final acceptance by Gulfstream nor shall it in any way relieve the supplier of his obligations under the purchase order or contract. The supplier maintains responsibility to furnish acceptable material that is in conformance with applicable drawings and specifications whether produced by the supplier or their subcontractor.
- 6.3** Delegated-duty suppliers need not use the approved process facilities listed in the Gulfstream approved "Process Source Listing," however, control of facilities used and the integrity of the processes supplied is the supplier's responsibility.
- 6.4** Gulfstream shall formally notify suppliers who are approved by Gulfstream Quality Assurance as Delegated-Duty Suppliers.
- 6.5** Gulfstream reserves the right to rescind the delegation of inspection duties as deemed necessary by Gulfstream Quality Assurance. Gulfstream also reserves the right to disapprove subcontractors of delegated suppliers when their performance is considered unsatisfactory to Gulfstream.

7 METHODS OF SUPPLIER CONTROL

- 7.1** In order to fulfill the responsibility with regard to the ultimate conformity and condition for safe operation of each completed aircraft or part thereof; Gulfstream shall exercise supplier control by one or a combination of the following methods.

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- A. Initial and periodic evaluations or audits of the supplier's Quality Assurance systems data or product.
- B. Delegation of inspection duties.
- C. Gulfstream source inspections.
- D. In-house inspection and/or functional test.
- E. Certified test reports.
- F. Performance Data

7.2 Suppliers under the Gulfstream Supplier Control System shall be designated as "Approved", "Conditional" or "Unapproved."

Approved - allows the supplier to perform the actions / processes for which they are approved.

Conditional - indicates that minor deficiencies were noted and will be corrected within a mutually agreed upon time frame.

Unapproved - denotes major deficiencies in the supplier's Quality System. An "Unapproved" status shall be retained until formal submittal of corrective actions has been approved and a satisfactory follow-up evaluation conducted.

A. Suppliers that become "Unapproved" shall be disqualified to perform work for Gulfstream, and will not be re-qualified for a minimum of six (6) months. All formal corrective actions must be received and approved before a re-evaluation will be considered.

8 SUPPLIER RESPONSIBILITY

8.1 Gulfstream suppliers are responsible to ensure that both they and their sub-tier suppliers are in compliance with the applicable requirements of this specification.

8.2 Gulfstream Quality Assurance needs to be notified of any changes to the suppliers' facility including:

- A. change in physical location.
- B. change in management personnel within the Quality Organization.
- C. changes in the Quality System that affect processing / producing Gulfstream products or services.
- D. change in ownership that affect the Quality System

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- 8.3** Gulfstream suppliers shall notify Gulfstream in writing of all changes that affect their business relationship.
- 8.3.1** If Gulfstream changes a supplier's status to "Unapproved," all direct or indirect business relationships with Gulfstream will be considered terminated.
- 8.4** If a supplier's status with any other prime aerospace contractor changes to anything less than "Approved" the supplier is requested to notify Gulfstream Quality Assurance Supplier Control within ten (10) days of that change.

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APPENDIX

DEFINITIONS:

The following is a list of selected terms and their meaning as related to the requirements of this procedure:

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| Bad Actor | Any component which fails at a Gulfstream facility and has been returned to the supplier three (3) times for the same failure, or five (5) times for different failures. |
| Certification | A supplier's Certificate of Compliance attesting that the Gulfstream purchased material and parts are manufactured in accordance with, and meets the requirements of, the drawing and specifications. |
| Critical Parts | As designated in the engineering data by part number, or on the blueprint by a diamond ◊ with a "C" printed inside. These parts require special or critical processes for the manufacture of the part, or require highly specialized material from which the part is made. The configuration of these parts, the processes used to manufacture these parts, or selection of new manufacturers / processors of these parts may not be changed without the written approval of Gulfstream. |
| Deficiencies | A general term covering any defect, failure, discrepancy or other lack of conformance to specification. |
| Delegated Duty Suppliers | Those suppliers, when specifically authorized by Gulfstream Quality Assurance that shall perform as an extension of Gulfstream's Inspection. This will include actual inspection duties as well as authorization to approve and control their Process Subcontractors. |
| Design Control | The scope of design control is limited to the extent of the Gulfstream specified requirements, i.e., the procurement of supplies to Gulfstream design drawing, or a design control specification which is identified by a Gulfstream part, drawing or specification number. The use of the words "design control" shall also be interpreted to cover Purchase Orders for electronic systems, equipment, components, and parts wherein Gulfstream retains "performance control." |
| Electrostatic Discharge (ESD) | A transfer of an electrostatic charge between bodies at different electrostatic potentials caused by direct contact or induced by an electrostatic field. |
| Electrostatic Discharge Sensitive (ESDS) | Electronic parts, assemblies and equipment that is sensitive to ESD voltage of 15,000 volts or less. |
| FAA Inspector | The representative of the Federal Aviation Administration |

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| Fatigue Critical | As designated on the engineering data by a diamond ◊ with an "F" printed inside. The configuration of these parts, the processes used to manufacture these parts, or the selection of new manufacturers / processors of these parts may not be changed without the written approval of Gulfstream. |
| First Article | A validation process to assure that tools, processes and planning are capable of producing in accordance with engineering requirements. |
| Gulfstream | Gulfstream Aerospace Corporation, it's subsidiaries or divisions. |
| Gulfstream Representative | A representative of Gulfstream from a department other than Quality Assurance. |
| Gulfstream Quality Assurance Representative | A representative of the Gulfstream Quality Assurance Department, i.e., Inspection, Quality Supplier Control, Tool Inspection, Quality Assurance Laboratory, Audit. |
| Inspection | The examination and/or testing of supplies and services (including raw materials, components, and intermediate assemblies) to determine whether the supplies and services conform to requirements which include all applicable drawing, specifications and purchase descriptions. |
| Interchangeable | <p>a. Physically Interchangeable - Parts shall require only the removal of attaching means (bolts, nuts, screws, etc.) in order to make replacement possible. Parts shall be capable of being replaced, one by the other, without harm, misalignment, or injury to adjoining parts or structure. Fabrication operations such as cutting, filing, drilling, reaming, hammering, bending or prying shall not be required.</p> <p>b. Structurally Interchangeable - When used interchangeably, the parts must not reduce structural characteristics below required structural limits.</p> <p>c. Functionally Interchangeable - When used interchangeably, the parts must fulfill the same functional purpose and design criteria.</p> |
| Letter of Exception | A supplier's letter taking exception to the rejection of their supplies by Gulfstream. |
| Nonconformance | The failure of a characteristic to conform to the requirements specified in the contract, drawings, specifications, or other approved product data. |
| Primary Structure | Structure that is essential for carrying loads imposed by all flight maneuvers, take-offs, or landings within the design limitations of the aircraft. Failure of this structure may directly cause structural collapse, loss of control, or loss of motive power. |
| Priority Part | A part as designated in the engineering data by part number as a "Priority Part," whose failure could reasonably be expected to cause an unsafe condition in the end product. |

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| Product | A general term used to define supplies, material, parts, components, intermediate assemblies, equipment, and end products. |
| Quality Assurance / Control | A planned and systematic pattern of all actions necessary to provide adequate confidence that a product will conform to established requirements. |
| Quality Control Discrepancy Report (QCDR) | <p>A report used to advise a supplier of deficiencies and to request a report of corrective action when applicable.</p> |
| Rejection Notice | A notice formally rejecting a supplier's material. |
| Replaceable | <p>Replaceability applies to parts considered as serviceable items but which, in order to be replaced, may require filing, trimming, etc.. When replaced one by the other, the parts must be structurally and functionally interchangeable.</p> <p>Note: Non-serviceable items are considered to be parts that are permanently fastened or welded in place.</p> |
| Scrap | Scrap material, detail parts, assemblies or components that have been rejected and are non-repairable due to spoilage or damage, or for other authorized reasons. |
| Supplier | Any person who furnishes services to a holder of a production certificate that affects a type certificated product, or who supplies articles for installation on a type certificated product, including articles, which were not designed or manufactured by the type certificate holder. |
| Technical Rejection | A modified rejection notice which does not call for an immediate return of material but does debit the Supplier's account. Used where documentation requirements, as specified by the purchase order, have not been accomplished. |