



Blue Origin Purchase Order Quality Requirements

(REV A, EFFECTIVE JUNE 2, 2023)

Unless otherwise defined herein, all capitalized, undefined terms will have the same meaning as used in the Purchase Order (PO) to which this document is incorporated by reference and hyperlink.

This document includes the following sections:

Part I – General Quality Requirements.

The quality requirements in Part I of this document apply to all line items on all Purchase Orders.

Part II – First Article Inspection Documentation Requirements.

Examples and explanations of Purchaser's requirements for completing First Article Inspection Reports to satisfy Quality Clause QC-005 *Deliverable Data: First Article Inspection*

REVISION HISTORY

Rev.	Release Date	Description
NC	2021-10-21	Initial release.
A	2023-06-02	<ol style="list-style-type: none">Deleted Part II - <i>Quality Clauses</i>. These clauses have been separated into separate documents and are available within the table on the Blue Origin Supplier Terms and Conditions website.Deleted Part III - <i>Nonconformity Reporting</i>. This requirement is covered in Part I, F. of this document.Revised Part IV - <i>First Article Inspection Documentation Requirements</i> - Moved to Part II. Simplified and clarified text throughout. Removed requirements to record Basic Dimensions.Deleted Part V - <i>List of Blue Origin Special Processes</i>. List has been revised and moved to a linked location on the Blue Origin Supplier Terms and Conditions website.

Part I. General Quality Requirements

A. Supplier's Quality System. Supplier must maintain a quality system that ensures all goods and services conform to the requirements of this Purchase Order, whether manufactured or processed by Supplier or procured from sub-tier suppliers. Supplier's quality system is subject to Purchaser review. Additional Quality Management System requirements may be needed as noted in the Purchase Order through the application of Quality Clause *QC-031 Quality Management System*.

B. Change in Manufacturing Location Notification. Supplier shall notify the Procurement Representative in writing, at least 90 days in advance of any changes to manufacturing location. Supplier shall include as a minimum, in the written notification:

- i. Purpose of the relocation
- ii. Address of the new location(s)
- iii. Assessment of actual or potential impact to current PO's
- iv. Risk mitigation plan to ensure compliance to existing requirements
- v. Plan defining the identification, storage, protection, retrieval, and retention of records
- vi. Schedule and timeline of relocation activities

C. Access to Facilities and Records. With reasonable advance notice and at no additional charge, Supplier must grant right of access to Purchaser, Purchaser's customers, and any regulatory authorities to the areas of facilities and sub-tier supplier locations that are involved in manufacturing or production of Products. The rights herein also include the right to conduct a product build audit or process assessment of the facilities, quality systems, and manufacturing records. Supplier will flow this right of access requirement to sub-tier supplier locations.

D. Quality Records. Unless otherwise specified in the contract, Supplier must retain all records that provide evidence of conformity to specified Purchase Order requirements for a period of not less than ten (10) years after final payment or as otherwise specified from Purchaser's customer contract. If Supplier is not the original fabricator, processor, or assembly source of the Product, Supplier must collect and maintain sub-tier supplier documentation on file for the same retention period. Supplier must contact Purchaser prior to destruction of any records.

E. Corrective Action / Preventive Action. Supplier must investigate material and documentation nonconformances communicated by Purchaser to determine root cause(s) of failures, act as appropriate to correct future failures and avoid shipping additional product with a recurrence of the deficiency. Supplier corrective action(s) may be documented in the Supplier's format. Supplier must acknowledge and respond within the timeframe set forth in such Purchaser notifications. Purchaser's request for corrective actions may include performance of additional documented inspection activities prior to shipment or a partial or re-accomplishment of the First Article Inspection.

F. Disclosure of Nonconforming Product. Nonconforming shipments are prohibited without prior written approval from the Purchaser's Quality Representative. If Supplier discovers a nonconformity affecting a Product or a Product's performance prior to shipment, Supplier must submit a written Supplier Nonconformity Report (SNR) to the Procurement Representative for a conformity waiver.

If Supplier suspects (or is aware) that an undocumented nonconformity has been shipped to Purchaser, Supplier must notify the Procurement Representative of the condition in writing within three (3) business days of the discovery. Supplier must promptly notify Purchaser if Supplier becomes aware or reasonably suspects that any Product is, or contains a component that is, subject to a recall notice, warning alert, Government-Industry Data Exchange Program (GIDEP) Alert, or any other type of notification or concern regarding Product authenticity, quality, safety, process integrity, or specification compliance.

G. Resubmittal of Product. Any Product rejected by Purchaser, or any other entity, and subsequently submitted to Purchaser must be clearly identified as a resubmitted Product. Supplier's shipping document must contain a statement that identifies the shipment as containing Products that Purchaser has returned for authorized rework or repairs and will refer to the applicable rejection document(s).

H. Counterfeit Parts. Supplier represents and warrants that it has a counterfeit parts avoidance, detection, mitigation, and disposition program plan using acceptable standards such as *AS5553 Counterfeit Electronic Parts; Avoidance, Detection, Mitigation and Disposition* and *AS6174 Counterfeit Material: Assuring Acquisition of Authentic and Conforming Materiel* for all other material. Supplier will only deliver authentic components, devices, pieces, material, modules, assemblies, subassemblies, goods, or other items that are manufactured by or obtained from original equipment manufacturers, original component manufacturers, or authorized distributors. Supplier must make available to Purchaser documentation that authenticates and provides traceability of the parts to the applicable original equipment/component manufacturers.

I. Foreign Object Debris or Damage (FOD). Supplier represents and warrants that it has an effective foreign object debris or damage prevention program for manufacturing areas which effectively prevents the introduction of foreign objects into any item delivered under a Purchase Order. Guidance can be found in the following standards: *AS9146 Foreign Object Damage (FOD) Prevention*, National Aerospace Standard 412 (NAS 412), IPC J-STD-001 or IPC WP-116.

J. Substantiation of Purchase Order Requirements. Supplier is responsible for performing or ensuring completion of all inspections, tests, calibrations, or other items necessary to substantiate that the Products conform to the requirements of this Purchase Order.

K. Shipping Documentation. If Supplier is a distributor or other than the manufacturer of the Product, the manufacturer's name and location (city and state) must be identified within Supplier's shipping documentation. Purchaser may refuse to accept Product not supplemented by required documentation.

L. Sub-Tier Suppliers. If any Products applicable to this Purchase Order are procured by the Supplier from sub-tier suppliers, the Supplier agrees to flow the requirements of this Purchase Order (including all applicable quality requirements) to the sub-tier suppliers that are necessary to ensure Product conformity.

M. Calibrated Inspection Instrumentation. The Supplier must perform all inspections and tests for conformity to design criteria using calibrated equipment that has a sensitivity level capable of detecting defects against the design requirements. For calibration service providers or test laboratories, accreditation to *ISO 17025 Testing and Calibration Laboratories* is preferred.

Part II. First Article Inspection Documentation Requirements

1. FAIR: General Requirements

- A. All data fields as listed in AS9102 as required, conditionally required, or optional must be completed on forms 1, 2, and 3 if the data field is applicable to this Purchase Order
- B. Form 1 blocks 23 and 24 for Customer Approval and Date will only be completed by Blue Origin when a Blue Origin representative has either conducted the FAI with the suppliers or has completed a line-by-line validation of the forms.
- C. All fields that are determined as Not Applicable must be marked with "N/A" (do not leave the field blank)
- D. Form 3, block 5, character number must be identified on the drawing (e.g., balloon / bubble drawing)
- E. Form 3, Block 14 must be used to clarify results or other information
- F. Supplier must perform a new First Article Inspection when there is a lapse in production in accordance with AS9102 requirements.

3. FAIR: Documentation

A. Table of Contents

Required for document packages exceeding ten (10) pages.

B. Supplier Certificate of Conformity or Conformity Documentation

1. Supplier's full name and address
2. Blue Origin Purchase Order number, Purchase Order revision, and Purchase Order line number
3. Purchased item number or part number and revision
4. Traceability information to include lot number, heat lot, date, job batch information or the individual item trace (e.g., serial number)
5. Quantity of parts in the shipment
6. List of all Blue Origin approved nonconformities with dispositions of Use As Is or Repair
7. When QC-017 (Fixed Process) is present on a PO line item, include a reference to the Blue Origin Fixed Process Approval memo or other approval documentation noting the process revision level.
8. A statement attesting that product provided under this contract conforms to all contract requirements
9. Authorized quality representative signature and date

Note: An actual (wet) written signature or verifiable electronic signature using software such as DocuSign is required. Scanned wet signatures are not acceptable.

C. Purchase Order

Identify the most recent Purchase Order associated with the report, include the Purchase Order, and verify that the Purchase Order contains the following:

1. Supplier name and address
2. Full part number as it appears on the Purchase Order
3. Current revision
4. Quantity ordered
5. Quality clause QC-005 First Article Inspection

D. Part or Assembly Drawings

If a control drawing is supplied by Purchaser, the FAIR must be performed to that drawing. The part or assembly drawing characteristics must be accurately ballooned and numbered and conform to the following requirements:

1. Each drawing note must be ballooned and numbered. The full text of any notes must be added to AS9102 Form 3
2. Each characteristic must be ballooned and numbered including multiple occurrence characteristics (for example, "4 places" or "X4")
3. List of materials or parts list as noted on the control drawing
4. Standard tolerance block information: general tolerances be listed, in addition to any other requirements under this Purchase Order.

E. Specific Requirements for First Article Inspection Form Completion:

1. First Article Inspection Form 1

Fields #1-12 Part Number Accountability: All fields must be completed. Supplier must verify that part number and part revision are accurate.

Field #10 Organization Name: Supplier must list the name of the organization that performed the First Article Inspection.

Field #13 Detail Part or Assembly First Article Inspection: "Assembly part" as used in this field means a part that includes a list of manufactured or procured parts, components, or sub-assemblies used in the First Article Inspection part.

"Detail part" as used in this field means a part that does not require a list of parts necessary to manufacture, assemble, or maintain a product. The part number does not change after it is completed.

For assembly parts, the Supplier must complete the data fields and include all lower part levels and detail parts. For detail parts, the Supplier must ensure that no data fields are completed and will doublecheck that the First Article Inspection is for a detail part.

Fields #15-18 "Index of part number or sub-assembly numbers required to make the assembly noted above": Supplier must list all details from the bill of materials, parts list, and lower-level parts used on an assembly in Field #15 and the associated blocks. Field #18 must include references to detail FAIR(s) when applicable to this Purchase Order.

Supplier must list the FAIR number for any manufactured detail component that is required under this Purchase Order and included in the assembly. The actual detail FAIR package is not required but must be available on request.

If the detail FAIR package information is required by this Purchase Order through a specific PO note as part of an assembly, Supplier must include detail part FAIR with the assembly FAIR. All detail First Article Inspections must meet the requirements of AS9102.

Non-modified commercial-off-the-shelf items (if any) must be listed in this field and have a Certificate of Conformity or other acceptable certifications, or compliance documentation included in the FAIR.

If there are no specific part serial numbers, Supplier must include references to certifications or documents that will identify the parts (i.e., lot or heat number).

Field #19 Signature: The Supplier must list the authorized Supplier quality representative signature, their title, and date of signature. An actual (or wet) written signature or verifiable electronic signature using software such as DocuSign is required. Scanned wet signatures are not acceptable.

Field #19 Completion Status: The Supplier must list whether First Article Inspection is complete or not complete. In checking "FAI Complete," the Supplier represents that all characteristics are conforming. In checking "FAI Not Complete," the Supplier represents that nonconforming characteristics are documented in accordance with AS9102, Section 4.4.

Fields #20, 22 Date: If Field 19 or 21 (or both) are signed, the Supplier must insert the date.

2. First Article Inspection Form 2

Field #5 Material or Process Name: Supplier must list all materials or processes (or both) if applicable to this Purchase Order that were used in the assembly. Supplier must complete the associated data fields (#6-10) as applicable to this Purchase Order. Supplier must list all modified commercial-off-the-shelf items (in addition to any other materials that are part of the final assembly).

Field #6 Specification Number: Supplier must list information related to the material specification and material form (including but not limited to sheet or bar) for all materials incorporated into the First Article Inspection part (for example, weld or braze filler) are listed. For special processes, Supplier must include class information.

Field #8 Supplier: The Supplier must list the complete name and address where the part was manufactured, or the process performed. Special process suppliers must be Nadcap accredited unless approved in writing by a Blue Origin quality representative. Refer to "QC-029 Deliverable Date: Special Processes" for requirements related to defined special processes.

Field #10 Certificate of Conformity Number: The Supplier must list the applicable certificate number and highlight that number on the actual certificate to that it is conspicuous.

Field #14 Signature: See requirements above for Form 1 Field #19.

Field #15 Date: See requirements above for Form 1 Field #20, 22.

3. First Article Inspection Form 3

Form 3 or equivalent Form must be filled out completely noting requirements and actual results. Reports or bubble drawings may be attached as supporting documentation in addition to filling out the line items entries of the form.

Field #9 and associated fields #5-#8 and #10-#14 Inspection Results: The supplier must complete these fields for each characteristic.

Field #5 Characteristic Numbers (Char No.): The Supplier must list each drawing characteristic or feature (or both as applicable to this Purchase Order) in conformity with the same numbering format shown on the ballooned drawing.

Field #6 Reference Location: The Supplier must conspicuously list locations of design characteristics features and ensure their accuracy. The Supplier must also list the page and zone locations (for example, Sh. 2 of 12, Zone B5). The Supplier must review any drawing revisions applicable to this Purchase Order and accurately reflect any changed (or updated) characteristics locations.

Field #7 Characteristic Designator: The Supplier must list any special characteristic (for example, critical, flight safety, key characteristic, or characteristics).

Field #8 Requirement: The Supplier must match the full feature information listed in the requirement field exactly with the information on the drawing. For example, if a drawing or Purchase Order note requires "Part Mark Per AS478-7A at Location Shown after Plating," the Supplier must list it exactly as stated. Supplier is prohibited from notating "Part Mark" (or anything similar) in the requirement field.

Basic dimensions are not required to be bubbled or recorded on Form 3. If supplier selects to record basic dimensions and recorded on form 3, supplier is prohibited from adding tolerances

Field #9 Results: Attribute data is the positive or negative conclusion, verification, or result from an analysis using variable data (defined below). Examples of binary conclusions or results include, but are not limited to, good versus bad, yes versus no, pass versus fail, accept versus reject, confirmed versus not confirmed, conforming versus nonconforming.

For characteristics verified by attribute inspection, the Supplier must include a statement of positive or negative conclusion or result. Supplier is prohibited from listing "Noted" or "Visual" (or similar observations). The Supplier must list any tools used for the conclusion, verification, or result statement in field #10.

Variable data is information that is acquired through quantitative measurements taken on a continuous scale (variable inspection), including (but not limited to) length, time, diameter, weight, thickness, and height.

For any characteristics verified by variable inspection, the Supplier must double-check that the information is accurate and complete. The Supplier must list variable data so that the tolerance of the characteristic can be divided (using the gage or measurement instrument's discrimination or resolution) into ten equal parts. Stated otherwise, the gage or measuring instrument must be 10 times as accurate as the characteristic to be measured. The measurement result must show the actual measurement on the instrument (rounding is prohibited). For example, 0.004 must be listed instead of 0.00.

The Supplier must list only the actual results from the inspection of the final product (in conformity with the requirements of this Purchaser Order, including the drawing or specifications). The Supplier must list all results in this field in the same "Units" as the

approved document. The Supplier is prohibited from replicating the characteristic requirement.

Figure 1: Example of actual results



8. Requirement:	9. Results:
2.00 +/- .030	2.010
4.00 +/- .030	4.002

A "MAX" or "MIN" dimensional reference is prohibited unless the requirements of this Purchaser Order (including in the drawing or specifications) state "MAX" or "MIN" for the feature requirements.

A "<" or ">" (less than or greater than) symbol dimensional reference is prohibited unless this Purchaser Order (including, but not limited to, the drawing or specifications) requires "<" or ">" for the feature requirements.

Below are examples of correct and incorrect reporting of results.

Figure 2: Example of correctly listed results

46	SHT2/B1		 30-55	X
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Multiple characteristics as used in this field means identical characteristics that occur at more than one location but are established by a single set of drawing requirements. For multiple characteristics (for example, identical characteristics that occur four times in two locations), the Supplier must list each characteristic as individual values, or list once with the minimum and maximum of the measured values attained. If the Supplier has knowledge indicating or suggesting that a characteristic is nonconforming, then that characteristic must be listed separately with the measured value.

Figure 3: Example of correctly listed results using the minimum or maximum measurements

4X $\varnothing .750 \pm .010$.750-.752
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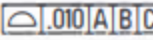




Figure 4: Example of correctly listed results individually listing measurements

2X Ø .221 +.010 / -.001	.221 / .221
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Locations 1 and 2

Figure 5: Example of correctly listed results using the identical characteristic on multiple lines:

8. Requirement	9. Results
 #1	0.0001
 #2	0.0002
 #1	0.0016
 #2	0.0015
 #3	0.0015
 #4	0.0010
 #5	0.0015
 #6	0.0016

Each occurrence is listed individually. They could also be listed in series in the results section on one line.

Field #10 Designed Qualified Tooling: The Supplier must list the instrument, tool, or method used to measure the characteristic result. Examples include, but are not limited to, calipers, micrometers, capability maturity model, pin gauge, thread gauge, and design tooling. To obtain attribute data acceptance of the characteristic, the Supplier must record the tool identification number, the gauge value, or range (as applicable to this Purchase Order). To obtain variable data acceptance of the characteristic, the Supplier must include the name and serial number of the instrument and (if applicable) the calibration expiration date.

Field #11 Nonconformity Number: The Supplier must obtain a document nonconformity number from Purchaser for any nonconformity. The document nonconformity number must be listed in this field. In addition, the Supplier must attach nonconformity information to the report as part of the document package.

Note: The First Article Inspection will not be considered complete if there is a design characteristic nonconformity and a partial FAI will need to be completed at next production run to capture that these characteristics can be manufactured conforming to requirements.

Field #12 Signature: See requirements above for Form 1 Field #19.

Field #13 Date: See information listed above for Form 1 Field #20, 22.

F. Detail Part Certification Documentation Requirement (Applicable only to Assemblies)

1. **Detail Parts with Their Own Drawings:** Supplier must list the detail part FAIR number on AS9102 Form 1 for any manufactured detail component that is required under this Purchase Order and included as part of the assembly. Supplier is not required to include the detail part FAIR package in the assembly FAIR. However, Supplier is required to promptly provide the package to Purchaser upon written request. Any detail First Article Inspections must meet the requirements of AS9102.
2. **Detail Parts Included as Part of the Assembly Drawing:** If the detail build instructions are on the assembly drawing, Supplier must include the assembly drawing with the assembly FAIR information for the detail part. For detail parts that have their manufacturing data included in the assembly drawing (for example, if the drawing shows all required dimensions, material, or special processes), Supplier must include the following information:
 1. Ballooned drawing (may be included on the assembly drawing)
 2. AS9102 Forms 1, 2 and 3 completed per AS9102 and under the requirements of this Purchase Order
 3. Material certification (if applicable to the requirements of this Purchase Order)
 4. Special process certification (if applicable to the requirements of this Purchase Order)
 5. Any information on any deficiencies, nonconformities (or both)
 6. Any other data required by this Purchase Order

G. Raw Material Certificates of Conformity

For any raw materials used as part of an assembly and listed in Form 2 Field #10, the Supplier must provide Purchaser with certificates of conformity (completed and approved) and all test reports related to the material certificates of conformity. Raw material certificates or conformity documentation must contain the following:

1. Part number, supplier name, supplier address
2. Unique identifying number
3. Information showing traceability to the melt source
4. Matching heat lot numbers (by material lot)
5. Single heat lot (if required by this Purchase Order, including on the print)
6. Information must match the requirements of this Purchaser Order (including the drawing or specifications)
7. Material type as required by this Purchaser Order (including the drawing or specifications)
8. Proper "temper", "hardness", or "condition" as required by this Purchaser Order (including the drawing or specifications)
9. Chemical composition description (if required by this Purchase Order)
10. Physical properties description (if required by this Purchase Order)
11. Supplier quality representative signature, title, and date

H. Special Process Certifications

All special processes must be performed by Nadcap accredited suppliers or suppliers that have received approval by Blue Origin Materials and Process Engineering or Supplier Quality. For any deviation from this requirement, the Supplier is required to obtain written approval from Purchaser.

Special process certifications must have the following:

1. Part number, quantity, supplier name, and supplier address
2. Unique identifying number
3. Information matching the requirements of this Purchase Order (including the drawing or specification)
4. An acceptance statement indicating that the Product meets the requirements of this Purchase Order

I. Nonconformity (NC) Data Documentation

The Supplier must include any nonconformity documentation related to the production of a Product being provided under this Purchase Order.

J. Other Required Documents

All documents required as part this Purchaser Order (including but not limited to the drawing, specifications, inspection plans, road maps, and source acceptance) must be provided in the First Article Inspection document package.

K. Additional Documents or Forms for Report Completeness

The Supplier is strongly encouraged to provide in the First Article Inspection document package any additional documents or forms that are not mandatory under the requirements of this Purchase Order, but otherwise bring clarity to the required information or documentation. Examples includes (but are not limited to) part marking information, heat maps, machine cycle profiles, sub-tier supplier certifications, or test information.

L. Images

If images are required under this Purchase Order, Supplier must provide image files that are 1920 x 1080-pixel resolution (or better). Images that are required to be delivered in hard copy format must be provided on 8.5 x 11 inch paper and must include no more than two pictures per page. Images required to be delivered in electronic copy format must be delivered in JPEG file format. Supplier must provide pictures to Purchaser that are clear, in focus, and use adequate lighting.