

Current Revision

Revision	ECO #	Date	Change Description	Prepared By
P	C56433	2020-8-21	Added "build-to-print" in section 5.3, moved definitions to top of section 8, added COTS language to section 8.2, updated section 8.4 and 8.5 to better define traceability requirements, updated matrix in section 8.9	A. Megargle

APPROVALS
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BA PRODUCT QUALITY

BA PRODUCTION OPERATIONS

Specification, Supplier Quality Requirements

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Revision History

Revision	ECO #	Date	Change Description	Prepared By
A	C08661	2013-09-09	Initial Release	J. Wojniak
B	C13512	2014-11-14	See Agile Record	R. Jessep
C	C16376	2015-08-18	See Agile Record	E. Klaus
D	C20028	2016-04-15	Added new section 4.4: Establish a supplier-reporting requirement for products, articles, or services that have been released from or provided by the supplier and subsequently found not to conform to the production approval holder's requirements	E. Klaus
E	C20625	2016-06-02	Added Section 4.3.1 Clarifying MRB Authority; Updated Section 7 providing direction for paperless data submission from supplier; Section 7.5 added requirement for identification of revision and added clarification on CoC acceptance statement; 7.6 removed the statement of Raw material certification only on structural components; added 7.12 Rework and Replacement Data Requirements	E. Klaus
F	C21940	2016-08-02	Update to Rework or Replacement section to include update to traceability, return of replaced parts, root cause and criteria for pictures of rework.	J. Jones
G	C27538	2017-04-28	Remove redundant sections. Update CoC requirements.	J. Jones
H	C32980	2017-12-1	Re-write to align with AS9100 requirements.	J. Jones
J	C36488	2018-3-23	Update section 1 to cover ethical behavior and supplier contributions to conformity and safety.	J. Jones
K	C39569	2018-7-11	Complete rewrite to incorporate requirements of 14 CFR Part 21.137 and AS9100:2016 that were removed starting in Rev G. Added additional required updates based on current Gogo BA Supplier Quality process.	A. Megargle
L	C42344	11/12/2018	Update to section 6.5 to refer to the AS5553 requirements and remove specifics of the requirement in this document.	J. Van Oss
M	C53396	2020-01-20	Complete rewrite	A. Megargle
N	C55306	2020-5-8	Added section 8.8 - traceability matrix. Updated verbiage in 8.3 and 8.4 to reflect the new traceability requirements. Added a note to section 10.2 about the traceability matrix and a reference to the FAI appendix. Added Appendix A for AS9102 form instructions. Updated section 11.2 to remove the wording "deviation". Updated section 8.2 to include packing slip.	A. Megargle
N	A00376	2020-5-26	Fixed typo in section 9.2, NAS 410 should be NAS 412.	A. Megargle

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1. Purpose

This document establishes the supplier quality requirements for Gogo Business Aviation LLC.

2. Scope

These Quality Requirements apply to all products, materials and/or services that are purchased from approved suppliers. Acceptance of a purchase order signifies that a supplier has accepted all requirements listed in this document aside from any documented exceptions.

3. Responsibilities

The Supplier is responsible for ensuring that personnel are aware of their contribution to product or service conformity, product safety, and the importance of ethical behavior.

4. General Requirements

4.1. Evaluation & Approval

The Supplier shall undergo an initial evaluation before inclusion to the Gogo Approved Vendor List (AVL).

The Supplier shall undergo recurring (surveillance) evaluation to maintain an Approved status on the Gogo AVL.

These evaluations may include, but are not limited to, a Quality System Survey review and/or Supplier Evaluation audit and may be completed by either a desktop or on-site assessment. Failure to meet the acceptance criteria of these evaluations may result in conditional approval status or possible removal/exclusion from the Gogo AVL.

4.2. Right of Facility Access

The Supplier shall allow right of facility access to Gogo, Gogo's customers and governmental regulatory authorities, at any level of the supply chain involved in the order and to all applicable records. The aforementioned parties may conduct on-site audits of the Supplier to ensure the requirements of this document, as well as the requirements of the Gogo Purchase Order (PO), Contract, Statement of Work, drawings and specifications are being met. Refusal to allow on-site access may jeopardize the Supplier's approval status.

5. Quality Management System and Requirements Review

5.1. Non-Calibration Suppliers

The Supplier should have a Quality Management System (QMS) that complies with the International Organization for Standardization ISO 9001 – Quality Management System Requirements (equivalent or better – i.e. AS9100 series). Suppliers who do not have Independent Industry Controlled Other Party (ICOP) certification/registration can still be conditionally approved by Gogo, with restrictions.

Distributors, that do not manufacture product, are not required to have QMS certification for approval.

5.2. Calibration Suppliers

Calibration Suppliers shall be ISO 17025 certified with a current certification on record, however, original equipment manufacturers (OEMs) can be approved to calibrate equipment in which they manufacture.

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Calibrated equipment used for design and development activities is not required to be calibrated by an ISO 17025 certified supplier.

5.3. Special Processes

A special process is an operation performed on an item where the operation is not readily inspectable subsequent to its conclusion. Special processes have verifiable controls inherent to the process (i.e. plating, composites, nondestructive testing, etc.). Special processes shall be performed in accordance with specification(s) stated on the drawing and procurement documents.

Unless approved by Gogo using audit checklist D20744 (plating) and/or D20747 (paint), special processes shall be performed by a Nadcap approved supplier (formerly NADCAP, National Aerospace and Defense Contractors Accreditation Program) for all build-to-print parts and assemblies. The Supplier shall be approved by Nadcap for the special process on the date which the special process is performed. The Supplier shall provide to Gogo, upon request, all documentation showing evidence of qualification of Nadcap-approved special processes.

If the Supplier's sub-tier Supplier performs the special process, the Supplier is responsible to flow down the requirements on sub-tier POs. the Supplier's utilization of Nadcap approved sources does not relieve the Supplier from its obligation to ensure subcontracted sources are in full compliance with applicable specifications.

5.4. Requirements Review

The Supplier shall have an established method for reviewing Gogo Business Aviation requirements, including the requirements defined in this document. This review shall drive notification to Gogo Business Aviation that suppliers acknowledge that the defined requirements can be met, or notification in the event that any requirement cannot be met. Exceptions to any requirements, including this document, shall be documented and approved by a Gogo Quality Engineer.

6. Document Control and Change Management

6.1. Document Control

The Supplier shall have a documented procedure for controlling purchasing information and data provided by Gogo. This documented procedure shall define the controls needed:

- a) to review and update as necessary and re-approve documents including signoffs and change dates,
- b) to ensure that current versions of applicable documents are available at points of use,
- c) to ensure that documents remain legible and readily identifiable,
- d) to ensure that documents of external origin determined by the Supplier to be necessary for the planning and operation of their business are identified and their distribution controlled, and
- e) to prevent the unintended use of obsolete documents, and to apply suitable identification to them if they are retained for any purpose.

6.2. Record Retention

The Supplier and the Supplier's subcontractors shall maintain verifiable, objective evidence of all inspections and tests performed, material traceability, results obtained and dispositions of non-conforming articles. These records shall be identified to associated articles, including lot number of materials and unit or lot serialization. These records shall be made available to Gogo, Gogo's

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customers and/or government representatives upon request and shall be retained in a safe, accessible location for a period of 10 years after date of delivery.

6.3. Design Change

The Supplier shall notify Gogo of any proposed design change (major or minor) and receive approval from Gogo prior to incorporation of the change.

Note: Due to contractual and regulatory requirements, Gogo is required to review and approve all changes for components that are used in Gogo owned Supplemental Type Certificates (STCs).

If the submitted change is deemed acceptable, a Gogo Engineering Change Order shall be issued by Gogo and implemented prior to the Supplier incorporating the change.

Note: Gogo acceptance of the Change Request is not authorization to incorporate the proposed change

6.4. Notification of Changes

The Supplier and the Supplier's subcontractors shall provide in writing advance notification to Gogo Business Aviation of any change(s) to tooling, facilities, materials, manufacturing processes, assembly, testing, or introduction of a new sub-tier Supplier.

7. Purchasing

7.1. Sub-Tier Supplier Management

The Supplier shall manage all their sub-tier Suppliers or subcontractors in accordance with their agreements. These Suppliers shall be evaluated, approved and maintained, taking appropriate action when performance poses a risk to Gogo programs. The Supplier shall flow down all applicable requirements, including customer requirements, statutory requirements and regulatory requirements, as applicable. Methods shall be in place to prevent ordering material from non-approved Suppliers.

7.2. Counterfeit / Fraudulent Part Prevention

The Supplier shall establish and maintain a counterfeit prevention plan that shall focus on the detection, prevention, mitigation, disposition and reporting of suspected or confirmed counterfeit parts or assemblies.

Electrical, Electronic and Electromechanical (EEE) Suppliers shall maintain a Documented Procedure which, when implemented, provides compliance per AS5553, or equivalent, for items procured. For cases where procurements are made from sources other than Original Component Manufactures (OCMs) or Authorized {Franchised} Suppliers, Gogo shall be notified and approve the purchase ahead of time. If Gogo approves the use of an alternate source, or if the Supplier has any reason to doubt a part's authenticity, tests and inspections shall be performed to detect fraudulent/counterfeit parts. Gogo reserves the right to request evidence of these test reports.

8. Traceability

8.1. Definitions

COTS (parts and assemblies) – Commercial Off The Shelf parts and assemblies are items not designed by and/or produced exclusively for Gogo (examples: screws, bolts, epoxy, torque drivers, actuators, motors, connectors and backshells).

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Build to print parts – An individual piece part designed by and produced exclusively for Gogo (examples: trays, support weldments, rackmount and custom fasteners).

Build to print assemblies - Assemblies designed by and produced exclusively for Gogo. Assemblies are comprised of multiple build to print parts and COTS parts (examples: PCBAs, custom cables, and power suppliers).

Supplier manufactured parts – Parts used in assemblies that are manufactured by the supplier and not procured from other sources (examples: covers, brackets, housings and machined fittings).

Supplier purchased parts – Parts used in assemblies that are not manufactured by the supplier but are procured from other sources (examples: screws, washers, brackets, housings).

8.2. General Requirements

The Supplier documentation and material traceability shall be defined and executed. The Supplier's records associated with the manufacture of serialized or lot-controlled articles shall provide for continued traceability of serial numbers or lot number identification through all phases of manufacturing, commencing with the raw material and continuing through final acceptance of the end item. This documentation shall include the purchase order number, drawing number, drawing revision level and customer approved deviations and waivers.

The Supplier shall be responsible for controlling/tracking changes to parts and components manufactured to ensure that the end product or deliverable meets specified functional and physical requirements of the Supply Agreement or Purchase Order. This shall include any part or component manufactured to Gogo's or the Supplier's drawings, specifications, or special process procedures.

All COTS components and assemblies shall maintain traceability back to the original manufacturer. As required, COTS components shall be manufactured to their specified standard (NAS, Mil-Spec or similar).

8.3. Packing Slip and Certificate of Conformance

A packing slip shall be provided for all shipments to Gogo. If indicated on the Gogo Purchase Order, the Supplier shall provide a Certificate of Conformity (CoC) for material delivered against a Gogo PO that states conformance to all applicable documentation, engineering drawings, process specifications, and PO requirements. The Packing Slip shall include, at a minimum:

- Supplier Name
- Gogo Part Number (COTS material can use manufacturer's part number)
- Part Revision (COTS material exempt)
- Gogo PO Number or RMA Number
- Shipment Quantity
- Manufacturer's Traceability (lot number, serial number or date code)

The CoC shall include all of the information from the packing slip and the following:

- A statement certifying that the material meets applicable requirements
- Signed and Dated by Supplier

Serialized items shall come with a scannable, 128 Barcode Format line on the packing list, CoC or separate document for each serial number.

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It is preferred that the packing slip and CoC are the same document, but it is not required.

8.4. Certificate of Compliance for Raw Materials

When procuring raw material from a distributor, or raw material manufacturer, the Supplier shall include or retain the raw material manufacturer's test report (e.g., mill test report) under the following conditions:

- Supplier manufactured, build to print parts and assemblies
 - Include with each FAI shipment
 - Retain for all production shipments
- Supplier purchased, build to print parts and assemblies
 - Retain for each FAI shipment
 - Retain for each production shipment
- Supplier manufactured COTS parts and assemblies
 - Not required, unless Supplier has received notification from Gogo via form D31482. In this case, the raw material certs must be provided for all FAI shipments and retained for each production shipment.
- Supplier purchased COTS parts and assemblies
 - Not required, unless Supplier has received notification from Gogo via form D31482. In this case, the raw material certs must be provided for all FAI shipments and retained for each production shipment.

The test report shall state that the lot of material furnished has been tested, inspected, and found to be in compliance with the applicable material specifications and list the specifications, including revision numbers or letters, to which the material has been tested and/or inspected and the identification of the material lot to which it applies. The Supplier's records associated with the raw material shall provide for continued traceability of serial numbers or lot number identification through all phases of manufacturing.

When the material specification requires quantitative limits for chemical, mechanical, or physical properties, the test report shall contain the actual test and/or inspection values obtained. For aluminum mill products (except castings), certifications for chemistry may indicate compliance within the allowed range. Certifications for physical properties shall show actual values.

8.5. Special Process Certification

A special process certification shall be included or retained under the following conditions:

- Supplier manufactured, build to print parts and assemblies
 - Include with each FAI shipment
 - Retain for all production shipments
- Supplier purchased, build to print parts and assemblies
 - Retain for each FAI shipment
 - Retain for each production shipment
- Supplier manufactured COTS parts and assemblies
 - Not required, unless Supplier has received notification from Gogo via form D31482. In this case, the raw material certs must be provided for all FAI shipments and retained for each production shipment.

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- Supplier purchased COTS parts and assemblies
 - Not required, unless Supplier has received notification from Gogo via form D31482. In this case, the raw material certs must be provided for all FAI shipments and retained for each production shipment.

Special Process Certificates shall state:

- Supplier Name
- Supplier Address
- Purchase Order Number
- Part Number
- Serial or Lot Number
- Special Process Certification and Revision
- A statement indicating processes were performed per applicable drawing or specification and the date the special process was performed shall be included with each shipment
- Signed and Dated by Supplier or Special Processor

8.6. EEE Parts – Lot/Date Code Documentation

When the Supplier procures EEE parts, the Supplier shall retain an individual list of quantity, lot/date code, where used and any sample testing and make it available upon request, for the duration defined in the document retention requirements.

The individual part containers or reels shall be marked with the quantity and lot/date code and shall be traceable throughout the entire manufacturing process.

8.7. Certificate of Compliance for Calibration

When providing calibrated equipment (e.g. a measuring instrument or other piece of equipment used to make product acceptance and rejection decisions), the Supplier shall submit for each item calibrated, one reproducible record of actual calibration results, including applicable graphic and tabular data. Records shall be traceable to the individual item tested, by part number, serial number or lot number for the Product shipped. The Supplier's calibration certificate shall include a unique calibration tracking number, tolerance range, and when applicable, environmental conditions for each parameter calibrated. The certificate shall also state the operating error per specification, the degree of correction of out of tolerance condition and remaining uncorrected out of tolerance condition, if applicable.

8.8. Limited Life and Age-Controlled (Shelf Life) Item Documentation

When providing limited life and age-controlled (shelf life) items the following conditions apply. Products under the Supply Agreement and/or any Purchase Order require submittal of date of manufacture when shelf life is based on date of manufacture, or date of shipment from the manufacturer when shelf life is based on date of shipment, as appropriate, based on specified method of shelf life determination.

Upon shipment, shelf life remaining shall meet the minimum shelf life specified on the Purchase Order. If no shelf life is specified, the product shall have a minimum of 75% of the shelf life remaining upon shipment. Certification shall be included in each shipment and contain the following:

- Gogo's Purchase Order Number

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- Part Number(s)
- Manufacturer's Name
- Lot, Heat, Batch, Date Code, and/or Serial Number (as applicable)
- Date of Manufacture
- Date of Shipment from manufacturer (as specified on Purchase Order)
- Supplier Name
- Supplier's Point of Contact and Date.

Note: Expiration dates shall be clearly noted on the material, as well as on the packing slip.

8.9. Traceability Matrix

The following chart summarizes the traceability requirements and shows which documents are required with each shipment type:

Traceability Matrix			
Supplier Manufactured Product Type	CoC Required?	Raw Material & Special Process Certs Required?	Supplier Purchased COTS/Standard Parts Certs Required?
Production			
<i>COTS (parts & assemblies)</i>	Yes	No, unless required by notification D31482 which then must be retained	N/A
<i>Build to print parts</i>	Yes	No, must be retained	No, unless required by notification D31482 which then must be retained
<i>Build to print assemblies</i>	Yes	No, must be retained	No, unless required by notification D31482 which then must be retained
First Article Inspection			
<i>COTS (parts & assemblies)</i>	Yes	N/A	N/A
<i>Build to print parts</i>	Yes	Yes	No, unless required by notification D31482 which then must be included
<i>Build to print assemblies</i>	Yes	Yes, for supplier manufactured build to print parts/all supplier purchased, build to print parts must be retained	No, unless required by notification D31482 which then must be included

9. Process Control

9.1. Work Instructions

When appropriate for Gogo designed parts, current, approved and released work instructions shall be available at the point of manufacture and these work instructions shall properly define torque requirements for each assembly location (as needed).

When work instructions are created by the Supplier, Gogo reserves the right to inspect and approve them before release to production.

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9.2. Foreign Object Damage

For articles, particularly components and assemblies susceptible to foreign object damage, the Supplier shall ensure articles are free from foreign objects and foreign object damage (FOD) resulting from processing or assembly and packaging operations. Use of NAS 412 standard for guidance is recommended.

9.3. Capabilities

The Supplier shall have suitable and adequate facilities, equipment and resources for the scope of work being performed.

9.4. Production Control

The Supplier shall demonstrate a controlled environment for production to include proper temperature and humidity controls (when using temperature and humidity sensitive parts) and appropriate handling and identification of product or material during manufacturing. Capacity constraints shall be known, and in-process yields shall be monitored and used to drive process improvements.

9.5. Electrostatic Discharge (ESD) and Moisture Sensitive Devices (MSD) Protection Program

If the Supplier is providing ESD sensitive electrical piece parts or Moisture Sensitive Devices (MSD), the Supplier shall document and implement an ESD and MSD Control Program in accordance with ANSI/ESD S20.20, ESD Association Standard for the Development of an Electrostatic Discharge Control Program for Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices) and IPC/JEDEC J-STD-033, Standard for Handling, Packing, Shipping and Use of Moisture Sensitive Surface Mount Devices. Parts shall be properly packaged and identified as required in ANSI/ESD-S20.20 and IPC/JEDEC J-STD-033. All goods shall be placed in conductive or static-dissipative packages, tubes, carriers, conductive bags, moisture barrier bags, etc. for shipment. The packaging shall be clearly labeled to indicate that it contains electrostatic or moisture sensitive goods. Electrical parts that may be used or shipped in conjunction with ESD sensitive parts shall be treated as ESD sensitive.

10. Inspection

10.1. Inspection and Verification

The Supplier shall demonstrate the ability to meet, control, perform and document all applicable test, inspection and verification activities required to deliver conforming product. This shall include counterfeit part detection methods (when necessary), adequate facilities and equipment and documented processes and procedures to perform required inspections.

The Supplier shall perform final inspection for all critical dimensions that may affect the form, fit or function of the part or assembly. 100% inspection shall be utilized whenever possible but in the event a sampling plan is applicable, sampling inspection may be implemented if a statistically valid technique is used.

The Supplier shall retain all inspection documentation stamped/signed by the responsible inspector showing results for all units inspected for all critical characteristics noted on the drawings.

All purchased products and any services provided under the Supply Agreement are subject to inspection for compliance to the Supply Agreement and any applicable Purchase Order and all applicable quality clauses.

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10.2. First Article Inspection

The Supplier shall complete a First Article Inspection (FAI) for all first-time deliveries of items and new revisions of items. Exceptions are items that are (a) standard catalog/COTS items (ref. AS9102 Standard Catalog Hardware), (b) raw material, (c) covered by a military/industry standard/specification, or (d) engineering prototype and do not require an FAI. The FAI shall be performed on an item from the initial production lot provided by the Supplier. The FAI and First Article Inspection Report (FAIR) shall be completed in accordance with AS9102 requirements.

FAI reports shall include traceability documents as required under the Traceability section in this document.

See Appendix A for guidance on completing the AS9102 forms.

The Supplier shall not perform an FAI using prototype items or items manufactured using methods different from those intended for the normal production process. The Supplier shall record, whenever possible, the variable measurements, of all characteristics including applicable drawing notes on the FAIR, validation data for any applicable specifications and tests, and reference and attach FAIRs for major lower level subassemblies. A representative of the Supplier's Quality Assurance Department shall sign and date the report. The Supplier shall forward the FAIR (forms 1, 2 and 3) along with applicable material or test data/certifications (e.g., painting, plating, composition, x-ray, functional testing, etc.) with the shipment for review and approval.

A partial (delta) FAI shall be performed when any of the following events occur:

1. A change in the design characteristics affecting fit, form, or function of the part.
2. A change in manufacturing source(s), process(es), inspection method(s), location of manufacture, tooling, or materials that can potentially affect fit, form, or function.
3. A change in numerical control program or translation to another media that can potentially affect fit, form, or function.
4. A natural or man-made event, which may adversely affect the manufacturing process.
5. An implementation of corrective action required to complete a previous FAI.
6. A lapse in production for two years shall require an update for any characteristics that may be impacted by the inactivity. This lapse is from the completion of last production operation to the actual restart of production.

11. Non-Conforming Material and Material Review Board

11.1. Nonconformance Control

Only product that conforms to the approved design requirements shall be shipped to Gogo. The Supplier is responsible for control and containment of nonconforming products. The Supplier shall ensure that a product which does not conform to its specifications is identified and controlled to prevent its unintended use or delivery until dispositioned after review. The controls and related responsibilities for dealing with nonconforming products shall be defined in a documented procedure. The Supplier's documented procedure shall also define the responsibility for review and authority for the disposition of nonconforming products and the process for the Supplier's approving-personnel making these decisions.

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When a nonconformance is discovered, a review process shall be initiated with the identification and documentation of the nonconformance. This review shall be the initial step performed by the Supplier to determine if the nonconformance needs to be reported to Gogo, and to determine if the nonconformance can be re-worked to a condition that completely conforms to the drawing or specification requirements.

This review does not negate the Supplier's obligation to identify, segregate, document, report and disposition nonconformances.

If a product is dispositioned for scrap, the product shall be conspicuously and permanently marked, or positively controlled, until physically rendered unusable.

11.2. MRB Authority

The Supplier is not granted MRB authority to issue "Repair" or "Use-As-Is" dispositions without Gogo approval.

Repair: A Material that was nonconforming but has been subjected to a controlled process designed to reduce, but not completely eliminate the nonconformance.

Use As Is (UAI): A material which does not meet the as defined requirements, but through adequate analysis its use may be approved.

Nonconformance's that are dispositioned for repair or Use As Is shall be reported to Gogo for approval prior to delivery. This requirement applies to all procurements.

In rare cases, a **request** can be made to obtain temporary authorization to ship an item that departs from a particular requirement of an item's current approved configuration but is considered suitable after repair by an approved method or after a "Use As Is" disposition. The request shall be temporary and limited to a specific number of units or time period.

The Supplier can initiate a request by completing form D32369 and submitting it to Gogo for approval. All requests must be approved by the FAA and will require additional time for processing.

Gogo shall review each request for Repair and Use As is for approval. Gogo reserves the right to reject the material after completion of the repair or Use As Is if the results are unsatisfactory.

11.3. Notice of Quality Escapements

The Supplier is responsible to report to Gogo all quality escapements discovered that affect products released from the Supplier's quality system. The Supplier's notification of escapement shall include: dates discrepant product was produced; dates parts were sold to Gogo; discrepant part number; description of discrepancy; how the discrepancy was identified; total number of products shipped/sold; cause of discrepancy; and actions taken to correct the discrepancy. Notice of quality escapements may result in the issuance of a Supplier Corrective Action Request (SCAR).

12. RMA and Corrective Actions

12.1. RMA Requirements

The Supplier shall implement an RMA process that defines cycle times for completion and can trigger corrective actions. The Supplier shall include the following information when returning reworked items: reported problem, issues identified, rework performed, and any corrective actions initiated.

Reworked items shall pass all testing, inspection and verification and, upon delivery, include updated

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versions of all required documentation such as CoC, raw material certs, test results and any other certs and records.

When replacement items are sent, in lieu of reworking returned material, the Supplier shall be responsible for notifying Gogo that the replacement occurred and a brief explanation of why the returned items were not reworked. Gogo reserves the right to request a failure analysis be completed on those items to determine root cause. If the replaced items are returned to Gogo at a later time, the troubleshooting and rework info listed above shall be included.

RMA items shall be returned to Gogo as the same revision that was returned to the Supplier unless the upgrade/downgrade is part of the RMA request or Gogo is notified and approves the revision change. An FAI may be required when revision changes are approved, and it is deemed necessary to document the change(s).

The Supplier should process and return RMA material by the "request receipt date" on the purchase order or within 30 days if no date is specified. Failure to do so may result in a decrease in future orders or removal of the supplier from the AVL.

12.2. Supplier Corrective Actions

In the event that a supplier provided assembly or part is found to not meet specifications or is otherwise defective or supplier processes have been identified as needing improvement, either through an onsite audit or through performance issues detected at Gogo, a SCAR may be submitted using Gogo form D13994.

Unless otherwise specified, the Supplier shall complete containment actions within 7 days, complete root cause analysis within 14 days, implement corrective actions within 21 days and return the completed form within 30 days of receiving the SCAR. Failure to do so may result in a decrease in future orders or removal of the Supplier from the AVL.

13. Calibration and Preventative Maintenance

13.1. Calibration

The Supplier shall have a documented calibration system that meets the requirements of ISO 10012, 'Quality assurance requirements for measuring equipment', or the American National Standard Institute (ANSI)/National Conference of Standards Laboratories (NCSL) Z540-1, 'General Requirements for Calibration Laboratories and Measuring and Test Equipment' standards.

13.2. Gogo Owned Equipment

Unless otherwise agreed upon, all equipment provided by Gogo to the Supplier or for which the Supplier has been reimbursed by Gogo, shall remain the property of Gogo. The Supplier shall bear the risk of loss and damage to such property, except for normal wear. Such property shall always be properly stored and maintained by the Supplier, shall be identified as Gogo property and shall not be moved from the Supplier's premises without Gogo's prior approval.

All equipment shall be clearly identified, including part number, revision level, calibration date and have a Gogo identification number as applicable. The Supplier is responsible for the proper use, maintenance and calibration of all equipment as required.

When required, the Supplier shall perform specified Preventative Maintenance on the equipment on or before the due date requested and provide, to Gogo, the documented record of this PM.

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14. Training and Certifications

14.1. Training

The Supplier shall demonstrate that the organization and its personnel are qualified to perform the scope of work in which they are to be approved for. The Supplier shall have a training plan or matrix and maintain records of trainings completed, track certification expiration dates and set retraining intervals as necessary.

14.2. Certifications

The Supplier shall use soldering operators that are IPC J-STD-001 or similar certified to perform any soldering operations that may be required on Gogo products. The Supplier shall use certified welders, who have the appropriate certification for the type of work, to perform any welding operations that may be required on Gogo products. These certifications shall be up to date and kept on file for Gogo's review upon request.

15. Packaging, Labeling and Storage

15.1. Packaging and Labeling

The Supplier shall be responsible for ensuring that items provided under the Supply Agreement or any applicable Purchase Order are packaged in such a manner that the dimensional integrity is preserved, contamination and corrosion are prevented, and no physical damage occurs. All products shipped to Gogo shall be packaged and comply with ASTM D3951 unless otherwise agreed to between Gogo and the Supplier.

All products shipped to Gogo shall be labeled as follows:

Inner packaging shall contain a label with the following information:

- Gogo Part Number in scannable 128 Barcode Format
- Gogo Revision
- For serialized items: Serial Number in scannable 128 Barcode Format

(Note: Serialized items shall be individually packaged and labeled)

Outer packaging shall match the inner packaging and contain the following information:

- Gogo Part Number in scannable 128 Barcode Format
- Gogo Revision
- When individually boxed and serialized: The Serial Number in scannable 128 Barcode Format

Serialized items shall come with a scannable, 128 Barcode Format line on the packing list or CoC for each serial number.

All solvents shall be supplied only in a new container that has not been previously used to prevent contamination by residual material.

15.2. Serializing

When required, the Supplier shall develop a process to individually serialize units and those serial numbers shall be used to provide complete traceability of the product, including component tracking. The process shall be developed in such a way that prevents duplicate serial numbers from shipping to Gogo and the outer packaging, inner packaging and unit serial numbers shall all match.

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15.3. Storage

The Supplier shall manage and control Gogo owned inventory and inventory used for Gogo products to prevent damage, contamination and mixing of material. This shall include proper storage, identification, transport and staging of material and chemicals used for production. Adequate material counts shall be kept to prevent shortages that may affect delivery schedules. Limited life and age-controlled items shall be properly managed and stored.

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Appendix A – First Article Inspection Guidance

Include all traceability documents as required under the Traceability section of this document.

Complete AS9102 forms 1, 2 and 3 (or equivalent) as described below:

Form 1:

- Shall include all items from the Bill of Material included in the drawing (supplemental documents may be used to record large numbers of components such as EEE parts).
- Shall include serial number or lot tracing for each component (COTS parts and hardware and other off the shelf items are not required).
- Shall include a reference to an FAI report for each supplier manufactured part (must include a copy of that FAI).
- Shall have printed name, signature and date.

Form 2:

- Shall list any special processes performed by the supplier or sub tier supplier and include the processes certification number.
- Shall list any raw material used by the supplier and include the raw material certification number.
- Shall include any applicable functional test procedures and corresponding acceptance report numbers.
- Shall have printed name, signature and date.

Form 3:

- Shall include inspection and acceptance of the drawing notes.
- Shall list dimensional measurements and acceptance.
- Shall list other inspections and acceptance.
- Shall have printed name, signature and date.

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