

## SC-Q02 Vendor Material Review Request (VMRR): Boeing

Boeing Commercial: Notwithstanding the requirements of G-Q13.02, all nonconformances will be submitted to GKN Orangeburg via [VMRR](#).

Do not deliver the affected product until any required further work identified by the VMRR Engineering & Quality disposition have been completed, and/or you are in receipt of a completed VMRR, or have otherwise been authorized by the Company Permission to Ship (PTS) process to deliver the product for further evaluation per VMRR disposition.

The GKN or Boeing MRR or concession number must be referenced on all Supplier Certificates of Conformity and packing lists, and where required, is permanently added to the part marking.

A red warning label must be attached to the deliverable product; this warning label must reference the product part number and the applicable GKN or Boeing MRR/concession number, and shall have a statement saying that the label is not to be removed until the product is assembled by GKN.

## SC-Q03 Delegation of Product Verification

Supplier does not have authority to allow sub-tier self-verification. All requests for delegation of sub-tier product verification must be submitted in writing to GKN. Note: all requests for self- verification shall conform to the requirements of AS9117 “Supplier Self Verification Process Delegation Requirements”. The delegation of product verification does not relieve the supplier of its obligation under this contract.

## SC-Q05 Operator Self-Verification Program

If Supplier uses an Operator Self-Verification (OSV) program, Supplier shall comply with AS9162 “Aerospace Operator Self-Verification Programs”.

## SC-Q07 QMS Certification: Calibration

The supplier shall maintain a documented calibration system for the calibration and maintenance of tools, jigs, inspection and test equipment, and that is compliant with ISO 17025, ISO10012-1, ANSI Z540 or MIL-STD-45662. Calibration service providers shall be accredited to ISO 17025 by A2LA, ANAB, ILAC or equivalent, unless the provider is an OEM of the equipment being calibrated, or a calibration provider officially authorized by the OEM.

The supplier shall forward a copy of their Quality Management Systems certifications to GKN.

## G-Q01.03 QMS Certification: AS9100

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The supplier shall maintain certification obtained from an accredited certification body to AS/EN/JISQ 9100 to the latest revision.

The supplier shall implement and maintain a quality and inspection system acceptable to GKN, and to control product and process quality that meets the latest revision of GKN's Q-Notes as specified in the purchase order. The system shall include a company-wide process that fosters continuous quality improvement in compliance with AS9100, and, as applicable, Boeing D6-82479 of the latest revision at the date of the purchase order.

When AS9100 certified, the supplier shall grant GKN Aerospace South Carolina access to their certification information file in the OASIS database ([http://www.sae.org/?PORTAL\\_CODE=IAQG](http://www.sae.org/?PORTAL_CODE=IAQG)).

Suppliers producing Boeing parts/products are required to forward copy of their Quality Manual to GKN-SC. The supplier shall also forward a copy of their Quality Management Systems certifications to GKN.

Distributors refer to SC-Q06.

## G-Q01.04 Purchase Order Review Process

The supplier is responsible to implement a process in his Quality Management System (QMS) by which all requirements of this purchase order are reviewed and understood prior to its acceptance, and that all quality requirements are incorporated into the manufacturing planning, inspection and test instructions, as well as being responsible for providing the necessary resources to deliver products that meet all the requirements of the purchase order, as applicable, to assure PO compliance. The supplier shall retain evidence of such reviews. The supplier is reminded to be certain that the current revision of each requirement is referenced, unless otherwise specified by GKN.

## G-Q01.05 QMS Change Notification

The supplier shall promptly notify GKN, in writing, of changes in the supplier's name, ownership, or management representative with assigned authority and responsibility for the supplier's quality system; of any change in the QMS which may affect the inspection, conformity, or airworthiness of the product; of any action taken against the seller by another of its customers, or by any government agency; or any change in the supplier's manufacturing facility location.

## G-Q01.06 Translation of Documentation

The supplier shall maintain an English language translation of:

- (1) Its quality manual and forward GKN an electronic copy of the Quality Manual

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(2) Operating instructions that implement the quality manual requirements

(3) Records, reports, specifications, drawings, inspections, test results, documentation, and an index of other supplier procedures that contain quality requirements.

GKN may require additional documentation to be translated, including, but not limited to stop purchase orders, technical specifications, certificates, reports & nonconformance documents.

## G-Q01.14 Notification for Subcontract of Key Features

The supplier shall notify GKN, in writing, when any GKN-identified key characteristic, interchangeable- replaceable features, fracture critical features, durability critical features, maintenance critical features, safety critical features, critical safety hardware/features, mission abort critical features, or supplier changes affecting fit, form or function are to be subcontracted.

## G-Q01.15 Inspection Implementation

The supplier shall implement and maintain a quality and inspection system acceptable to GKN, and to control product and process quality that meets the latest revision of GKN's Q-Notes as specified in the purchase order. The system shall include a companywide process that fosters continuous quality improvement in compliance with AS9100 to the latest revision, and, as applicable, Boeing [D6-82479](#) of the latest revision at the date of the purchase order.

Distributors refer to SC-Q06.

## G-Q01.16 Sub-tier Flow Down

Supplier is required to flow down any and all pertinent portions of any GKN contract to all sub-tier supplier performing to the requirements of any GKN contract.

With the exception of standard hardware, the use of customer approved processors and customer approved raw material, Supplier does not have approval to move or subcontract any portion of any GKN contract without the written consent and approval of GKN.

GKN will not permit the use of any supplier or supplier sub-tier that does not have an accredited certification by either AS9100 and/or NADCAP.

## G-Q01.17 Product Conformance

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Supplier shall inspect, or otherwise verify that all products, including those components purchased from or furnished by subcontractors, suppliers, or GKN, comply with the requirements of the purchase order prior to shipment to GKN. Supplier shall be responsible for all tests and inspections of the product during receiving, manufacturing, and final inspection. Supplier agrees to furnish copies of tests and/or control data upon request from GKN.

## G-Q01.20 Change Notifications

Supplier shall notify GKN when:

- Supplier or supplier's sub-tiers are found to be non-compliant to GKN's specifications. Supplier's sub-tier is found to be disapproved by supplier.
- Supplier or supplier's sub-tiers are disapproved by a government agency
- Government/Industry Data Exchange Program (GIDEP) alert is required or received affecting buyer items.

## G-Q01.24 NADCAP, NDT, Personnel Change Notifications

Supplier shall notify GKN within 48 hrs. of any changes in NADCAP accreditation, and/or NDT Level II or III personnel, and all other personnel changes within five normal work days of the happening.

## G-Q02.03 Manufacturing Plans: General

When stated on the Purchase Order, a manufacturing plan must be submitted to GKN Aerospace for review prior to the completion of the FAI. The Manufacturing Plan shall address the sequence of manufacturing, processing and inspection operations that are required and shall include the identification of any sub-tier suppliers that will perform any manufacturing, controlled/special processing, or inspection.

## Q02.04 Manufacturing Plans: Boeing

When Boeing document "D6-1276 - Control of Materials and Processes for Designated Parts and Components of Boeing Products" is required by engineering drawing for a part or forging, a manufacturing plan shall be written per the requirements of D6-1276 and shall be submitted to GKN for Boeing / Spirit Aerosystems approval prior to fabricating production parts or forgings.

Certifications for first and subsequent lots of production parts or forgings shall indicate the Boeing or Spirit Approval Memo number for the particular part or forging produced.

## G-Q02.05 Manufacturing Plans: Critical Parts

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Parts designated as fracture critical, fracture critical traceable, fatigue critical, durability critical, maintenance critical, or safety critical require that a manufacturing plan be submitted to GKN for approval at least 45 days before the start of production, and before completion of the FAI. The manufacturing plan shall address the sequence of manufacturing, processing, and inspection operations that are required, and shall include the identification of any sub-tier suppliers that will perform any manufacturing, controlled/special processing, or inspection.

## G-Q02.07 Inspection Plans

If an inspection plan is required, it must be submitted to GKN for approval prior to the commencement of production. The inspection plan shall address the inspection operations that are required to verify all product characteristics and shall include the identification of all inspection methodologies being proposed for use.

## G-Q02.11 Re-inspection

When modifications, repairs, or replacements occur after supplier's final inspection or test, supplier shall perform a re-inspection and test of the affected characteristics prior to presentation for GKN's acceptance.

## G-Q02.13 Boeing Commercial Requirements

Boeing Commercial: Items on this purchase order for Boeing aircraft end use, and shall comply with all Boeing engineering, manufacturing & procurement requirements, including the D-590, [Form X31764](#) "Quality Purchasing Data Requirements (BCA) and [D1-4426](#) specifications at the time of manufacture/procurement.

## G-Q03.01 Standard Hardware: Boeing

Boeing Commercial: Purchase order for standard hardware, or assemblies that include standard hardware (i.e., BAC, AN, NAS, STM, MIL, etc.), are to be satisfied with material of the latest specification revision level in effect, shall be procured only from approved distributors IAW Boeing's D1-4426 and shall comply with all obsolescence / replacement criteria when applicable, IAW Boeing D-590.

Manufacture certifications and test reports are required with each shipment. All Distributors must also complete a material certification and conformity with each shipment.

## G-Q03.03 Customer Approved Sources: Raw

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## Material & Hardware

Suppliers shall purchase raw materials and standard hardware from prime customer-approved sources, e.g. [D1-4426](#), ASPL, or other approval listing. Material that will be produced / procured outside the USA will always require customer approved sources. Foreign supplied materials are prohibited on military aircraft.

## G-Q03.04 Customer Approved Sources: Special Processes

All special processes required by this purchase order shall be performed by sources that are approved by the prime customer.

Refer to the respective customer web sites to find their special process

requirements. Boeing (BCA): [Boeing - Approved Process Sources - D1-4426](#)

For all other Customers, see Customer-specific websites.

## G-Q03.05 Master Specification Listing

For the current revision of the specification applicable to this purchase order, see [Master Specification Listing](#) available at:

[Quality Information - GKN Aerospace](#) (South Carolina)

## G-Q03.11 Counterfeit Parts Prevention

A counterfeit parts prevention program shall be in place that is structured to ensure against the receipt of such parts into the supplier's inventory, against their use in manufacturing, and against their being sold to other suppliers. This program shall be similar to, and meet the intent of SAE AS6174

## G-Q05.01 Revision Control

The supplier is responsible to maintain control of the latest revision of models, blueprints, parts lists, inspection media, operation sheets, specifications, and other such documents as specified in this purchase order.

## G-Q05.02 Obsolete Documentation

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The supplier is responsible to destroy all obsolete blueprints, parts list, inspection media, specifications and other such proprietary documents. GKN supplied equipment shall not be destroyed without written approval from GKN.

## G-Q05.03 Boeing Digital Data Control (DPD)

Control of digital data received from GKN that is used as authority for manufacture and/or inspection, shall comply with the requirements of GKN-SC's procedure **PSI-PUR Digital Product Definition for Suppliers**.

The supplier and sub-tiers shall have defined and reliable configuration management and Quality Assurance (QA) processes in place reflecting its methods of operation. Suppliers and sub-tiers are required to maintain integrity of DPD through all operations when new DPD methods are deployed. It is expected that suppliers and sub-tiers will utilize DPD processes to continuously improve the quality of delivered product.

Also see: Boeing (BCA): <http://www.boeing.com/suppliers/quality.html#/hash4>

## G-Q06.01 Right of Entry

During the performance of this purchase order, GKN, its customer and/or regulatory agencies, have the right of entry to determine and verify product quality, records and material, including the right to audit the supplier's quality system at any location. The foregoing pertains equally to the supplier's sub-tiers. Supplier must coordinate any such entry with the GKN buyer.

Work under this PO is subject to GKN's periodic surveillance/audit of supplier's compliance with supplier's internal procedures and other documents applicable to this PO.

GKN's acceptance of such product does not absolve the supplier of the responsibility to provide acceptable product, nor does it preclude subsequent rejection by GKN, its customer or regulatory agencies.

## G-Q06.04 Commercial: Additional Inspection, Surveillance, & Test

At no additional cost to GKN, products may be subject to inspection, surveillance and test at reasonable times and places, including supplier's subcontractors' or suppliers' locations. GKN will perform inspections; surveillance and tests so as not to unduly delay the work. Supplier shall maintain an inspection system acceptable to GKN for the products purchased under any order.

If GKN performs an inspection or test on the premises of supplier, its subcontractors or supplier shall furnish and require its subcontractors or suppliers to furnish, without additional charge, reasonable facilities and assistance for the safe and convenient performance of these duties.

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When requested by GKN Aerospace or its customers, the supplier will provide test specimens for inspection/verification, investigation, and/or auditing purposes.

The supplier's documentation accompanying the shipment shall reflect evidence of these sections.

## **G-Q06.15 Government: Additional Inspection, Surveillance, & Test**

GKN's rights to perform inspections, surveillance and tests, and to review procedures, practices, processes and related documents related to quality assurance, quality control, flight safety, and configuration control shall extend to the customers of GKN that are departments, agencies or instrumentalities of the United States Government and the FAA, and to any successor agency or instrumentality of the United States Government. GKN may also, at their option, by prior written notice from the GKN's procurement representative, extend such rights to other customers of GKN, and to agencies or instrumentalities of other agencies equivalent in purpose to the FAA. The supplier shall cooperate with any such United States Government or GKN directed inspection, surveillance, test or review without additional charge to GKN. Nothing in any purchase order shall be interpreted to limit United States Government access to the supplier's facilities pursuant to law or regulation.

When the supplier is located in, or subcontracts with a supplier located in a country which does not have a bilateral airworthiness agreement with the United States, the supplier shall obtain and maintain on file, and require its affected subcontractor(s) to obtain and maintain on file, a letter from the applicable government where the product or subcontracted element is to be manufactured, stating that GKN, and the FAA shall be granted access to perform inspections, surveillance and tests and to review procedures, practices, processes and related documents related to quality assurance, quality control, flight safety, and configuration control. This letter is subject to review by GKN.

## **G-Q07.01 Control of GKN Property: Material, Gauges, Tooling**

The supplier is responsible to maintain control of all GKN supplied material, gauges and tooling. Any such material that is lost, damaged or otherwise unsuitable for use shall be immediately reported to GKN

Supplier shall control GKN-SC owned material and products as follows:

- a) When material is supplied directly from GKN-SC, evidence is required that the material was shipped from a GKN-SC facility (e.g. release note, packing slip).
- b) If material is purchased by GKN-SC and drop-shipped directly from a manufacturer to the supplier, the supplier is responsible to perform verification as agreed upon with GKN-SC.
- c) Upon receipt, inspect for identification, general condition, completeness, and proper quantity, type, size, or grade.

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- d) Report damages or any other unacceptable condition to GKN-SC purchasing. Material that has been rejected by GKN-SC must be returned to GKN-SC.
- e) After the acceptability determination, provide for identification and protection against damage or deterioration during manufacturing, handling or storage.
- f) Material owned by GKN-SC shall be properly identified and documented as customer owned material during manufacturing, handling or storage. Such material must be returned to GKN-SC after processing or assembly.

## G-Q07.02 Boeing Tooling Document D33200-1

Boeing Commercial: The supplier shall comply with the requirements of BAC Suppliers' Tooling Document, D33200-1's current revision.

Tooling suppliers must be approved per the GKN-SC Supplier Quality Manual.

## G-Q07.03 Control of Fixtures, Jigs, Inspection & Test Equipment

Supplier shall include in its documented quality system written procedures for the control, maintenance, and calibration of special tooling, jigs, inspection and test equipment, and other devices used in manufacturing processes

Supplier shall control GKN-SC property as follows:

- a) Upon receipt inspect for identification, general condition, completeness, and proper quantity, type, size, or grade. Perform functional testing, where practicable, prior to further processing or installation, to ensure conformance to applicable specifications.
- b) The calibration status shall be verified for measuring and test equipment.
- c) Report damages, malfunctioning, or any other unacceptable condition to GKN-SC purchasing.
- d) After the acceptability determination, provide for identification and protection, periodic inspections, and controls necessary for protection against damage or deterioration during use, handling or storage.
- e) Material owned by GKN-SC shall be identified with: "PROPERTY OF GKN-SC".
- f) The Supplier shall establish and keep updated a register, accessible to GKN AES of all Type bound Tooling. Any updates of such register shall promptly be notified to GKN-SC Purchaser.
- g) The Supplier shall, at its own initiative and expense, maintain Type bound tooling in such a way that it is at all times in a fully satisfactory condition.

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## G-Q07.05 Boeing Work Transfer

For Boeing products:

- 1.) **Non-US Country:** Seller shall not relocate or subcontract to a non-US country (e.g. US to Non-US, Non-US to Non-US) any contracted part, assembly or component(s) thereof without written notification to and acknowledgment from GKN Aerospace South Carolina.
- 2.) **US Country:** Seller shall not relocate or subcontract to a US country (e.g. US to US, Non-US to US) any contracted part, assembly or component(s) thereof, that includes Category 1 and/or 2 parts as listed and/or defined in the Federal Aviation Administration's (FAA) Category Parts List, without written notification to and acknowledgment from GKN Aerospace South Carolina. (Note: See the FAA's website, [www.faa.gov](http://www.faa.gov), for Category Parts List.)

Supplier may utilize Boeing document Form X36219 \*\* "Supplier Initiated Work Transfer Questionnaire" to determine reporting requirements, as possible exemptions may apply.

**Notification must occur within five (5) business days once the following is known –**

- 1.) Statement of Work (SOW)
- 2.) 'To-be' supplier name
- 3.) 'To-be' supplier address
- 4.) 'To-be' supplier Quality contact information (name, title and telephone number)
- 5.) First production target date
- 6.) 'As-is' supplier information (supplier name and address)
- 7.) Will this be a single sourced Product?

**Notification shall be prior to the manufacturing start date of the first part associated with the work transfer.**

Note: See the FAA's website, [https://www.faa.gov/aircraft/air\\_cert/production\\_approvals/mfg\\_best\\_practice/media/category\\_parts\\_list.pdf](https://www.faa.gov/aircraft/air_cert/production_approvals/mfg_best_practice/media/category_parts_list.pdf), for Category Part List.

Supplier may utilize Boeing document Form X36219 \*\* "Supplier Initiated Work Transfer Questionnaire" to determine reporting requirements, as possible exemptions may apply. \*\* X36219 "Supplier Initiated Work Transfer Questionnaire" forms are available on the Boeing Supplier Portal (*requires registering on Boeing site for log in approval*).

All documentation will be sent to GKN Aerospace for review. If accepted, documentation will be forwarded to Boeing for final approval.

## G-Q08.01 Product Identification

All products shall be identified per model/blueprint/specification and operation sheet requirements prior to delivery.

***For Boeing (BAC) Parts:***

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The following information listed below must be included at the final part marking

- Operation/Step: “Date of Manufacturing” in “MM/DD/YYYY” format. i.e. 01/01/2018
- “Work Order” or other item traceability number. If applicable, “Serial Number”.

**For Spirit Aerosystems Parts:**

See “**Section 7**” of “**MAA1-10042-1 – Supplier Quality Assurance Manual**” for product identification, traceability, and part marking requirements.

## G-Q08.02 Part Serialization and Traceability

When serialization and traceability are required, assigned serial numbers shall be maintained throughout all manufacturing cycles and shall be identified on both the parts and all documentation at time of shipment.

## G-Q08.03 Documentation Traceability

Quality documentation shall be part number traceable from raw material through the planning, manufacturing, inspection, processing, testing, etc. to assure records have integrity. Supplier must be able to demonstrate that all records are complete and accurate.

## G-Q09.01 Product Certifications

Copies of all material, processing, testing, chemical and physical analysis certifications, of the current revisions, shall accompany each shipment of parts as required by the blueprint or applicable specification.

See [Quality Information - GKN Aerospace](#) (South Carolina).

## G-Q09.03 Certificate of Compliance

The supplier shall submit a Certificate of Compliance (C of C) asserting that the items contained within this shipment are in total compliance with the requirements of the purchase order, and summarizing all processes and tests performed to the applicable specification revisions, along with the name of each facility utilized. The supplier shall annotate in the delivery package any exceptions, e.g. variances. The supplier shall include a copy of the C of C with the supplier’s

product shipper. In addition, for Boeing (BCA) designed product only:

I.A.W. BCA Purchase Order Quality Clause “Q31”.

This procurement is under Boeing's Federal Aviation Administration (FAA) issued Production Certificate 700 quality system supplier control program.

THE SELLER WILL PLACE THE FOLLOWING STATEMENT WITH ALL SHIPMENTS ON THE SHIPPER AND/OR C of C:

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***“Seller hereby acknowledges that the parts and/or materials being shipped under this order are intended for use under Boeing's Federal Aviation Administration (FAA) issued Production Certificate 700 and no articles (or constituent parts thereof) or the accompanying paperwork (e.g. packages, shippers, etc.) contain any Federal Aviation Administration- Parts Manufacturer Approval (FAA-PMA) markings”***

The preferred location for the statement is on the shipping document, next to, or following the Certificate of Conformance (C of C). The statement may be printed, stamped, or attached as a label or sticker to the shipping documentation. It is allowable to replace “Seller” with the company name or “we”.

**Attention: Boeing requires that the provisions/requirements set forth above be included in Seller's direct supply contracts as well as the obligation that they be flowed to the applicable sub-tier supply chain.**

## G-Q09.12 Quality Acceptance of Shipments

The supplier shall provide with all shipments the following evidence of acceptance by its quality assurance department:

- (a) Certified physical and metallurgical or mechanical test reports where required by controlling specifications,
- (b) A signed, dated statement on the packing sheet certifying that its quality assurance department has inspected the products and they adhere to all applicable drawings and/or specifications.

**The following information shall be stated on the supplier’s declaration of conformity or shipping documentation:**

- a) GKN-SC Purchase Order Number.
- b) Quantity in the delivery.
- c) Date of delivery.
- d) Part Identity and applicable change letter and/or suffix number. For material not having a specific part number the nominal dimensions shall be stated. If materials/parts are ordered to a trade designation this designation shall be recorded.
- e) Heat, lot, batch, serial number or other identifying number or symbol when such identification is required.
- f) Source and type of compound or predominant polymer and compound number for non-metallic raw material.
- g) Reference to approved non-conformance reports if any
- h) Any information required for subsequent machining/processing.
- i) Country of origin.

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## G-Q10.04 Sampling Plans

Sampling plans are not permitted without written GKN authorization. Sampling for engineering- defined Safety or Critical characteristics will not be permitted unless prior written acceptance of the plan is obtained from GKN and the Prime OEM customer with design authority.

Sampling plans must be justified on the basis of recognized statistical principles, appropriate for use, and IAW existing industry, military or government standards. Such plans must have applicable customer approval as specified as follows. **For all cases**, the supplier's proposed sampling plan must have the approval of GKN before implementation.

Boeing Commercial: Seller shall perform 100% inspection for in-process and final inspection, or Seller shall conform to requirements of document AS9138 "Aerospace Series – Quality Management Systems Statistical Product Acceptance Requirements" as may be amended from time to time. With the exception noted herein Seller's statistical sampling procedure/plan conformance to AS9138 with minimum protection levels meeting SAE AS9138 Table A1 and C=0 will constitute Boeing Quality approval subject to restrictions noted in AS9138, Section 4.3 Safety/Critical Characteristics, and part/product Design Data sampling requirements and/or prohibitions.

## G-Q10.05 Source Inspection: Production

If source inspection is required, it shall be coordinated with GKN prior to delivery. Authorization for shipment shall be provided by the GKN source Inspector's stamp on the supplier's packing list.

GKN-SC may require source inspection at any time if:

- a.) Supplier does not maintain a 95% percent Supplier Quality rating (*NOTE: This is currently not in effect until such time as GKN Supplier Scorecard methodology is flowed down to Supplier.*)
- b.) If requested by GKN-SC customer
- c.) Supplier has any escapes (to GKN-SC or GKN-SC's Customer)
- d.) If GKN-SC loses confidence in suppliers ability to make a quality and conforming parts
- e.) If Supplier's QMS does not meet the applicable requirements
- f.) If supplier fails to meet the mutually agreed upon delivery schedule.
- g.) If supplier fails to meet GKN requirements or fails to meet GKN's Customer's Requirements that have been flowed down (Boeing or Spirit Requirements).

Qualified GKN-SC personnel will be used for Source Inspection, qualified GKN employees from other sites, or qualified third-party organizations. Qualification and training will be based on **AS 13001** for Delegated Product Release Verification or the requirements defined in GKN-SC procedure **PSI-PUR Supplier Source Delegation** (Section 4.3).

Documentation and Inspection requirements will follow Section 4.4 of GKN-SC procedure **PSI-PUR Supplier Source Delegation**.

Procedure is available on [GKN-SC website](#).

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## G-Q11.01 Go/No GO Gauge Usage

For all close tolerance characteristics ( $\leq .0015$ "), GO and NO GO gauging techniques are not acceptable.

## G-Q11.02 Gauge R&R, Accuracy, Resolution

Inspection equipment utilized must have capability to attain a measurement of ten percent of the tolerance being inspected.

## G-Q11.06 GKN-Mandated Tooling

The supplier shall use the mandatory/required tooling provided by GKN, and designated as production type tooling for manufacturer, as supplier's media of inspection for GKN source inspections of those features created by, or depicted by, such tooling, e.g., contours, hole locations, and profiles.

Supplier shall periodically evaluate supplier manufactured and/or owned tooling that is used as a media of acceptance to it control media.

## G-Q12.01 Inspection Status: Inspection Stamps

Supplier's quality system shall provide a means for maintaining accurate documentation of the inspection status at all times, for items to be delivered to, and during the shipment to GKN.

Supplier shall comply with the AS/EN/JISQ 9100 requirements and 14CFR Part 21.2 regarding the application of the Acceptance Authority Media (AAM) requirements.

Supplier's inspection stamps shall be of a design distinctively different from those of GKN and GKN's customers.

Supplier's documented quality system shall provide a method for the control and issuance of inspection stamps, and for the prevention of unauthorized use of such stamps. If inspection status verification is done by using the signatures/initials of the verifier, the supplier shall have a documented procedure addressing how signatures/initials are distinguished and/or controlled. The use of signature/initials are prohibited for non-destructive testing verification. Upon request by GKN, supplier's procedure for accomplishing the above shall be available for review. The Supplier review of the procedure shall include but not limited to:

- a.) Authority Media Application Errors (i.e. Omission, Typos, Legibility, etc.)
- b.) Authority Media Application Untimely Use (i.e. Documentation is not completed as planned, "Stamp/Sign as you go", etc.)
- c.) Authority Media Application Misrepresentation (i.e., uncertified personnel, Falsification of documentation, Work not performed as planned, etc.)
- d.) Authority Media Application Training Deficiencies (i.e. Ethics, Culture awareness, Proper Use of authority media, etc.)
- e.) Supplier shall maintain compliance to the AAM requirements by assessing its process and supply chain as part of its internal audit activities

For Boeing Suppliers: Supplier shall, upon Boeing request, be able to demonstrate evidence

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of communication to its employees and to its supply chain; use of AAM must be considered as a personal warranty of compliance and conformity.

Also see [Form X31764](#) Quality Purchasing Data Requirements

## G-Q12.02 Inspection Status: Product

The inspection status of all products shall be clearly identified throughout the manufacturing process and upon delivery to GKN.

## G-Q13.01 Control of Nonconforming Material

The supplier shall implement and maintain a documented QMS that provides for the identification, documentation, and disposition of nonconforming material. The supplier shall ensure that effective corrective action is taken (including repetitive nonconformances dispositioned “Use-As-Is” or “Repair” by Material Review Board [“MRB”] actions) to prevent, minimize, or eliminate nonconformances. The supplier’s QMS shall ensure that nonconforming material is not used for production purposes, or for unintended use.

The supplier shall maintain records of all nonconforming material, dispositions, assignable causes, corrective actions, and effectiveness of corrective actions for the period specified in the applicable Quality Notes.

The supplier shall respond to all GKN’s requests for corrective action. When so requested, the supplier shall provide trend data and findings for GKN rejected Items. The supplier shall identify root cause findings and corrective actions required to preclude recurrence by utilizing tools such as cause mapping, cause and effect analysis, Five Why’s etc.

The supplier shall assess all GKN-identified nonconformances, whether or not Item(s) was/were returned to the supplier, and take appropriate actions to ensure causes of nonconformance are corrected.

## G-Q13.02 Vendor Material Review Request (VMRR): General

The supplier shall report nonconforming material to GKN using a [VMRR form](#). Nonconforming material shall not be shipped without GKN quality assurance approval. GKN reserves the right to disposition nonconforming material as scrap without submitting product for customer MRB. VMRR forms are available from the GKN.

Notwithstanding any other provisions herein, to the extent Supplier’s performance is the direct cause of a financial impact to GKN’s customer due to a Supplier nonconformance submittal and evaluation of such nonconformance(s) which has the potential to cause a disruption to aircraft production and delivery schedules as determined by GKN’s customer, the costs of the financial impact the defective product(s) has caused will be flowed down

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to the Supplier and Supplier shall pay to GKN the amount equal to the charges received by GKN's customer.

### **G-Q13.03 Notification of Escapes (NoE)**

The supplier shall provide written notification to GKN within one business day after a nonconformance is determined, or suspected, to exist on product already delivered to GKN under any GKN PO, with the following information provided to GKN:

1. Affected process or part number and name
2. Description of the problem (i.e., what it is and what it should be)
3. Quantity and dates delivered
4. Suspect/affected serial number(s) or date codes, when applicable.

If the non-conformity has been identified by GKN and communicated to the supplier using a nonconformance record, or other equivalent means, requesting a corrective action response, the supplier shall notify GKN if additional product has been found to be so affected.

For Boeing product: At a minimum, the Supplier (or sub-tier) shall notify GKN-SC within 3 days from the day of discovery of **known** or **suspect** discrepancy (for Boeing product). Submit information to GKN- SC to forward to Boeing. If the investigation to obtain all required information is not completed within 3 days from the day of discovery, submit supplier required information in section 1 and 2 (above) and any known information elements listed in 3 and 4 (above) to GKN-SC using Boeing's Preliminary Escapement Notification Form X39312. This notification requirement is applicable to all suppliers for Boeing product, including suppliers with D-13709-4 Appendix C Escaped Product Disposition authority.

### **G-Q13.04 Corrective Action**

The supplier shall implement a system of corrective action for discrepancies identified by the supplier, GKN, or GKN's customers. When GKN requests written corrective action, then the supplier shall document the cause of the discrepancy, the corrective action taken, the effective date of the corrective action, and submit this to GKN for review. GKN reserves the right to verify the effectiveness of the stated corrective action at the supplier's facility.

### **G-Q14.01 Foreign Object Debris/Damage**

Supplier shall establish and maintain a Foreign Object Debris/ Damage (FOD) prevention program in accordance AS9146 "Foreign Object Damage (FOD) Prevention Program- Requirements for Aviation, Space, and Defense Organizations" or, as described in NAS412, as applicable.

### **G-Q15.01 Damage and Corrosion Prevention**

All materials, parts, and age control products must be protected against damage

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and corrosion during delivery using sound standard packaging practices. Special packaging instructions, when required, will be as specified on the purchase order.

## G-Q15.02 Inventory Control

The supplier agrees to insure that materials utilized in the performance of this purchase order, whether furnished by GKN or by the supplier, shall be segregated and controlled to insure traceability and to prevent them from being intermingled with any other materials. In addition, the supplier shall strictly control all inventory of customer property that is in excess of the PO contract quantity, so as to prevent it from being sold or provided to any third party.

## G-Q15.03 Customer Property: Excess Inventory Control

The supplier shall strictly control all inventory of customer property that is in excess of contract quantity in purchase order to prevent product from being sold or provided to any third party without prior written permission from the customer.

## G-Q15.04 Customer Property: General

Any parts supplied by GKN are solely for the purpose of being processed and remain the property of GKN.

## G-Q15.05 Time & Temperature Sensitive, Age Control Materials

Supplier shall maintain controls to ensure that time & temperature sensitive (TATS), and age controlled materials shall not have exceeded 25% of their shelf life upon date of receipt at the supplier's facility. For BAC work, they shall also meet the requirements of BSS7002. In addition, the supplier shall ensure that for age controlled materials, the shelf-life & environmental controls are properly identified.

## G-Q16.02 Record, Document Retention

Quality documentation records and certifications shall be maintained on file for a period of 1 Calendar Year + 10 Years from the date of shipment under each applicable order for all product/part numbers unless otherwise specified on the Purchase Order. After this period the supplier shall not destroy such records without the written approval of GKN.

### Customer-specific Record Retention Requirements

Customer	Retention period (years)	Comments
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Boeing Commercial (BAC)	1 + 10 (See Comments)	1 Calendar Year + 10 Years from the date of shipment under each applicable order for all product/part numbers unless otherwise specified on the order.
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## G-Q16.09 Quality Record Traceability

The supplier shall maintain on file at his facility, quality records traceable to the conformance of product/part numbers delivered to GKN. The supplier shall make such records available to regulatory authorities and to GKN's authorized representatives. The supplier shall retain such records for the period specified in the purchase order for all product/part numbers, including all records related to the current first article inspection, of the last product covered by the FAI.

At the expiration of such period GKN reserves the right to request delivery of such records. In the event GKN chooses to exercise this right, the supplier shall promptly deliver such records to GKN at no additional cost on media agreed to by both parties.

## G-Q17.01 Self-Audit: General

Annually, at a minimum, the supplier shall conduct a self-audit to verify the effectiveness of his quality system and processes.

## G-Q17.02 Self-Audit: DPD/MBD

Annually and in accordance with the applicable customer DPD/MBD standard requirements, the supplier shall conduct a self-audit of its DPD/MBD process/procedure. A copy of the completed audit report shall be forwarded to GKN.

## G-Q18.01 Personnel Training

The supplier shall be responsible to provide trained personnel for the manufacture and inspection of products used to satisfy the requirements of this purchase order.

## G-Q18.02 Personnel Certification

The supplier shall ensure that his personnel performing work to customer specifications which require certified persons, shall attain such certification prior to the performance of such work, (e.g., sealant installation per BAC 5000, NDT per NAS410, etc.)

## G-Q19.01 First Article Inspection: General

Applicable for the initial production part by the supplier, a first article inspection (FAI) report is required for each dash number. The inspection report shall indicate

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the actual measurement obtained for each feature listed on the model, blueprint, parts list, and GKN manufacturing instructions (when specified on the purchase order). When repetitive same value dimensions are inspected, (e.g. holes of the same size, web thickness of the same size, etc.) each individual found value is to be documented, including location. A first article is also required when a part has not been in production for a period of two years or longer. First article inspection shall be performed in accordance with AS9102, current revision. FAI reports will be submitted to GKN for review and approval.

Boeing Suppliers: FAI reports must be submitted in the Net-Inspect software system.

## G-Q19.02 First Article Inspection: Source Inspection

At GKN's discretion, a GKN source inspector will be present during the first article inspection. When source inspection is specified, the supplier shall provide GKN with a minimum of 48-hour notice of the date the article is to be available for performance of this FAI.

## G-Q19.03 First Article Inspection: Configuration Changes

An amended FAI report is required for configuration changes, but only for the materials, processes, and dimensions that are affected by the change, and shall conform to AS9102, current revision.

## G-Q20.01 Key Characteristics

If a key characteristic is required by engineering documents or the GKN Aerospace Special Manufacturer Instructions (SMI) or Vendor Operation sheet, the following requirements apply:

**All key characteristics shall be placed under statistical process control.**

If the supplier does not have the ability to perform as stated above, contact the GKN Aerospace buyer immediately prior to continuing with purchase order requirements.

At any time, the supplier may request assistance from GKN Aerospace when conducting S.P.C. and A.Q.S. (Advanced Quality System) activities. Contact the GKN Aerospace buyer.

### Documentation requirements per key characteristic:

Documents required for each key characteristic shall be 1x-MR chart or X bar-R chart.

If 21 or more parts are listed on the control charts, then upper and lower control limits along with a CPK reading shall be indicated on the control chart.

All charts shall be identified with the date, part number, dash number, and the key characteristics.

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The documentation above shall be in addition to all other documentation required by the purchase order and engineering requirements.

AS 9103, "Variation Management of Key Characteristics" may be used for guidance in the implementation of this quality note.

## G-Q20.04 Determinant Assembly Characteristics

When determinant assembly (DA) characteristics are identified, the supplier shall certify that all DA characteristics have been inspected, and verified as to their compliance with the drawing requirements. When specified on the purchase order, the supplier shall provide an inspection report that records variable data for these characteristics for the number of parts, lots etc. specified on the purchase order

## G-Q22.01 Etch Cleaning

GKN requires its parts to be etch cleaned only when it is required by the processing specification. GKN parts supplied to your facility for processing have surfaces that have been polished and/or blended, and where this is a concern, are considered by most processing specifications as surfaces that have "smeared metal." If a process specification contains etch cleaning requirements on parts having such surfaces (see each individual specification for its definition of "smeared metal"), GKN requires such parts to be etch cleaned.

GKN process instructions assume parts will be etch cleaned, and will note on the process purchase order if holes or surfaces require masking prior to etch cleaning. The supplier is responsible for masking such features to totally prevent etching of their surfaces.

## G-Q24.01 AECA, ITAR

This order contains parts and directs the use of documents and technical data subject to the U.S. Arms Export Control Act (AECA), and the International Traffic in Arms Regulations (ITAR), enacted pursuant to such act. Any of the parts, documents, or data mentioned in these quality notes may not be transferred to any foreign person or entity in the United States, or to any person or entity abroad, nor shall such persons or entities have access to such documents and technical data except as authorized by the U.S. Department of State or the International Traffic in Arms Regulations (ITAR).

## G-Q25.01 Ozone Depleting Substances

This requirement applies to Suppliers providing products/services related to Boeing.

Definition. "Ozone-depleting substance," as used in this clause, means any substance the Environmental Protection Agency designates in 40 CFR Part 82 as--

- (1) Class I, including, but not limited to, chlorofluorocarbons, halons, carbo

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tetrachloride, and methyl chloroform; or

(2) Class II, including, but not limited to hydrochlorofluorocarbons.

Seller shall label shipping or storage containers of ozone - depleting substance and products that contain or are manufactured with ozone-depleting substances in the manner and to the extent required by 42 U.S.C. 7671j (b), (c), and (d) and 40 CFR Part 82, Subpart E, as applicable:

Warning Contains \* \_\_\_\_\_, a substance(s) which harm(s) public health and environment by destroying ozone in the upper atmosphere.

Warning Manufactured with \* \_\_\_\_\_, a substance(s) which harm(s) public health and environment by destroying ozone in the upper atmosphere.

*\* Seller shall insert the name of the relevant substance(s).*

Boeing requires that the provisions/requirements set forth above be included in GKN-SC's direct supply contracts as well as the obligation that they be flowed to the sub-tier supply chain. For the purpose of this note Supply Chain shall mean GKN-SC's direct and indirect suppliers performing value- added activity on the products and services. It focuses on direct and lower-tier suppliers

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