

QUALITY ASSURANCE CLAUSES

This attachment is considered a portion of all Universal Propulsion Company, Inc. (UPCO) Purchase Orders designated GPI or GPII purchases. **Part A describes QA Clauses that apply to all Purchase Orders.** Part B describes QA Clauses that when referenced on the face of the Purchase Order are applicable supplier requirements.

PART A - Standard QA Clauses

[A] QUALITY PROGRAM

The supplier shall maintain a quality program in accordance with UPCO Standard 7.4.1, which will assure adequate control of quality throughout the performance of this Purchase Order including flow down of appropriate quality requirements to their sub-tier supplier contracts for fabrication or special processing.

[B] NONCONFORMING HARDWARE

All items rejected by UPCO and subsequently resubmitted by the Supplier shall have indication of those items returned on the C of C. Reference shall be made to the Non-Conforming Material (NCM) report number and objective evidence provided that the reworked characteristics have been 100% inspected. Supplier shall promptly notify UPCO Procurement in writing if they know or suspect they may have delivered nonconforming goods, **including those from their sub-tiers** (reference AS9131). At a minimum, notification will include the following information:

- a) SCAR form with Immediate Correction and Containment
- b) Part Numbers affected
- c) Quantity
- d) Detailed description of the nonconformance
- e) Purchase Order number(s) and line item number(s)
- f) Information required to identify the nonconforming product, e.g., serial or lot number(s), date of manufacture, etc.
- g) Ship date, destination, carrier, bill of lading, or any other information necessary to locate the nonconforming product
- h) Cause of defect, if known at the time
- i) Dates when additional information or outcomes of investigations will be available.

[C] RECORDS

- a) All records relating to inspection, testing, acceptance, rejection and certification must be maintained by the supplier after closure of this Purchase Order in accordance with UTAS ASQR-01, as prescribed in UPCO Standard 7.4.1. These records shall be available for review by representatives of UPCO and/or its customers at any reasonable time during the supplier's working hours throughout the retention period. If requested, a copy of specific records will be provided to UPCO at no additional cost. Contact UPCO for final authority to Disposition Records.
- b) At the end of the retention period or the supplier ceases trading with UPCO, or the supplier is unable to maintain the records, the supplier shall provide the option for UPCO to take possession of the records. Records are not to be destroyed without written approval from UPCO Supplier Quality Assurance.
- c) "White-out" or correction fluid shall not be used on product acceptance records. Any entry on the supplier's documentation, which requires correction shall be lined through, initialed, and dated by the supplier, leaving the item in a readable condition. EXAMPLE: T.C. 1-22-2010
- d) All records supplied to UPCO shall be in English.

[D] CERTIFICATIONS

A legible and reproducible copy of each certification is required for each shipment. Payment for material received will not be made until all required certifications have been accepted. Certifications shall state the exact specification and revision level as identified per the drawing or the Purchase Order. Supplier to verify conformance to latest revision of all UPCO controlled standards and documents noted on drawings or Purchase Order. If revision is not specified on drawing or Purchase Order, then the latest revision applies. Sub-tier certifications need not be sent if submitted on a previous order, but Supplier must note a traceable number that is obtained from the UPCO buyer in accordance with Clause [K]. It is the Supplier's responsibility to ensure quantities on subsequent shipments do not exceed total amount denoted on certifications.

[E] PART INSPECTION

a) The supplier is responsible for verifying compliance to all requirements specified on this order. UPCO reserves the right to inspect all parts delivered under this order. Evidence of any non-compliance shall be cause for rejection of the entire lot. Any lot so rejected, may be returned to the Supplier at their expense for re-inspection, reprocessing or replacement as directed by UPCO Procurement. When return authorization (i.e., RMA, etc.) is required by the supplier, typically UPCO will request authorization via e-mail request. If, after two (2) days the supplier has not provided return authorization, UPCO will proceed to return the rejected material without that authorization.

[F] MATERIAL REVIEW BOARD AUTHORITY

Material Review Board (MRB) Authority is retained by UPCO. Any supplier requesting to ship discrepant hardware must submit an UPCO Supplier Material waiver Request UPCO Form # 1928 stating deviation, root cause, and corrective action to UPCO Procurement for approval prior to shipment. A copy of the approved Form # 1928 must be enclosed with the shipment.

[G] NOTIFICATION OF CHANGE

The Supplier (Subcontractor) must notify UPCO Procurement in writing of any change in quality system, ownership, name, address or product. A change in location of facilities, processes or manufacturing equipment requires notification prior to relocation and with adequate time for hardware, system, and process requalification. A process change that may affect item(s) on this Purchase Order will require UPCO written approval prior to implementation or delivery of product. This includes supplier proprietary products that have been reformulated or substituted for another product, or the subletting of work on a subcontract. Any product delivered prior to this approval may be subject to rejection and return at the Supplier's expense.

[H] RIGHT OF ENTRY

Universal Propulsion Company hereby reserves the right of entry to the Suppliers facilities for the purpose of verifying quality, auditing procedures and/or inspection of the purchase items. The Right of Entry shall extend to Universal Propulsion Company customers, Government, or other regulatory agency. Universal Propulsion Company shall adequately notify the Supplier in advance of the visit.

[I] ORDER OF PRECEDENCE

The order of precedence for documents is as follows:

1. UPCO purchase orders and attachments
2. UPCO Drawing/Specification
3. Customer Specification
4. Military Specification

[J] PREFERENCE FOR DOMESTIC SPECIALTY METALS

All specialty metals used for this hardware shall be melted in the United States or a qualifying country. Exceptions must have written prior approval by UPCO. These specialty metals are defined in the Defense Federal Acquisition Regulation Supplement Clause 252.225-7009, Preference for Domestic Specialty Metals. Alternate I apply. Qualifying countries are listed in 225.872-1 (a). <http://www.acq.osd.mil/dpap/dars/dfars/pdf/current/20150420/252225.pdf>

[K] SUBMITTAL OF ADDITIONAL SHIPMENTS

The supplier shall identify on the Certificate of Conformance (Clause 9) when items shipped are part of a 'manufactured' lot previously submitted to UPCO. This reference on the C of C must note a traceable number that is obtained from the UPCO buyer. The certification(s) for the proposed submitted lot should match the prior lot exactly except for quantity if applicable. Additional copies will not be required to be submitted of the raw material certifications and any required processing. Note: Quantity on processed certification will match or exceed the total of all submitted parts).

[L] REWORK APPROVAL

All rework to parts of UPCO design require UPCO approval of the rework process. Rework approval is requested by submission of form 1928 to the project engineer through the UPCO Buyer. The signed off from 1928 will be submitted with the certification package for the rework.

[M] FOD PREVENTION

Suppliers are required to maintain a foreign object damage prevention program (FOD) in accordance with UPCO Supplier Handbook Standard 7.4.1 to assure the prevention, detection and removal of foreign objects during design, manufacture, assembly or shipping of an item. The supplier must maintain work areas and control tools, parts and products in a manner sufficient to preclude the risk of FOD incidents.

[N] COUNTERFEIT PARTS

Suppliers must have a counterfeit parts prevention program in accordance with UPCO Supplier Handbook Standard 7.4.1. The purpose of this program shall be to control parts identified as counterfeit and to prevent their delivery to UPCO.

[O] WORK TRANSFER

Suppliers are required to have a work transfer process in place and shall support the transfer of work to or from their facilities. This includes work transfers from one supplier manufacturing site to another. Suppliers shall also use their work transfer process when moving work from one of their sub-tier suppliers to another.

Part B - Designated Clauses

[1] SUPPLIER QUALITY CONTROL SYSTEM

Supplier will conform to:

- (A) UPCO Standard 7.4.1
- (B) Deleted
- (C) Deleted
- (D) Deleted
- (E) Deleted
- (F) Deleted
- (G) Approved Quality Control System not required

[2] CALIBRATION SYSTEM

Supplier will maintain a system of gage calibration that complies with MIL-STD-45662, ANSI Z540 or ISO 10012. Evidence of all calibration records, traceable to National Institute of Standards and Technology, will be available for examination. As a minimum, items for calibration require 3 data points at low mid and high parts of the instrument's range, unless manufacture's requirements are to a higher or different standard, or as specified in the Purchase Order. Fix Gages; this would be only a single point calibration or multiple data points that is averaged to be given as a single data point such as with a gage block.

[3] SOURCE INSPECTION IS REQUIRED

- (A) UPCO source inspection is required on this order. Deliverable items, and records pertaining to their manufacture and inspection, are subject to UPCO inspection prior to shipment from Supplier's plant. UPCO shall be notified at least three working days prior to the time the items are ready for inspection or test. Supplier will provide all personnel and equipment necessary to perform inspection.
- (B) UPCO's customer may source inspect at your facility. This activity will be coordinated by UPCO in advance. Deliverable items, and records pertaining to their manufacture and inspection, are subject to UPCO inspection prior to shipment from Supplier's plant. UPCO shall be notified at least three working days prior to the time the items are ready for inspection or test. Supplier will provide all personnel and equipment necessary to perform inspection. **Before proceeding, Supplier must have written authorization from UPCO Procurement if witness/inspection rights are waived.**
- (C) UPCO in-process inspection is required on this order prior to proceeding with process as noted on this Purchase Order Sample hardware may be required to be sent to UPCO for source inspection. If required this will be coordinated by UPCO Procurement. UPCO shall be notified at least three working days prior to the time the items are ready for inspection.

[4] FIRST-ARTICLE INSPECTION

- (A) Clause is removed.
- (B) UPCO must perform a first piece inspection at your facility, or as specified by Purchase Order, prior to any production and shipment of additional parts. UPCO requires at least three working days to perform first piece inspection. This does not alleviate the requirement of the vendor to perform their own first article inspection. UPCO may designate in the PO at its option, to have the part delivered to UPCO for this process instead of an on sight inspection.

- (C) A first article inspection report with recording of actual dimensions is required in accordance with the current revision of AS9102 (Aerospace First Article Inspection Requirement) and must be completed in English. The first article piece shall be identified and segregated with shipment. The first article inspection report shall utilize the forms provided by the SAE website. The following link is provided for convenience. <http://www.sae.org/iagg/forms/index.htm>. Internal FAI forms may be used as long as they comply with the AS9102 form requirements. All header information must be entered. Header data fields that do not apply shall have "N/A" entered. The supplier MUST submit an accompanying drawing with the shipment with the attribute numbers clearly marked on the drawing so they correspond to the report. Drawing note 1 should be attribute number 1. Subsequent dimensions should start in the upper left of the drawing and sequence in a clockwise format. Drawing details are kept as separate groups but generally comply with the clockwise flow. Reference to other drawings such as a port drawing should state see attached attributes on separate form. Finally the report should finish with the block tolerances and each item in the block MUST be mentioned. Subsequent shipments for the identical part at the same revision level will not require an additional first article inspection report, but should certify a final dimensional inspection was completed (see clause 9). A change of revision or a lapse of production of more than 2 years will require a minimum of a delta-first article in accordance with AS9102.
- (D) Supplier to submit objective evidence of a standard sampling plan that complies to UPCO standard 8.1.46 Table I (contact the UPCO buyer or Quality Engineer for a copy) or comply with MIL-STD-1916 Level II using table I and II for all attributes with measured actual dimensions. MIL-STD_1916 is a REJECT ON ONE SAMPLE PLAN. Use of functional gages with Pass/Fail data is acceptable for threads. In addition, the first article piece, as required by clause 4C, utilizing the AS9102 format will not be processed per the drawings requirements so that the dimensions may be verified by UPCO's Receiving Inspection prior to plating, paint, etc. This part will not count towards the deliverable quantity required by the purchase order. When shipping from overage inventory on previously delivered and accepted parts (without MRB action), reference the applicable UPCO purchase order. Submission of a new sample and first article are not required for previously delivered inventory. A new production run at the supplier restarts this process.
- (E) An additional quantity of parts as determined by ASQZ Z1.9 Level I shall be fabricated in addition to the PO required quantity. These parts will undergo destructive testing during acceptance of the lot at UPCO and will not be used for production. *The quantity of these parts will not be referenced on the shipper so that rejection for overage shipment at receiving will not occur.*

[5] TOOL PROOFING

- (A) Tool proofing and verification is required prior to production use on this order. Three articles are to be submitted to UPCO for inspection approval, and will be identified with tool number, tool serial number and, when applicable, the individual cavity number. After notification of approval by the UPCO Purchasing department, rework or repair of tooling will not be accomplished except by specific approval and subsequent re-inspection by UPCO.
- (B) Three (3) articles are to be held for UPCO source inspection approval at the supplier's facility with the same requirements as described in 5A. UPCO will provide written acceptance after the verification of the tooling. Subsequent deliveries should reference the approval letter with no further inspections required unless the tooling requires modification. Review PART A Clause G above.

[6] GOVERNMENT SOURCE INSPECTION

- (A) All work on this order is subject to inspection and tests by the Government at all times (including the period of performance) and places, and, in any event prior to shipment. The Government Representative who normally services your plant shall be notified per requirements of Federal Acquisition Regulation, Quality Assurance Provisions and Clauses, 52.246-2.

- (B) Continued next page

(B) Government inspection is required prior to shipment from your plant. The Government Representative who normally services your plant shall be notified per requirements of Federal Acquisition Regulation, Quality Assurance Provisions and Clauses, 52.246-2. If you are unable to locate or notify the Government Inspector, promptly notify the UPCO Buyer so that appropriate action can be taken.

[7] **CHEMICAL ANALYSIS – (See Part A- Standard Clause J)**

Certification of actual (not min/max) chemical properties in the form of quantitative test reports traceable to the material heat lot number or batch number and reflecting the material condition specified on the Purchase Order drawing, shall be submitted with each shipment of this order. Separate certifications are required for each material lot. Supplier product advertisement catalog sheets are not suitable as chemical analysis actuals.

Each certification must reflect the UPCO Purchase Order number or the supplier's subcontract Purchase Order number and applicable specifications, traceable to UPCO's Purchase Order, as well as traceability to the heat lot or batch number, quantity of items covered by the certificate, and serialization, if applicable. This chemical properties report shall also bear the signature and title of an authorized agent of the supplier that performed the test.

[8] **MECHANICAL PROPERTIES – (See Part A- Standard Clause J)**

(A) Certification of actual mechanical properties (not min/max) in the form of quantitative test report traceable to the material heat lot number or batch number and reflecting the material condition specified on the Purchase Order drawing, shall be submitted with each shipment of this order. Separate certifications are required for each lot. Supplier product advertisement catalog sheets are not suitable as physical analysis actuals.

Each certification must reflect the UPCO Purchase Order number or the supplier's subcontract Purchase Order number, and applicable specifications, traceable to UPCO's Purchase Order, as well as the quantity of items covered by the certificate, and serialization, if applicable. This physical properties report shall also bear the signature and title of an authorized agent of the supplier that performed the tests.

(B) All the requirements of 8A apply. The physical analysis is to be performed after heat treat. If the finished part is to be heat treated, three samples of the raw material shall be heat treated at the same time of the finished parts per ASTM E 8.

[9] PRODUCT CERTIFICATE OF COMPLIANCE

Seller shall include in the packaging of each shipment, a Certificate of Compliance (C of C) indicating that the material/articles supplies on this Purchase Order meet all Purchase Order requirements and that objective evidence is on file for Buyers' review at your facility to substantiate such certification. C of C's shall contain no qualifying statements, such as "to the best of our knowledge". C of C's must include, as a minimum, the following information, (this allows UPKO to verify the correct cert was received).

1. Supplier name and manufacturing address (permitted on the certificate of analysis as a substitute).
2. UPKO purchase order number and line item number
3. Part number as stated on UPKO purchase order
4. Revision level as stated on UPKO purchase order, if applicable
5. Part name or description, as applicable
6. Serial, Batch or Lot identification number(s), if applicable
7. Quantity of parts in shipment
8. Raw Material traceability, i.e. certification or heat lot number, if applicable
9. List of all processes indicating traceability, i.e. certification number
10. Reference to waiver/deviation/nonconformance documentation, as applicable
11. Country of Origin
12. Seller Cage Code, if registered
13. Statement certifying product compliance and that a dimensional final inspection was performed, when applicable
14. Title and signature or stamp of authorizing agent
15. Date of C of C
16. Original Manufacturers name.
17. Date of manufacture (Month and Year which the manufacture, assembly, or Modification of the lot was initiated and not the dates of the sub-component manufacture).

Unsigned certifications are acceptable if it contains a statement confirming the validity of the document.

[9A] Seller shall include in the packing of each shipment, a Certificate of Compliance for each item indicating that the Material Testing Equipment/materials identified on this Purchase Order meets all Purchase Order and Manufacturers requirements, date calibrated, next due date, a list of all standards/instruments used and that all standards/instruments are NIST traceable, and that objective evidence is on file for buyers review at your facility to substantiate such certification. The certification shall bear the signature and title of the authorized agent of the supplier.

[9B] Seller shall include in the packaging of each shipment, a Certificate of Analysis (C of A) indicating that the material/articles supplies on this Purchase Order meet all Purchase Order requirements and that objective evidence is on file for Buyers' review at your facility to substantiate such certification.

C of A's must include, as a minimum, the following information,

- a. Supplier name and address
- b. UPKO purchase order number
- c. Part number and material description as stated on UPKO purchase order
- d. Revision level as stated on UPKO purchase order
- e. Manufacturer Lot identification number(s), if applicable
- f. Quantity in shipment including unit of measure per container
- g. Date of manufacture
- h. The articles furnished in accordance with this Purchase Order require identification of usable shelf life. The supplier must identify if shelf life is applicable and if applicable identify the limitations and storage conditions. The manufacturer/distributor must submit **manufacturer certification** for the lot, or lots, of material shipped. Items subject to age deterioration must have a minimum 80% of usable shelf life remaining, or as specified in Purchase Order, when items are received at UPKO. Distributor may adjust shelf life with documented authorization from manufacturer for a specific product.
- i. Analysis results and specification min & max requirements (including units of measure), Analytical methods used, and date of analysis

- j. Statement certifying product compliance
- k. Title, printed name, and signature or stamp of authorizing agent
- l. Date of C of A

[10] PROCESS CERTIFICATION

Special manufacturing, inspection, and/or test processes, which are required by the applicable drawings or specifications, will be certified to applicable specifications and processes performed for each shipment made against this Purchase Order. Each certificate shall reflect the UPCO Purchase Order number, subcontract Purchase Order, quantity or amount covered by the certificate. Seller is responsible for the certification/qualification and control of processing, regardless of any administrative statement contained in the process specifications, whether the processing is performed at supplier's facility or those of their subcontractors. Certificate shall bear the signature and title of an authorized agent of the supplier that performed the process. Unsigned certifications are acceptable if it contains a statement confirming the validity of the document.

[11] TEST RECORDS

- (A) 100% actual test results, in the form of reproducible test reports, are required in accordance with specifications as shown on the face of the Purchase Order, applicable drawings, or test procedures. If serialized, the test records are to be traced to the serialized hardware and must be identifiable to each item tested. Pass/Fail data is acceptable if there is no range indicated on drawing. Dates are to be recorded, as stipulated, during each individual test. Any deviation from specification requirements must be brought to the immediate attention of the Quality Department. UPCO does not grant MRB Authority to suppliers.
- (B) Actual calibration before and after data is required and will be stated on the certification. Calibration will be done to the appropriate calibration test procedure or to manufacture's requirements. The serial number of each MTE will be stated on the test record. If a serial number is not attainable THEN AS a minimum another unique number for adequate traceability will be used. If a MTE has sequential serial numbers (in a set) they will be stated to the appropriate MTE. All traceability to calibration records will comply too the requirements of ANSI Z540 and ISO 10012.
- (C) 100% testing of feature noted on Purchase Order is required. A maximum and minimum result (reading) of testing to be supplied with certification package of this PO. Certification must reference the supplier's lot number and quantity tested. Multiple lots must remain separate and identified when shipped.

[12] APPROVED PROCESSORS AND SUPPLIERS

- (A) All special processes listed in this Purchase Order and Drawing / Specification must be performed by a processor that has a current NADCAP certificate for that process. All exceptions to this requirement must be approved by the Supply Chain Management Team and be listed on the Approved Processors List.
- (B) All special processes listed in this Purchase Order must be performed by processors approved by UPCO's customer. Objective evidence that the processor used was on the customer controlled list must be included in the shipment certification package. This can be obtained by printing the current page of the customer's website showing the processor used. **EXCEPTIONS:** Any process that is controlled by an UPCO document or standard should be processed by the requirements of Clause 12A above.
- (C) This hardware is governed by an UPCO Customer QPSL. Only suppliers and Customer Approved special processors in conjunction with Quality clause 12B shall be utilized.
 - Deleted

[13] INSPECTION RECORDS

- (A) 100 percent inspection of all characteristics is required prior to shipment. Supplier shall certify and provide objective evidence that this inspection has been accomplished. **No sampling is allowed.**
- (B) 100 percent inspection of all characteristics specified on Purchase Order is required prior to shipment. Supplier shall certify and provide objective evidence that this inspection has been accomplished. **No sampling is allowed.**
- (C) SPC data is required on characteristics as stated on the Purchase Order and must be traceable to the hardware. Data must accompany shipment. Supplier and/or UPCO will define characteristics and control limits of required SPC data. These requirements will be specified on the Purchase Order.

[14] REQUALIFICATION TESTS (See part A – Standard Clause G)

Requalification tests on previously qualified items may be required as determined by UPCO when a change is made to the design or the production process. Specific situations which may generate a requirement for requalification include:

1. A change in hardware design or specification.
2. A manufacturing or process change
3. A new manufacturing source.
4. Name change or relocation of a manufacturing or processing facility.
5. Modification or repair to the tooling.

Suppliers, or sub-tier suppliers, anticipating or experiencing any of the above shall notify UPCO as soon as one or more of these situations has or will be occurring. UPCO will provide suppliers with specific qualification testing requirements.

[15] RAW MATERIAL SAMPLES

Two (2) test bars (8 inch minimum) or raw material used to fabricate and/or process parts to this Purchase Order must be provided. At completion of all material processing, the samples will be forwarded to UPCO for testing to produce actual chemical and physical properties data. Samples must be processed along with the material, i.e., at the same time with the same processes.

[16] RAW MATERIAL IDENTIFICATION

- (A) Tagging,
- (B) Strip marking per FED-STD-183 or -184 or by other applicable requirements as stipulated in the Purchase Order

[17] LIMITED SHELF LIFE ITEMS

The articles furnished in accordance with this Purchase Order require limitations on usable shelf life. The supplier/distributor must submit **manufacturer certification** for the lot, or lots, of material shipped. The manufacturer certifications must state the date at which limited shelf life was initiated, when useful life will be expended, cure date, if applicable; and useful life temperature restrictions, if applicable or the Supplier/distributor may give direction to an applicable specification or document for usable shelf life (i.e. specification ARP 5316 Aerospace Recommended Practice for storage and age control for elastomer seals) as directed by Parker Seals for their elastomer. If temperature restrictions are applicable, the shipping container shall be marked accordingly (i.e. "Store at -50°F +/-10°F upon receipt"). Temperature sensitive material must be shipped and handled to ensure optimum shelf-life. Items subject to age deterioration must have a minimum 80% of usable shelf life remaining, or as specified in Purchase Order, when items are received at UPCO. Distributor may adjust shelf life with documented authorization from manufacturer for a specific product.

[18] MATERIAL CERTIFICATION OF COMPLIANCE

- (A) The supplier must furnish a raw material Certificate of Compliance from supplier's subcontractor or material manufacturer. Certificate must reflect UPCO or Supplier's Purchase Order number, military, federal or commercial specification number, fully describe the material furnished, and be traceable to the UPCO Purchase Order
- (B) When QA Clause 18B is required, the Supplier must submit certifications describing the material furnished.

[19] UPCO FURNISHED RAW MATERIAL

Raw material for fabrication of parts on the face of this Purchase Order will be supplied by UPCO. Supplier's signature on his Certificate of Compliance attest: **"It is hereby certified that received parts were manufactured/processed from material supplied by UPCO Lot Number for use as described and identified on the face of the Purchase Order"**.

[20] MODIFIED UPCO FURNISHED MATERIAL

When parts supplied by UPCO are processed to a new configuration, the supplier will furnish documents cross-referencing the former part number, lot number(s) and serial number(s), (when applicable) with those of the new configuration.

[21] TRACEABILITY

When assemblies are completed by the supplier, a parts list will be prepared by the supplier and be provided with each shipment, showing material lot number, and each detail used in the assembly.

[22] Deleted

[23] SINGLE LOT CONTROL

The articles furnished under this Purchase Order are to be manufactured from one single lot of material (e.g. melt lot, heat lot) or as specified by the purchase order.

[24] Deleted