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Stratoflex Products Division  
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Cage Code: 98441

**SUPPLIER QUALITY  
ASSURANCE MANUAL**

# **STRATOFLEX PRODUCTS DIVISION SUPPLIER QUALITY ASSURANCE MANUAL SUPPLEMENT TO PH-SQRM**

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*All approvals shall be maintained electronically per Procedure 5.1 DIV*

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**SECTION 1: PURPOSE**

**1.0 PURPOSE**

This document augments Parker Hannifin’s Supplier Quality Requirements Manual establishing general and special product assurance requirement clauses for exclusive use on Stratoflex Product Division Purchase Orders and is part of the Terms and Conditions when “Q” clauses are referenced on the Purchase Order. It is intended to clearly define all requirements for the Seller to assure that all products delivered by Seller on the Purchase Order conform to Buyer Specified requirements for quality, reliability and integrity.

**SECTION 2: APPLICABILITY**

**2.0 APPLICABILITY**

- 2.1 Unless expressly excluded on the Purchase Order, the general product assurance requirements defined in clause Q301 of Section 3 apply to all orders. Seller’s compliance to these requirements is subject to verification by the Buyer.
- 2.2 The special product quality assurance requirements defined by the various numbered clauses beginning with Q401, Q501, and Q601 apply only when the specific clause number is called out on the Purchase Order.
- 2.3 To assure conformance to all Purchase Order requirements, Seller shall flow down applicable requirements to all Seller’s sub-tier procurement of products and/or services at all levels of the supply chain scheduled for delivery to Buyer.
- 2.4 All documents, including drawings and specifications, whether Parker Stratoflex, Industry or Government, are considered part of the Purchase Order requirements when specified directly on the Purchase Order or in documents referenced by the Purchase Order.
- 2.5 Unless otherwise specified on the Purchase Order or referenced documents, the revision status of all applicable documents, in effect on the date of issue of the Purchase Order, apply to the order.
- 2.6 Copies of Parker proprietary documents and any special documents not generally available from commercial sources, required by Seller to comply with Purchase Order requirements, will be furnished to Seller by the Buyer. Copies of Industry or Government documents and standards are

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available from a number of commercial sources, and Seller is responsible for obtaining such documents. Any problem experienced by Seller in obtaining required documents should be brought to the attention of the Buyer.

- 2.7 All documentation submitted by Seller to Buyer must be clear and legible for scanning. Non-legible documentation may be cause for rejection and product returned to Seller.

### **SECTION 3: GENERAL REQUIREMENTS**

**Q301** Seller shall be responsible for meeting all requirements of paragraphs 301.1 through 301.24.

#### **Q301.1**

**PROHIBITED PRACTICES** – The following acts and practices are prohibited and any violation not approved by the Buyer in writing may result in disqualification of Seller.

- a) **UNAUTHORIZED FACILITY CHANGES** - During performance on the Purchase Order, Seller shall give the Buyer written notice before relocating any production, inspection or processing facilities, or making any other changes that may affect product quality.
- b) **UNAUTHORIZED PRODUCT CHANGES OR SUBSTITUTIONS** - Seller shall not make any changes or substitutions to any product(s) or services required by the applicable drawing, specification or document without prior written authorization from the Buyer. Authorization may be contingent on Buyer or Buyer's representative's review of proposed changes at the facilities of Seller or Seller's sub-tier sources.
- c) **UNAUTHORIZED REPAIRS** - Seller shall not perform any repairs by welding, brazing, soldering, plugging, bushing, or use of paints, peening, adhesives or plating, or any other repair method, on products damaged or found to be discrepant during fabrication or processing, or on defects in castings or forgings, unless such repairs are specifically authorized by the Buyer in writing.
- d) **USE OF NEWSPAPER FOR PACKAGING** - Due to the acid nature of ink, the use of newspapers for packaging product(s) is prohibited.
- e) **UNAUTHORIZED USE OF NONCONVENTIONAL MANUFACTURING METHODS** - Unless specified on the drawing, specification or Purchase Order, Seller shall not use any non-conventional manufacturing or processing methods, such as electrical discharge machining (EDM), electro chemical machining (ECM), laser or abrasive water jet cutting or drilling, flame spray coatings, etc., on product(s) scheduled for delivery to Buyer without prior written authorization by Buyer. Authorization may be contingent on Buyer or Buyer's representative's review and approval of the method, facilities, equipment and qualified personnel.

#### **Q301.2**

**RESPONSIBILITY FOR PRODUCT CONFORMANCE** – Neither audit, surveillance, inspection and/or tests made by the Buyer or Buyer's representative at either the Seller's or Buyer's facility, nor Seller's compliance with all applicable Product Quality Assurance requirement clauses herein, shall relieve Seller of the responsibility to furnish product(s) that conform to all of the requirements of the Purchase Order.

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**Q301.3**

**SELLER DESIGNED PRODUCT** – When the Purchase Order is for Parker approved product(s) under Seller’s engineering design control, Seller shall notify Buyer in writing of any changes in the approved product description. Parker Stratoflex reserves the right of disapproval of all changes.

**Q301.4**

**CLASS I CHANGES** – Any changes in design, fabrication, methods, or processes that will result in class 1 changes (as defined in ASME Y14.35) shall be submitted to Buyer for Buyer’s approval prior to effecting such changes.

**Q301.4.1**

**CLASS II CHANGES** – Seller may not incorporate class II changes without prior approval. Seller shall furnish a copy of the revised product description or waiver for Buyer’s approval prior to effecting such changes.

**Q301.5**

**BUYER INITIATED CHANGES** – Seller shall incorporate on product(s), at the specified effectively points, all changes to drawings, specifications, tests, inspection and fabrication methods or any other changes initiated by the Buyer through a formal Purchase Order change and/or amendment. Seller’s system shall include appropriate controls and records, including records at Seller’s sub-tier sources, showing the date, lot, serial number, revision letter or other positive identification that provides objective evidence of incorporation of all changes in product(s). Such records shall be subject to verification by the Buyer.

**Q301.6**

**CERTIFICATION REQUIREMENTS** – Seller shall furnish all certifications, issued by Seller or Seller’s sub-tier sources, required by the Purchase Order or the clauses herein, with each delivery of product(s) on the Purchase Order. Seller is responsible for verifying certifications furnished by seller’s sub-tier sources for their adequacy, legibility and compliance to the Purchase Order and the requirements herein. To assure the adequacy and authenticity of all certifications furnished by Seller, the certification shall include the name of the issuing organization (name and address) and shall include the signature and title by an official of the issuing organization. The certification shall be legible enough to produce a readable scanned copy. Seller shall place on the certificate of conformance the Purchase Order number, line item number and manufacturer’s lot or traceability number.

**Q301.6.1**

**ACCEPTABLE SIGNATURES** – Only actual signatures rendered in ink by the signing official, a facsimile of an actual signature such as rubber stamp, or a machine or computer graphics generated facsimile signature, are acceptable to the Buyer. Seller may use a quality or inspection stamp in lieu of a signature, providing that such stamp(s) identify the Seller and the Seller’s authorized individual to whom the stamp is assigned, and that the issue, use and control of such stamp(s) are governed by Seller’s documented procedures. For computer generated certifications, Seller shall establish a documented system for control of certifications that do not bear original signatures or where names(s) of authorizing official(s) are computer generated. This system may be verified, on-site by the Buyer’s Quality representative.

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**Q301.7**

**SELLER'S RECORDS** – Unless otherwise specified on the Purchase Order, Seller shall retain all required records as objective evidence of conformance to Purchase Order requirements, including Seller's records and certifications of the inspection and test performed in the course of procurement, manufacturing, testing, processing, inspecting, preserving, packaging and shipping product(s) on the Purchase Order, for a minimum of fifteen (15) years after the completion of the order. Such records shall be made available to the Buyer for review upon request. Seller shall notify the Buyer prior to the destruction of records.

**Q301.8**

**CORRECTIVE AND PREVENTIVE ACTION** – When a quality system or product nonconformance is identified by the Buyer, the Buyer or Supplier Quality representative may request a formal corrective and preventive action response from the Seller. Such requests require documented response by Seller within thirty (30) days, if the root cause cannot be determined within the described time period a request for extension can be made through Procurement Quality Assurance. Corrective Action shall include the following information:

- a) **Immediate Correction/Actual Short Term Solution:** The Seller has 24 hours to respond to the notification. Any action taken immediately upon identification of the potential noncompliance, such as rejection tags, line checks or supplier notification. This section should describe actions taken to correct symptoms in the short term. The response should include when, where, how and by whom correction will be or has been made. Potential ramifications of findings should also be investigated and dealt with. For example, if the finding is that out of date drawings and materials were found, the Supplier should investigate and record whether any product(s) were made using the drawings and materials, and what the disposition was of affected product(s).
- b) **Root Cause:** The source or origin of the noncompliance, as well as any contributing factors involved. A finding is generally a symptom of a root cause problem. This section records the Suppliers analysis of the finding to determine the root cause of the problem. A root cause is usually found in inadequate procedures, processes, training or in noncompliance (Whether intentional or accidental) in one or more of these areas. Extensive analysis is called for in root cause identification, detailed, in-depth questions should be asked.
- c) **Root Cause Correction/Final Solution to Problem:** The remedial corrective action implemented to address the source or root cause of the noncompliance that will preclude recurrence. The response to root cause should, at a minimum, include changes to procedures, processes and/or training. Root cause correction involves long-term prevention and process improvement rather than an immediate fix.
- d) **Corrective Action Verification Plan/Follow-up Action to be Taken:** The plan to ensure that the committed corrective action has been implemented and effective. This section indicates that the Supplier has verified or will verify (who, what, when, how) the root cause corrections have been accomplished.
- e) **Follow-up Audit/Follow-up Action Taken:** An audit to ensure that the committed action plan has been found to be effective as implemented in precluding recurrence of the noncompliance. This section addresses monitoring of both symptoms and root cause correction.

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**Q301.9**

**FAILURE INVESTIGATION** – When a product field failure or malfunction is reported by Buyer, Buyer may return applicable product(s) to Seller and request Seller to conduct a formal failure investigation and analysis to identify the cause of the failure. Such investigation and analysis require timely and documented response and when applicable include corrective action as required by paragraph 301.8

**NOTE:** When corrective action or failure analysis is required on product(s) applicable to U.S. Government contract or subcontract and Government source inspection has been imposed, Seller shall coordinate the corrective action/failure analysis with the Government Quality Assurance Representative assigned to Seller's facility.

**Q301.10**

**PARKER STRATOFLEX FURNISHED EQUIPMENT** – Seller shall be responsible for determining the accuracy and stability of Parker Stratoflex furnished equipment used for product acceptance. Parker Stratoflex furnished equipment shall be periodically re-inspected and calibrated as required to assure continued accuracy.

**Q301.11**

**PRODUCT IDENTIFICATION** – All product(s) shall be identified in accordance with drawing, specification, and/or Purchase Order requirements. Unless permitted by drawing, steel stamping and vibro-engraving identification methods are prohibited except on nameplates or attached metal tags. When more than one lot or heat of raw material is used by the seller, each fabricated lot of products shall be identified and/or packaged in separate lots to maintain traceability and integrity to the applicable material certifications and/or process certifications. Quantity must be clearly stated for each lot.

**Q301.12**

**PARKER HANNIFIN CORPORATION TERMS & CONDITIONS OF PURCHASE – GOVERNMENT SUPPLEMENT** – Seller shall be responsible for compliance to the applicable requirements of form number TCP-GS, Parker Hannifin Corporation Terms & conditions of Purchase - Government Supplement - latest revision. If Seller does not have a copy of form number TCP-GS, Seller shall contact the Buyer immediately.

**Q301.13**

**INSPECTION SYSTEM PER PARKER STRATOFLEX SUPPLIER INSPECTION SYSTEM REQUIREMENTS** – Seller shall establish and maintain an inspection system in compliance with the requirements of Parker Stratoflex Supplier Inspection System Requirements as defined in paragraph 301.13.1 through 301.13.16 unless otherwise specified in additional quality system clauses herein. Where additional clauses are identified these clauses shall take precedence.

**Q301.13.1**

**RESPONSIBILITIES** – The Supplier shall provide and maintain an inspection system which will assure that all supplies and services submitted to Parker Stratoflex for acceptance conform to Purchase Order requirements whether manufactured or processed by the Supplier or Supplier's sub-tier sources. The Supplier and their sub-tiers at all levels shall perform or have performed the inspections and test required to substantiate product(s) conformance to drawing, specifications and Purchase Order requirements including any referenced key characteristics. The Supplier shall also perform or have performed all inspections and tests otherwise required by the Purchase Order. The Suppliers inspection system shall be documented and shall be available for review by the Parker

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Stratoflex representative prior to the initiation of production and throughout the life of the contract. The Buyer at its discretion may furnish written notice of the acceptability or non-acceptability of the inspection system. The Supplier shall notify the Parker Stratoflex representative in writing of any change to the Suppliers inspection system. The inspection system shall be subject to disapproval if changes thereto would result in nonconforming product(s).

**Q301.13.2**

**INSPECTION AND TESTING DOCUMENTATION** – Inspection and testing shall be prescribed by clear, complete and current instructions. The instructions shall assure inspection and test of materials, work in process and completed articles as required by the item specification and the Purchase Order. In addition, criteria for approval and rejection of product(s) shall be included.

**Q301.13.3**

**RECORDS** – The Supplier shall maintain adequate records of all inspections and tests. The records shall indicate the nature and number of observations made, the number and type of deficiencies found, the quantities approved and rejected and the nature of corrective action taken as appropriate.

**Q301.13.4**

**DRAWINGS AND CHANGES** – The Supplier's inspection system shall provide for procedures which will assure that the latest applicable drawings, specifications and instructions required by the Purchase Order as well as authorized changes thereto, are used for manufacturing, processes, inspection and testing.

**Q301.13.5**

**MEASURING AND TEST EQUIPMENT** – The Supplier shall provide and maintain gages and other measuring and testing devices necessary to assure that product(s) conform to the technical requirements. In order to assure continued accuracy, these devices shall be calibrated at established intervals against certified standards, which have known valid relationship to national or international recognized standards. If production tooling, such as jigs, fixtures, templates, and patterns are used as a media of inspection, such devices shall also be proved for accuracy at established intervals. Calibration of inspection equipment shall be in accordance with a nationally or internationally recognized standard (i.e. ANSI NCSL Z540.3 or ISO 10012) to the extent necessary to maintain required levels of accuracy and is subject to the Buyers approval. When required, the Supplier's measuring and test equipment shall be made available for use by the Parker Stratoflex representative to determine conformance of product(s) with Purchase Order requirements. In addition, if conditions warrant, Supplier's personnel shall be made available for operation of such devices and for verification of their accuracy and condition. (Control of tooling and M&TE furnished by the Buyer shall be the responsibility of Seller).

**Q301.13.6**

**PROCESS CONTROLS** – Process control procedures shall be an integral part of the inspection system when such inspections are a part of the specification or the Purchase Order.

**Q301.13.7**

**INDICATION OF INSPECTION STATUS** – The Supplier shall maintain a positive system for identifying the inspection status of product(s). Identification may be accomplished by means of stamp, tags, routing cards, move tickets, tote box cards or other control devices. Such controls shall be of a design distinctly different from Parker Stratoflex and/or Government inspection identification.

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**Q301.13.8**

**PARKER STRATOFLEX FURNISHED MATERIAL** – When material is furnished by Parker Stratoflex the Supplier's procedures shall include as a minimum the following:

- a) Examination upon receipt, consistent with practicability, to detect damage in transit.
- b) Inspection for completeness and proper type.
- c) Periodic inspection and precautions to assure storage conditions and to guard against damage from handling and deterioration during storage.
- d) Functional testing, either prior to or after installation, or both, as required by Purchase Order to determine satisfactory operation.
- e) Identification and protection from improper use or disposition.
- f) Verification of quality.

**Q301.13.9**

**DAMAGED PARKER STRATOFLEX - FURNISHED MATERIAL** – The Supplier shall report to the Parker Stratoflex Buyer any Parker Stratoflex furnished material found damaged, malfunctioning or otherwise unsuitable for use. In the event of damage or malfunction during or after installation, the Supplier shall determine and record probable cause and necessity for withholding from use.

**Q301.13.10**

**QUALIFIED PRODUCTS** – The inclusion of a product on the Qualified Products List only signifies that at one time the manufacturer made a product that met specification requirements. It does not relieve the Supplier of the responsibility for furnishing product(s) that meet all specification requirements or for performing specified inspections and tests for such material.

**Q301.13.11**

**SAMPLING INSPECTION** – Sampling inspection procedures used by the Supplier to determine quality conformance of product(s) shall be subject to approval by the Buyer and must have an acceptance criteria of C=0.

**Q301.13.12**

**INSPECTION PROVISIONS** – Alternative inspection procedures and inspection equipment may be used by the Supplier when such procedures and equipment provide, as a minimum, the quality assurance required in the contractual documents. Prior to applying such alternative inspection procedures and inspection equipment, the Supplier shall describe them in a written proposal and shall demonstrate for the approval of the Parker Stratoflex representative that their effectiveness is equal to or better than the contractual quality assurance procedure. In cases of dispute as to whether certain procedures of the Supplier's inspection system provide equal assurance, the procedures of this specification, the item specification and other contractual documents shall apply.

**Q301.13.13**

**PARKER STRATOFLEX INSPECTION AT SUPPLIER'S FACILITIES** – Parker Stratoflex, their customer and Regulatory Agencies reserve the right of entry for verification of the quality of work, records and material at any place including sub-tier facilities. The right of entry clause must be flowed down as part of the purchase order requirements to all sub-tier suppliers at all levels of the supply chain.

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Parker Stratoflex inspection shall not constitute acceptance; nor shall it in any way replace Supplier's inspection or otherwise relieve the Supplier of the responsibility to furnish an acceptable end item. When inspection at Supplier's facility is performed by Parker Stratoflex, such inspection shall not be used by Supplier as evidence of effective inspection by such Supplier or sub-tier sources. The purpose of this inspection is to assist the Parker Stratoflex representative at the Supplier's facility to determine the conformance of product(s) or processes with Purchase Order requirements. Such inspection can only be requested by or under authorization of Parker Stratoflex. Verification by Parker Stratoflex shall not be used by the supplier as evidence of effective control of quality and shall not absolve the supplier of the responsibility to provide acceptable product, nor shall it preclude subsequent rejection by the buyer.

**Q301.13.14**

**REFERENCED DATA** – All documents and referenced data for purchases applying to a Parker Stratoflex Purchase Order shall be available for review by the Parker Stratoflex representative to determine compliance with the requirements for the control of such purchases. Copies of purchasing documents required for Parker Stratoflex inspection purposes shall be furnished in accordance with the instructions of the Parker Stratoflex representative. All Data supplied to Parker Stratoflex must be legible and in the English language.

**Q301.13.15**

**RECEIVING INSPECTION** – Subcontracted or purchased product(s) or processes shall be subjected to inspection after receipt, as necessary, to assure conformance to Purchase Order and Stratoflex Products Division flow-down requirements.

**Q301.13.16**

**PARKER STRATOFLEX EVALUATION** – The Supplier's inspection system and product(s) generated by this system shall be subject to evaluation and verification inspection by the Parker Stratoflex representative to determine its effectiveness in supporting the quality requirements established in the detail specification, drawings and Purchase Order and as prescribed herein.

**Q301.14**

**CONTROL OF NONCONFORMING MATERIAL** – The Supplier shall establish and maintain an effective and positive system for controlling nonconforming material, including procedures for the identification, segregation, presentation and disposition of reworked or repaired product(s). Repair of nonconforming product(s) shall be in accordance with documented procedures acceptable to Parker Stratoflex. The acceptance of nonconforming product(s) is the prerogative of and shall be as prescribed by Parker Stratoflex. All nonconforming product(s) shall be positively identified to prevent use, shipment and intermingling with conforming product(s). Holding areas, mutually agreeable to the Supplier and Parker Stratoflex, shall be provided by the Supplier.

Product(s) found to be nonconforming to Buyer's drawings, specifications, Purchase Order or other applicable requirements, shall be documented by Seller and reported to the Buyer.

Seller shall not ship any nonconforming product(s) to the Buyer without prior written authorization from the Buyer or Buyer's representative. This will be accomplished via submittal of Sellers internal rejection report to the Buyer for approval or disapproval. If approved by the Buyer, the approved Sellers internal rejection report and the Sellers red tag (or nonconformance tag) must be shipped along with the affected product. If rejected by the Buyer, the Seller shall follow Parker Stratoflex Material Review

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Board instructions for rework or scrap. Product(s) rejected by the Buyer and resubmitted by Seller shall be clearly identified as resubmitted product(s) by Seller's shipping documents containing a statement "replacement" or "reworked" product(s) and shall include reference to the Buyer's rejection document number and or Material Review Board approval. Seller shall also provide documentation showing Material Review Board instructions were accomplished and found to be acceptable.

- a) Hardware dispositions of obvious rework return to vendor or obvious scrap may be dispositioned by the Seller. Any other dispositions must include representatives of Parker Stratoflex Material Review Board.
- b) Parker Stratoflex shall be notified in writing within 24 hours or one business day, if nonconforming product(s) has been inadvertently delivered. Notification shall include a description of the discrepancy, part numbers, serial/lot numbers affected, date of shipment and Purchase Order number.
- c) All rework shall be subject to re-inspection in accordance with documented instructions, procedures and/or original manufacturing plans.
- d) Nonconformance's found during a sampling inspection will require 100% screening of entire lot for the detected nonconformity. All nonconforming hardware shall be isolated from remaining acceptable lot production and clearly marked for their nonconformity.
- e) Obvious Scrap – In the event the nonconformity cannot be reworked, the nonconforming hardware will be rendered unusable by destruction, i.e. sanding, grinding through functional part of component or crushing part in a vice if material is soft enough.
- f) When product is received from Stratoflex to perform outside processing and or testing, the supplier is to visually inspect product for damage prior to performing any operations to the product. If this visual inspection reveals product damage, the supplier is to notify Stratoflex Supplier Quality Assurance for direction.

**Q301.14.1**

**DEVIATION REQUEST** – Product(s) or service(s) found not able to meet Engineering design (i.e. Buyer's drawings, specifications, Purchase Order or other applicable requirements), shall be documented by Seller and reported to the Buyer on Parker **Supplier Deviation Request Form**.

Seller shall not ship any deviated product(s) or service(s) to the Buyer without prior written authorization from the Buyer or Buyer's representative. This will be accomplished via submittal of the Parker **Supplier Deviation Request Form** for approval or disapproval. If approved by the Buyer, the approved Parker **Supplier Deviation Request Form** must be-shipped along with the affected product. If rejected by the Buyer, the Seller shall follow Parker Stratoflex Material Review Board instructions for rework or scrap. Product(s) rejected by the Buyer and resubmitted by Seller shall be clearly identified as resubmitted product(s) by Seller's shipping documents containing a statement "replacement" or "reworked" product(s) and shall include reference to the Parker **Supplier Deviation Request Form** document number and or Material Review Board approval. Seller shall also provide documentation showing Material Review Board instructions were accomplished and found to be acceptable.

**Q301.15**

**CERTIFICATE OF CONFORMANCE (C OF C)** – Seller shall provide on the packing list/shipper or on a separate document, a written statement that all supplies and/or services comply with all requirements of the Purchase Order. Certificate(s) of conformance shall comply with Q clause 301.6 herein and contain

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as a minimum: the part number, revision, Parker Stratoflex Purchase Order number and the manufacturer's lot or traceability number. Certificates of Conformance supplied to Parker Stratoflex must be legible and in the English language.

In the event that more than one lot or heat of raw material is used by the seller, each fabricated lot of products shall be identified and/or/or packaged in separate lots to maintain traceability and integrity to the applicable material certifications and/or process certifications quantity must be clearly stated for each lot.

**Q301.16**

**PARKER STRATOFLEX QUALITY SURVEILLANCE** – All contractual Quality Systems and product requirements are subject to review by Parker Stratoflex procurement Quality Representatives. The Seller shall provide reasonable facilities and assistance, including all quality records and related data for the contracted items upon request. Parker Stratoflex Procurement Quality Representative will coordinate and identify mandatory inspection points at the earliest practical time convenient to both Buyer and Seller.

**Q301.17**

**AUDITS AND SURVEYS** – Audits and surveys shall be conducted on an as needed basis as determined by the Buyer for the purpose of verifying product(s), processes, or Quality Systems. Supplier shall provide reasonable facilities and assistance, including all quality records and related documents for the purpose of conducting such audits or surveys.

**Q301.18**

**USE OF APPROVED PROCESS SUPPLIERS** – A process is defined as where the results of processes cannot be fully verified by subsequent inspection and testing of the product(s).

Processes requiring use of qualified sources – Unless otherwise directed by the Contract, the Supplier shall select process sources approved by Parker Stratoflex. The only exceptions are products on the Qualified Products Listing (QPL or industry standard hardware) that are not Parker Stratoflex controlled, and non-destructive testing or heat treatment of raw materials performed by the mill source or their suppliers. Use of processes and/or process sources that have not been approved by Parker Stratoflex may result in return of all products to the Supplier at the Supplier's expense. For a listing of approved processors, contact the buyer.

**Q301.19**

**ELASTOMERS (RUBBER GOODS)** – Unless otherwise specified on the Purchase Order or reference documents, age control of elastomers and elastomer material (O-rings, seals, gaskets and other rubber goods) shall conform to the requirements of SAE-AS1933 and/or SAE-ARP5316. Seller shall have an effective system of age control of elastomeric components for which acceptability is limited by the age of the elastomer. The system shall include a method of identifying the age of such elastomeric components by the cure date (quarter and year) of the oldest elastomeric component contained therein. The cure date for elastomers shall have a minimum of 80% of the shelf life remaining at the time of shipment.

**Q301.20**

**SOFTWARE QUALITY ASSURANCE** – Supplier shall have established controls for software quality assurance. Software quality assurance control applies to deliverable and non-deliverable software used for the creation of, acceptance of, or incorporated into product(s) produced by supplier for Parker

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Stratoflex. Supplier software quality assurance program is subject to audit, verification and approval/disapproval by Parker designated representatives.

**Q301.21**

**PACKAGING MATERIALS FOR PARKER** – Seller shall preserve and protect product against environmental induced corrosion and deterioration, physical and mechanical damage, and other forms of degradation during storage, handling and shipping of product. Any orders supplied to any location of Stratoflex will be required to meet the requirements in P-103-90.

**Q301.22**

**FOREIGN OBJECT DETECTION (FOD)** – Supplier shall have a Foreign Object Detection (FOD) program implemented.

**Q301.23**

**DIGITAL DATA REQUIREMENTS** – Seller shall meet all applicable digital data requirements as defined in Procedure 6.1.3 Form Digital Product Definition/Model Based Definition Checklist. Supplier shall complete and submit completed Procedure 6.1.3 Form.

**Q301.24**

**REACH COMPLIANCE** – Seller shall comply with the requirements within EC1907/2006 with regard to “substances in articles”. They shall declare whether certain chemicals are present at a level of greater than 0.1% (w/w) in our components. This can be done by completing a declaration that can be provided by the Buyer. The declaration should be signed by an officer of the company with appropriate authority.

These chemicals have been deemed by the EC authorities to be substances of very high concern (SVHC) and are recorded in a “candidate list”. A copy of the list can be accessed at [http://echa.europa.eu/chem\\_data/authorisation\\_process/candidate\\_list\\_en.asp](http://echa.europa.eu/chem_data/authorisation_process/candidate_list_en.asp)

**Q301.25**

**GOVERNMENT SOURCE INSPECTION / GOVERNMENT CORRECTIVE ACTIONS -**

Supplier is required to notify Stratoflex when a nonconformance and/or a Corrective Action is issued to the supplier by a Government Source Inspection during the performance of source inspection at supplier facility by a Government Source Inspection Representative.

Supplier is required to notify Buyer within 72 hours of receiving a Government (DCMA, DCAA, etc.) issued Corrective Action Request (CAR) to the supplier and/or the supplier’s sub-tiers at any level within the supply chain for Parker Aerospace material, products, and/or processes. Notification to the Buyer and Supplier Quality representative shall be submitted on company letterhead and include identification of the material, product, or process and quality management system deficiencies cited. Copies of the initial CAR and subsequent correspondence necessary to close the CAR shall be sent to the Buyer and Supplier Quality representative.

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**Q301.26**

**RAW MATERIAL VERIFICATION PROGRAM** – The supplier shall develop, document, and implement a raw material (sheet, plate, bar, rod etc.) verification program that will ensure that material(s) received from the supplier’s sub-tier sources meets all the applicable technical and quality requirements.

The supplier’s verification program shall include provisions for monitoring and periodic testing (no less than annually for each material type from each material supplier) of raw material(s) upon receipt to ensure such material(s) meets all applicable requirements and implement appropriate storage and controls to preclude commingling of different heat/lots or batches of material(s). In addition to this testing the supplier shall compare the chemical, physical and mechanical properties data stated on the mill certification against the material specification requirements and document the comparison.

The raw material verification program shall include a statistically valid over-check of the chemical composition to verify specification compliance for all raw materials. The over-check is accomplished by conducting a quantitative chemical analysis such as (X-ray Fluorescence (XRF), Optical Emission Spectroscopy (OES), Energy Dispersive X-ray Spectroscopy (EDS), etc.), or by having such a measurement performed by a laboratory meeting one of the following conditions: those listed on the Parker Aerospace Approved Process supplier List (APSL); a laboratory accredited by PRI-Nadcap, A2LA or other accreditation body recognized by the International Laboratory Accreditation Cooperation (ILAC) and listed in the Signatories to the ILAC Mutual Recognition Arrangements (MRAs).

Raw material Raw material verification programs must be approved by Parker. Records showing the results of the supplier’s material verification program and its effectiveness shall be available to Parker Aerospace for review upon request.

## **SECTION 4: SPECIAL PRODUCT QUALITY ASSURANCE REQUIREMENTS**

**Q401**

**BASIC INSPECTION SYSTEM REQUIREMENTS FOR MANUFACTURERS** – Seller shall establish and maintain a documented inspection system that includes provisions for:

- a) **CONTROL OF SUB-TIER SOURCES** – All products scheduled for delivery to Buyer and procured by Seller from Seller’s sub-tier sources at every tier, shall comply with all applicable provisions of drawings, specifications and other requirements of Buyer’s Purchase Order. When Buyer’s Purchase Order requires the use of sub-tier sources approved by Buyer, Seller’s system shall assure that only Buyer approved sub-tier sources are used. Use of Buyer’s specified sub-tier sources does not relieve Seller of compliance to all applicable product technical and quality requirements.
  
- b) **RECEIVING INSPECTION** – Product(s) purchased by Seller for use in Buyer’s Purchase Orders shall be inspected by Seller upon receipt to the extent required to assure conformance to all applicable requirements. Inspected and accepted product(s) shall be adequately identified and/or controlled to prevent commingling with other product(s). Buyer furnished materials shall be inspected to the extent necessary to assure damage was not incurred during transit and shall be identified and segregated for use only in Buyer’s Purchase Orders, or as prescribed by the Buyer (see Q301.13.8).

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c) **MANUFACTURING CONTROLS** – Seller shall employ a system for controlling, documenting and maintaining required product quality levels throughout the manufacturing process whether performed by Seller or Seller’s sub-tier sources. This may be accomplished using a manufacturing plan, or outline, shop routing, traveler, or other suitable methods which define the step-by-step sequence of manufacturing operations and inspection points. Controls shall provide objective evidence that resultant product(s) conform to the specified requirements. When manufacturing and/or inspection plans, operations, or the sequence in which they are to be accomplished, are specified by the Buyer on the Purchase Order, Seller’s system shall assure compliance to such plans. These plans are subject to verification by Buyer’s representative.

d) **SHIPPING & DOCUMENTATION REQUIREMENTS** – Seller shall assure that product(s) are complete to Purchase Order requirements and that all manufacturing and product inspection and acceptance requirements have been satisfied prior to shipment. Seller shall submit shipping documentation via Aerospace Electronic Document system, to which Parker SPD subscribes and funds. There will not be any license cost or fees to the supplier for access and use of Aerospace. Access to Aerospace can be found here: <http://www.aerospac.com/main/aerospac.html> Seller shall use Certificate of Conformance (Form SQA-D-001) as the first page of the uploaded shipping documents in Aerospace. SQA-D-001 shall be completed and submitted with each shipment in Aerospace. Seller shall assure that product(s) are packaged in accordance with applicable requirements and are accompanied by the required inspection and technical documents. In the event, more than one lot or heat of raw material is used by the seller, each fabricated lot of products shall be identified and/or packaged in separate lots to maintain traceability and integrity to the applicable material certifications and/ or process certifications quantity must be clearly stated for each lot.

**Q402**

**INSPECTION SYSTEM REQUIREMENTS FOR DISTRIBUTOR/WAREHOUSE** - Seller shall establish and maintain a documented system to control product quality and integrity (Q301 less manufacturing and design requirements shall apply). Seller’s system shall include provisions for:

a) **CONTROL OF PURCHASES AND SUB-TIER SOURCES** – Seller’s purchasing or ordering documents shall contain data clearly describing the product(s) ordered, including when applicable, the type, class, grade, size or other precise identification. Seller’s purchasing or ordering documents shall also contain data clearly describing the title or any other positive identification and applicable issue of specifications, drawings or other relevant technical data. When applicable, purchase of products shall be made only from sources specified by the Buyer, or sources that are listed as qualified and/or approved manufactures or distributors of the product on the applicable Qualified Products List (QPL) or Preferred Parts List (PPL).

Purchase of products from Buyer’s specified sources, or sources listed on the applicable QPL or PPL, does not relieve Seller of the responsibility to furnish product(s) that meet all requirements specified by the Purchase Order. Seller shall certify that the manufacturer or other source of supply is not currently listed as “debarred, suspended or ineligible contractor” on the current issue of the “list of parties” published by the U.S. Government General Services Administration (GSA). For additional information and resolution of questions, contact the Buyer.

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- b) **INSPECTION** – Seller shall employ receiving, in-process and final inspection and test to the extent necessary to verify product conformance to all applicable requirements. Inspection records, certifications, test reports and technical data statements of quality shall be maintained by Seller as objective evidence of product quality required by the order. When required by the Purchase Order such data shall be furnished to the Buyer with delivery of products.
- c) **STOCK CONTROL AND TRACEABILITY** – Seller’s system shall provide for handling and storage of product(s) in a manner to protect product quality by preventing damage, loss, deterioration, contamination, corrosion, degradation or substitution. Stock control shall be such that it precludes unauthorized withdrawal of product(s). Products from different manufacturing sources shall be stored in a manner so that products do not become intermixed and that the manufacturing source and the identity and traceability of the individual lot, batch, heat number, etc. are maintained from time of receipt by Seller from Seller’s sub-tier source, to delivery to the Buyer.
- d) **PREPARATION FOR SHIPMENT** – Seller’s Seller shall assure that product(s) are complete to Purchase Order requirements and that all manufacturing and product inspection and acceptance requirements have been satisfied prior to shipment.  
 Seller shall submit shipping documentation via Aerospace Electronic Document system, to which Parker SPD subscribes and funds. There will not be any license cost or fees to the supplier for access and use of Aerospace. Access to Aerospace can be found here:  
<http://www.aerospace.com/main/aerospace.html>  
 Seller shall use Certificate of Conformance (Form SQA-D-001) as the first page of the uploaded shipping documents in Aerospace. SQA-D-001 shall be completed and submitted with each shipment in Aerospace.  
 Seller shall assure that product(s) are packaged in accordance with applicable requirements and are accompanied by the required inspection and technical documents.  
 In the event, more than one lot or heat of raw material is used by the seller, each fabricated lot of products shall be identified and/or/or packaged in separate lots to maintain traceability and integrity to the applicable material certifications and/ or process certifications quantity must be clearly stated for each lot.
- e) **ALTERATIONS BY SELLER** – Seller shall not modify, rework or repair product(s) in-house or by subcontracting unless authorized by the Buyer in writing or the work is performed by the original manufacturing source of the product(s). When Seller is authorized to perform operations or to make alterations on products to be furnished to Buyer, the Seller shall maintain drawings, specifications, technical data and inspection records pertinent to the work being performed. Such records shall be available for Buyer’s review upon request.

**Q403**

**INSPECTION SYSTEM PER FAA FAR PART 21** – Seller shall establish and maintain an inspection system in compliance with the requirements of Federal Aviation Administration (FAA) Regulation (FAR) part 21, “Certification Procedure for Products and Parts.”

**Q404**

**INSPECTION SYSTEM PER FAA FAR PART 145** – Seller shall establish and maintain an inspection system in compliance with the requirements of Federal Aviation Administration (FAA) Regulation (FAR) part 145, “Repair Station, Inspection System Requirements.”

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**Q405**

**THIRD PARTY SOURCE INSPECTION AS SUPPLIER'S EXPENSE** – The supplier shall contract with a Parker Aerospace approved third party supplier to perform source inspection either in-process (Q407), or final (Q408), or both, at the supplier's facility(s). The supplier shall contract with the third party source inspection firm at least of 30 days before source inspection is required, unless other arrangements are made in writing with Stratoflex Supplier Quality and Buyer.

**Q406**

**DELETED.** See Q416

**Q407**

**IN-PROCESS SOURCE INSPECTION** – Products to be delivered under the Purchase Order require in-process source inspection, test or both, by Buyer's Quality Representative at the points specified in the Purchase Order. Seller shall notify the Buyer when product is ready for inspection. The Buyer will respond within forty-eight (48) hours (2 business days) to schedule the product for in-process source inspection. Seller's measuring and test equipment, facilities, and personnel shall be made available for use by the Buyer's Representative when requested.

**Q408**

**FINAL SOURCE INSPECTION** – Products to be delivered under this Purchase Order require final source inspection, test, or both, by the Buyer's Quality Representative prior to delivery to Buyer. Seller shall notify the Buyer when product is ready for shipment. The Buyer will respond within forty-eight (48) hours (2 business days) to schedule the product for final source inspection. Seller's measuring and test equipment, facilities, and personnel shall be made available for use by the Buyer's Representative when requested.

**Q409**

**GOVERNMENT SOURCE INSPECTION (GSI)** – Government Source inspection (GSI) is required prior to shipment from Seller's plant. Upon receipt of this Purchase Order, Seller shall promptly notify the Government Representative who normally services Seller's plant so that appropriate planning by the Government Representative can be accomplished for inspection at Seller's plant. If Seller cannot locate or contact the Government Representative, Seller shall notify the Buyer immediately. See Q301.25 for guidance when a nonconformance or corrective action is issued as a result of GSI.

**Q410**

**GOVERNMENT SOURCE INSPECTION (GSI) – NASA CONTRACTS** – During performance on this Purchase Order, all work is subject to source inspection and/or test by the cognizant Government Representative.

Seller shall assure that the Government Representative who has been delegated NASA Quality Assurance Source Inspection functions on this Order at Seller's plant is notified immediately upon receipt of this Purchase Order and a minimum of forty-eight (48) hours in advance of the time any product(s) will be ready for Government inspection. If Seller cannot locate or contact the Government Representative, Seller shall notify the Buyer immediately.

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**Q411**

**FAA INSPECTION** – FAA (Federal Aviation Administration) inspection and/or authorization is required for shipment of product(s) from Seller’s plant. A completed FAA Airworthiness Approval Tag (FAA Form 8130- 3) Is required and shall be submitted with shipment of part(s) or material to Buyer. The 8130-3 tag may be issued by Seller’s FAA approved Designated Material Inspection Representative (DMIR) or Organization Designation Authorization (ODA) administrator, or Seller may contact the FAA for assistance. If the FAA cannot be contacted, Seller shall notify the Buyer immediately.

**Q412**

**SPACE FLIGHT ITEMS** - For use in manned space flight, materials, manufacturing and workmanship of the highest quality standards are essential to Astronaut safety. If you are able to supply the designed item with a quality which is higher than that of the items specified or proposed, you are requested to bring this fact to the immediate attention of the Buyer.

**Q413**

**DELETED. See Q415**

**Q414**

**DELEGATED SUPPLIER PROGRAM** – The seller has been granted delegated supplier program privileges by part number. Parker Stratoflex Procedure 6.8-1 DIV applies to this PO and/or PO line item. Any changes to the quality system that may affect compliance to flow down requirements or changes to the Designated Supplier Quality Assurance Representatives (DSQAR)s must be reported immediately to Parker Stratoflex Supplier Quality Assurance. Only applies to certified suppliers, disregard if the supplier is not certified.

**Q415**

**QUALITY PROGRAM PER BOEING D6-82479** - Seller shall establish and maintain a quality program in compliance with the requirements of Boeing D6-82479 latest revision.

**Q416**

**QUALITY PROGRAM PER AS9100** - Seller shall establish and maintain a quality program in compliance with the requirements of AS9100 (current revision).

**Q417**

**MOVED ELASTOMER REQUIREMENT REV. L – SEE REVISION NOTES.**

**Q418**

**BELL QPS-101 APPROVED PROCESS SOURCES REQUIRED** - Seller’s system shall assure that only approved sub-tier sources listed on the Bell QPS-101 are used. Use of specified sub-tier sources does not relieve Seller of compliance to all applicable technical and quality requirements. (If raw material / if applicable).

**Q419**

**BOEING D1-4426 APPROVED PROCESS SOURCES REQUIRED** - Seller’s system shall assure that only approved sub-tier sources listed on the Boeing D1-4426 are used. Use of specified sub-tier sources does not relieve Seller of compliance to all applicable technical and quality requirements.

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**Q420**

**SOURCE INSPECTION OF PROBATIONARY PARTS** - Probationary products to be delivered under this Purchase Order require final source inspection, test, or both, by the Buyer's Quality Representative prior to delivery to Buyer. Seller shall notify the Buyer when product is ready for shipment. The Buyer will respond within forty-eight (48) hours (2 business days) to schedule the product for final source inspection. Seller's measuring and test equipment, facilities, and personnel shall be made available for use by the Buyer's Representative when requested.

**Q421**

**SOURCE INSPECTION OF DELEGATED PARTS** – Delegated products to be delivered under this Purchase Order require final source inspection, test, or both, by the Buyer's Quality Representative prior to delivery to Buyer in Camarillo. Seller shall notify the Buyer when product is ready for shipment. The Buyer will respond within forty-eight (48) hours (2 business days) to schedule the product for final source inspection. Seller's measuring and test equipment, facilities, and personnel shall be made available for use by the Buyer's Representative when requested.

**Q422**

**LOCKHEED QCS-001 APPROVED PROCESS SOURCES REQUIRED** - Seller's system shall assure that only approved sub-tier sources listed on the Lockheed QCS-001 are used. Use of specified sub-tier sources does not relieve Seller of compliance to all applicable technical and quality requirements.

**Q426**

**HONEYWELL SPOC 165 (SECTION 2) APPROVED PROCESS SOURCES REQUIRED** - Seller's system shall assure that only approved sub-tier sources listed on the Honeywell SPOC 165 (section 2) are used. Use of specified sub-tier sources does not relieve Seller of compliance to all applicable technical and quality requirements.

**Q427**

**GENERAL ELECTRIC AIRCRAFT ENGINES (YELLOW PAGES) APPROVED PROCESS SOURCES REQUIRED** - Seller's system shall assure that only approved sub-tier sources listed on the GEAE yellow pages are used. Use of specified sub-tier sources does not relieve Seller of compliance to all applicable technical and quality requirements (If raw material / if applicable).

**Q428**

**SES-238 IDENTIFICATION** – Seller shall ensure raw material supplied meets all material type specifications and is identified per Stratoflex SES-238.

**Q431**

**ELASTOMERIC HOSE MANUFACTURING QUALITY SYSTEM REQUIREMENTS** – Hose manufacturer's quality system must comply with the requirements outlined within Stratoflex - Ft. Worth, TX. Procedure 2.9 DIV.

**Q432**

**Quality PROGRAM IN ACCORDANCE WITH PRATT AND WHITNEY PW-QA-6078** – Seller shall establish and maintain a quality program in compliance with the requirements of Pratt and Whitney document PW -QA6078 titled "Quality Control Requirements for Bar stock, Castings, Forgings,

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Extrusions, Rolled or Welded Rings and Sonic Configuration Parts Produced By Suppliers" latest revision.

**Q433**

**Moved to Q301.26.**

**Q435**

**QUALITY PROGRAM PER Rolls Royce** – Seller shall establish and maintain a quality program in compliance with the requirements of Rolls Royce (SABRe), Quality Requirements for Suppliers, latest revision.

**Q436**

**NADCAP Approved Special Processor** – Special Processors used on this purchase order must be NADCAP approved. If the Special Process is outsourced to another Processor all applicable Q-Codes must be flowed down to that Special Processor.

**Q437**

**Source Change, Component Type 2** - Type 2 components are of Parker design, components within assembly are exclusive to the customer's Programs and projects. (Non Stratoflex catalogue type parts) These may be associated with the customer's Source Control Drawing; however, they are not designated as flight or safety sensitive. (Reference Procedure 6.13 DIV).

**Q438**

**Source Change, Component Type 3** - Type 3 has both Parker and the customer's design data identifying design elements as flight or safety sensitive. (Non-Catalogue-sensitive in nature) (Reference Procedure 6.13 DIV).

**Q439**

**Boeing Q31 Note for Production Certificate 700** - 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:

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.

**Q440**

**Honeywell Detailed Inspection Plan (DIP) per SPOC 128.** DIP is required to be submitted to the Buyer for each manufacturing lot of machined components produced by the Seller.

## **SECTION 5: MATERIALS AND CERTIFICATE OF COMPLIANCE REQUIREMENTS**

**Q501**

**CERTIFICATE OF TRACEABILITY (C OF T)** – Seller shall provide, on the packing list/shipper or on a separate document, a written statement that:

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- a) All products and/or services were purchased directly from the manufacturer or one of the manufacturer's authorized distributors.
- b) The attached manufacturer's certification/test report is a true and correct copy of the original certification/test report issued by the manufacturer and covers product(s) delivered on this Purchase Order.
- c) The product(s) have not been reworked, reprocessed or modified by Seller in any manner except as specified by Purchase Order.
- d) Certificates of traceability shall comply with Q clause 301.6 herein and contain as a minimum: part number, revision, Parker Stratoflex Purchase Order number.
- e) In the event that more than one lot or heat of raw material is used by the seller, each fabricated lot of products shall be identified and/or packaged in separate lots to maintain traceability and integrity to the applicable material certifications and/ or process certifications quantity must be clearly stated for each lot.

**Q502**

**MERCURY FREE CERTIFICATION** – Seller shall provide on the packing list/shipper or on a separate document, a written statement that all products and/or services provided have not come in contact with or have been exposed to mercury bearing instruments or equipment, or mercury in any other form. This certification shall comply with Q clause 301.6 herein and contain as a minimum part number, revision, Parker Stratoflex Purchase Order number and packing list/shipper number.

**Q503**

**CONTROL OF FASTENERS CERTIFICATION** – With each shipment of fasteners, Seller shall furnish documentation that identifies the fastener manufacturer and the manufacturer's production lot or batch number. In addition, Seller shall certify that the manufacturer (or other source) of the fastener is not currently listed as a "debarred, suspended or ineligible contractor" on the current issue of the "list of parties" published by the U.S. Government General services Administration (GSA). For additional information and resolution of questions, contact the Buyer.

**Q504**

**BUYER FURNISHED RAW MATERIAL** – Strict accountability of material furnished by Buyer shall be maintained by Seller. In the event that more than one lot or heat of material is furnished to Seller, Seller shall maintain individual material lot integrity and provide positive traceability of material lot/heat numbers to the specific product(s) delivered. Seller shall provide on the packing list/shipper or on a separate document, a statement that:

All product(s) delivered on this Purchase Order were manufactured

- 1. From material furnished by the Buyer.
- 2. From the material heat or lot number(s) identified on the material and/or Buyer's shipper to Seller.

Seller's statement shall meet the requirements of Q clause 301.6 herein and as a minimum, shall contain the part number, revision, and Parker Stratoflex Purchase Order number.

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**Q505**

**MATERIAL & PROCESS CERTIFICATIONS** – For each lot or heat of material supplied on this Purchase Order, Seller shall furnish a copy of the original mill test report meeting the requirements of Q clause 301.6 herein and listing the material description. Including as applicable, the material name or designation, alloy, type, class, grade or condition, producer's (mill) name, the lot or heat number and the material specification and revision to which the material complies. In addition, for:

- a) Process Certifications – For all special processes required by the Purchase Order for reference documents and performed by Seller or Seller's sub-tier source, Seller shall furnish the certification/test report issued by Seller or Seller's sub-tier source that actually performed the process. The certification/test report shall meet the requirements of Q clause 301.6 herein and shall include as a minimum, a complete description of the special process performed, process name, applicable specification and revision, type, class, grade, etc. quantity, description, part number and revision level.
- b) Heat Treat Certifications - With each shipment of product(s), Seller shall furnish a time/temperature certification that contains as a minimum duration and temperature range.
- c) Nondestructive Test (NDT) Reports – With each shipment of product(s), Seller shall furnish the certified test report for all nondestructive testing (NDT) (e.g., penetrant, magnetic particle, radiographic, ultrasonic) performed. The report shall be issued by the organization that actually performed the NDT and shall include a complete description of the test, specification, revision, type, method, and class. The test report shall meet the requirements of Q clause 301.6 herein. When applicable, radiographic reports shall be accompanied by a shooting sketch and the exposed film. When products are serialized or identified with a lot or batch number, such identification shall appear on the NDT reports and exposed radio-graphic film.
- d) Suppliers are required to provide chain of custody for all raw material used in the manufacture of products submitted to Stratoflex. The chain of custody must provide traceability from the producing mill to heat treat, if required, to the distributor, if purchased from a distributor, and subsequently to the supplier who provides the product to Stratoflex. Product received without the documented chain of custody will be subject to rejection.

**Q506**

**HEAT TREAT FURNACE CHARTS** – In addition to the actual time/temperature certification, Seller shall furnish with each shipment of product(s) original or legible copy of the actual furnace temperature charts.

**Q507**

**TEST SAMPLES**

Supplier is required to submit a sample of the raw material used to produce the product being sold to Stratoflex. This raw material sample will be sent to a 3<sup>rd</sup> party testing laboratory to validate material composition. Sample must be a minimum of 6 inches in length.

**Q508**

**LIMITED SHELF LIFE MATERIAL(S)** – On each container of and on the certification for, material(s) having a limited or specified shelf life, Seller shall show the cure or manufacture date, expiration date or shelf life, lot or batch number and when applicable, any special storage or handling conditions. The information shall be in addition to the normal identification requirements of the drawing, specification and/or Purchase Order. Time lapse between cure or manufacture date of such material(s) and date of scheduled receipt by the Buyer under the Purchase Order shall not exceed 80% of the shelf life for the material without prior written waiver from the Buyer for each shipment.

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**Q509**

**FUNCTIONAL TEST DATA** – Seller shall furnish the actual product functional test results (data sheets) recording the actual readings for each test parameter specified by the engineering drawing, acceptance test procedure (ATP), specification or Purchase Order. Test reports shall be identifiable to the individual product(s) and/or lot, shall meet the requirements of Q clause 301.6 herein, and shall be signed and/or stamped by Seller's authorized product quality representative.

**Q510**

**FUNCTIONAL TEST REPORTS** – With each shipment of product(s), Seller shall submit a test report meeting the requirements of Q clause 301.6 herein and certify that all tests required by the applicable specification, acceptance test procedure (ATP), engineering drawing or Purchase Order were performed and all products delivered meet the specified functional requirements.

**Q511**

**PRATT & WHITNEY LCS CONTROL** -- materials and controls required of suppliers of materials, parts, processes, and assemblies subject to P&W laboratory control at source (LCS). Required certification statement: "parts/material has been controlled to P&W requirements for LCS per P&W MCL SECTION F-17" or a similar statement.

**Q512**

**PRATT & WHITNEY ESA** – The hose manufacture cannot modify the hose construction without Pratt and Whitney's authorization per PWA370.

**Q513**

**PARKER GAS TURBINE DIVISION CONTROL** - Raw material (parts, processes and assemblies, if applicable) must be from a lab/processor approved to ISO 17025, A2LA, GE S-400 or P&W PWA300. Parts subject to XRF testing when received - Ref: Appendix A of Q10-00-2100 - Ref. Sample Table

\*\*\*Note--currently other processes are not included--dry film, passivation, etc.--may need to clarify.

**Q514**

**QUALITY PROGRAM PER PRATT & WHITNEY ASQR-01** - Seller shall establish and maintain a quality program in compliance with the requirements of United Technologies/Pratt & Whitney (ASQR-01), Quality Requirements for Suppliers, latest revision.

Note\*\*\*This also denotes this part as a Pratt & Whitney End Use Item.

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## SECTION 6: INSPECTION AND TEST REQUIREMENTS

### Q601

**FIRST ARTICLE AT SELLER'S FACILITIES** – Buyer inspection and acceptance of First Article product(s) is required prior to delivery to Buyer. Each first article product shall be completely processed per Purchase Order and clearly identified as a First Article sample. Seller shall notify Buyer seventy-two (72) hours in advance so that inspection of the First Article, with documentation, can be scheduled at Seller's facility prior to the Purchase Order specified delivery date.

### Q602

**FIRST ARTICLE AT BUYER'S FACILITY** – Buyer's inspection and acceptance of First Article product(s) is required prior to Seller's delivering the production order. Each First Article product shall be completely processed per Purchase Order and clearly identified as First Article sample and submitted to Buyer's Receiving Inspection for test and or inspection.

### Q603

**SELLER'S FIRST ARTICLE INSPECTION REPORT** – The Supplier shall perform a First Article Inspection (FAI) in accordance with the requirements of the current revision of SAE Aerospace Standard AS 9102. Excess products, remaining from a previous production lot, may not be used to fulfill the 1st Article requirements. The Supplier shall furnish a copy of the completed 1st Article Inspection forms, per AS 9102, with the initial delivery of products on the Contract. All Conditionally Required (CR) Fields referenced in AS 9102 are to be considered Required (R). Copies of AS 9102 may be ordered from: SAE International, 400 Commonwealth Drive, Warrendale, PA 15096-0001 (724) 776-4970 or on the Internet at <http://www.sae.org>.

### Q604

**FIRST ARTICLE INSPECTION OF SELLER DESIGNED PRODUCTS** – Concurrent with delivery of first production product(s) and First Article sample, Seller shall submit to Buyer a First Article Inspection Report documenting the results of Seller's First Article test and/or inspection of the product and each sub-tier component. The First Article Inspection Report shall show the actual dimension or values obtained by Seller for each specified characteristic and evidence of compliance to all engineering drawing notes.

### Q605

**100% INSPECTION** – Seller shall perform 100% inspection of all characteristics on all products covered by the Purchase Order. Records of Seller's 100% inspection results showing actual values shall accompany each delivery of product(s) to Buyer.

### Q606

**FINAL INSPECTION REPORTS AND RECORDS** – With each delivery of product(s), Seller shall furnish a copy of the Seller's final inspection report(s) and or records(s). The inspection only needs to occur once for each production lot however, the inspection report needs to be sent with each shipment. The final inspection report(s) and or records(s) shall show the actual results of all dimensions and requirements per the print. Seller shall use a random sampling of every dimension during final inspection of delivered products, by use of the required sampling chart found in Stratoflex Procedure 10.4 DIV.

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**Q607**

**PRODUCT SERIALIZATION** – Serial numbers for all products on this Purchase Order shall be assigned by Buyer, applied on all products and recorded on all applicable documentation by Seller. The assigned serial numbers shall not be altered or replaced without prior written authorization from the Buyer.

**Q608**

**CRITICAL COMPONENT(S)** – The component(s) ordered on this Purchase Order is (are) defined as critical component(s) whose failure in operation would most probably be catastrophic and therefore require strict controls and traceability throughout the manufacturing process. When PROCEDURE 4.10 DIV is referenced on the drawing the following requirements apply prior to production:

- a) Sequence of manufacturing operations
- b) Method and type of special processing such as heat treat, plating, welding, NDT, etc., to be used.
- c) The points, during (a) and (b) above, at which inspections and/or tests will be accomplished.
- d) The product attributes that will be inspected at (c) above.
- e) Method of identification, preservation and packaging to be used.
- f) Handling and transportation precautions required.
- g) Retention of approved records should be a minimum of 10 years.

Seller shall submit to Buyer for review and approval a written plan describing Seller's control procedure. Once approved, the plans are frozen requiring buyers written approval for implementation. Subsequent to Buyer approval of Seller's plan, any change in the plan that may affect any of the items (a) through (g) below shall be submitted to the Buyer for review and approval prior to incorporation into Seller's plan.

**Q609**

**PREFERENCE FOR DOMESTIC SPECIALTY METALS** - Raw material and components produced from specialty metals, as determined in The Defense Federal Acquisition Regulation Supplement (DFARS) 252.225-7003, 252.225-7008 and 252.225-7009, shall be compliant as specified in Subsection 225.872-1.

If the Seller does not have a copy of DFAR 252.225-7003, 252.225-7008, 252.225-7009 or DFAR 225.872-1 for the list of specialty metals and qualifying (approved) countries, the Seller shall contact the Buyer.

**Q611**

**PRODUCTION PARTS APPROVAL PROCESS (PPAP)** – PPAP process will require the seller to demonstrate to the buyer manufacturing, product quality, and production capacity. The PPAP submission will be classified as a Level 3. The PPAP includes Part Submission Warrant, Control Plan, PFMEA, AS9102 First Article Inspection Report with supporting material and processing certifications, ballooned drawing, and Product flow diagram. Process capability, gage R&R, and CPk values are required only when a key or critical feature is defined on the engineering drawing. These features are to be SPC controlled with a sample size of 30 pieces and a CPk value greater than 1.33.

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## REVISION HISTORY

REVISION	DESCRIPTION	REQUESTED BY	RELEASE DATE
	SEE HISTORY FILES FOR PREVIOUS REVISION HISTORY		
G	Added Q439 to address Boeing requirements for supplier COC notes. Updated Q301 to include the new sub Qcodes through Q301.24 Updated Q609 to include revisions to DFARS 252.225. Added Q301.24 for REACh compliance. Clarified on Q406 that the supplier should meet the latest requirements of the ISO9001 standard. Added Q420 for Source Inspection of Probationary Product. Q608 was updated to include reference to PROCEDURE 4.10 DIV. Added Q421 for Camarillo additional Source Inspection.	B. Swadley	03/2014
H	Added Q 514 for Pratt Whitney ASQR-01 Flow Down.	B. Swadley	03/2014
J	Added the following to Q301.21: Any orders supplied to the Fort Worth facility will be required to meet the requirements in P-103-90. Added the following note to Q514: Note***This also denotes this part as a Pratt & Whitney End Use Item.	B. Swadley	05/2014
K	Removed Mansfield from Coversheet. Added Para. 2.7. Q301.14: Removed "Via form S-80/DMR/Jacksonville Material Deferred Disposition Report (DDR)." Added section Q440 –DIPs. Deleted Q507 -replaced with Q433.	B. Swadley	11/2015
L	Revised Q416, added Q507 back into SQAM, added Q301.25, revised Q409 to reflect Q301.25, added Q505 paragraph d), added Q301.14 paragraph f), Revised Q611 to add more detail, Q301.21 in include all Stratoflex locations, Index Q301.13 – removed reference to MIL-I-45208, Q301.13 – removed reference to ISO9001, Revised Q301.14 to direct Sellers to identify parts with red tag when shipping nonconforming parts, Removed Q413- refer to Q415. Q414: changed 'certified' to 'delegated'. Deleted Q417 Elastomers and added requirement to Q301.19, Q421 – changed 'Certified' to Delegated', Revised Q606, Moved Q433 to Q301.26 and updated Q301.26, Updated Q401 & Q402 d, Added Q405, deleted Q406.	J. Oderberg	02/2018
L1	Administrative update to Section Q401 (D)	M. Lane	03/2018

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