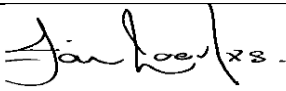





## **SUPPLIER REQUIREMENTS MANUAL**

**MAN-152 Issue , Rev 0**

<b>Written/Amended by:</b>	<b>Ian Loomes</b>	<b>Date:</b>	<b>7 Jan 2021</b>
<b>Signed:</b>		<b>Authority:</b>	<b>Compliance Manager</b>
<b>Authorised by:</b>	<b>Chris Bench</b>	<b>Date:</b>	<b>7 Jan 2021</b>
<b>Signed:</b>		<b>Authority:</b>	<b>Managing Director</b>

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## **INTRODUCTION**

### **1. Purpose**

This manual has been written to define Percival Aviation Limited (PAL) Supplier Quality Requirements, taking into account the external provider's QMS certification status.

This manual establishes the philosophy for the control of each supplier principally based on their certification and secondarily the type, complexity and risk to airworthiness of the items or services procured.

### **2. Scope**

The contents of this manual are applicable to all PAL's external providers and their sub-tiers, as appropriate to the product and services provided.

Should a conflict arise, between this manual and other documentation supplied by PAL, the following order of precedence applies:

- The latest issue PAL Purchase Order (PO).
- FOR-013 - Purchasing Terms and Conditions, available from:  
<http://percivalaviation.com/qa-suppliers-tcs/>
- This Manual.

### **3. References**

The following documents are referenced by this procedure:

- CAAIP Chapter C, Leaflet C-180
- EASA Part 21A. GM
- ISO 9001
- AS9100
- MPA 1G PAL Production Organisation Exposition
- MPA 1B PAL Maintenance Organisation Exposition
- MPA 1Q PAL Quality Manual
- PRO-204 - Control of Suppliers
- PRO-209 – Purchasing and Sub-Contracting
- FOR-207 - Supplier Quality Questionnaire
- FOR-216 - Supplier Rejection Note
- FOR-307 - Concession Production Permit

## **4 Terminology and Definitions**

4.1 The term 'supplier' is a generic term that is generally understood to encompass all different 'external providers' of products or services. It is used in this sense in the title of this manual and the associated forms above. However within the rest of this manual the term 'external providers or respective type of external provider (as defined below)' shall replace 'suppliers' as the generic term. The various types of "external providers" are defined below for the purposes of this document, as follows:

### **4.1.1 Subcontractor**

A Subcontractor is an organisation undertaking part of the normal production process or complete production process, that PAL has decided to subcontract out, irrespective of using its own raw materials or not. Products or Services provided from these organisations are based on PAL Design.

### **4.1.2 Significant Subcontractor**

A Significant Subcontractor is an organisation on which the complete capability of PAL is dependent on the subcontractor, i.e. undertaking the complete production of a product that PAL has decided to subcontract out, irrespective of the use of its own raw materials or not.

Significant subcontractors shall operate controlled processes as contained in the Quality Plan, to ensure that the Product or Service supplied to PAL continues to comply with approved design data and contractual requirements.

### **4.1.3 Manufacturers**

A Manufacturer is a manufacturing organisation providing incoming materials, catalogue parts, standard parts and consumables used as part of production activity. Products procured from these organisations do not involve PAL as the Design Authority.

### **4.1.4 Suppliers**

A Supplier is an organisation that procures products (i.e. raw materials, catalogue parts, standard parts, consumables, etc) from another organisation and then supplies them to PAL. Products procured from these organisations could be based on sub-tier organisation's design or the design is available in the public domain.

### **4.1.5 Test House**

A Test House is an organisation that carries out tests on products requested by PAL. This could be Flammability Testing, Material Testing, Vibration Testing, Calibration, etc.

4.2 Documented Information refers to documentation, quality manual, expositions, documented procedures, forms, records, work instructions, etc.

## HOW TO USE THIS MANUAL

### 5. Purpose

- 5.1 The purpose of this section is to guide the user through the other sections of this manual that are specifically relevant to them. Following this section will minimise the time and effort needed to identify the particular applicable requirements.

### 6. The Requirement for Control of External Providers

- 6.1 PAL design, manufacture and repair products for the aviation market. The regulations and standards to which PAL are required to work to trade within this market require that we are able to demonstrate control of our external providers and the supply chain. This is even to the extent that we extend the relevant parts of our Quality Management System into the external providers, in order to demonstrate adequate control.

### 7. Identification of Requirements for Particular External Provider

Below are listed the recommended steps in chronological order:

- 7.1 Check which category of external provider you come under. If you have received a FOR-207 - Supplier Quality Questionnaire recently, it will be stated on there. If it is not stated on the form or you are questioning the category stated or you do not have a form, then contact PAL Quality Department on +44 (0)1489 569 000 or e-mail [quality@percival-aviation.co.uk](mailto:quality@percival-aviation.co.uk).
- 7.2 Read the Common Requirements section as this section is applicable to all.
- 7.3 Check the Table of Contents on page 2 to identify which Appendix is relevant to your organisation's category and certification status, and then read it.
- 7.4 If you are not able to abide by what you have read, for whatever reason, contact PAL Quality Department on +44 (0)1489 569 000 or e-mail [quality@percival-aviation.co.uk](mailto:quality@percival-aviation.co.uk) or fill in Supplier Comments / Notes section if you have been sent a FOR-207 – Supplier Quality Questionnaire.
- 7.5 If you have been sent a FOR-207 - Supplier Quality Questionnaire, accept the declaration concerning compliance to the Supplier Requirements Manual.

## **COMMON REQUIREMENTS**

The following requirements apply where they are applicable to the product or service being provided to PAL.

### **8. Supplier Evaluation and Monitoring Process**

- 8.1 A Supplier Quality Questionnaire (FOR-207) is required to be completed prior to initial approval by PAL and subsequently at the request of PAL. Evidence of certification to QMS standards such as EASA Part 21.G, AS9100, ISO 9001, etc. shall be provided to support the approval or re-approval process.
- 8.2 External providers without a formal QMS certification or QMS certificates issued by organisations that are not accredited by UKAS or national accreditation bodies, not detailed as a certifying body on the IAQG website or external providers producing items deemed as high risk by PAL may be subject to on-site QMS audit.
- 8.3 External provider's quality and delivery performance is monitored by PAL. Poor performing external providers may be selected for more frequent and focussed activity, requiring site visits, monthly evaluation and performance improvement actions. Ultimately, poor performing external providers will be removed from PAL's Approved Suppliers List and therefore PAL will not place further orders with them.
- 8.4 On occasions, the external provider may choose to provide a standard response to questionnaires from their customers, this shall only be acceptable by PAL if section 1 & 6 of Questionnaire as a minimum is completed and returned in addition to the standard response.

### **9. Access for Audit and Source Inspection**

- 9.1 Subject to providing reasonable notice, the external provider shall allow PAL and persons authorised by PAL access to their premises, in order to inspect and audit the facilities, processes and procedures used for manufacture and/or repair of products and/or services supplied to PAL.
- 9.2 The external provider shall allow access at any time to regulatory authorities to all areas associated with products or services provided to PAL. This requirement shall be flowed down to your sub-tier external providers.
- 9.3 Products or Services provided may also be subject to inspection / test acceptance at the external provider's premises prior to delivery. Not less than 7 days' notice of availability is required in writing from the external provider if PAL advise them that this is a requirement. Applicable process documentation, test and inspection information and certificates shall be provided at the time of the visit.

### **10. Purchase Order Acknowledgement**

- 10.1 External Providers shall acknowledge purchase order requirements. This may be achieved by signing and returning the purchase order document via e-mail or telephone etc.

10.2 By acknowledging the purchase order, the external provider acknowledges that they have read, understood and agree to the stated requirements, including the PAL Purchasing Terms and Conditions and this Supplier Requirements Manual.

## **11. Rejection of Products or Services**

11.1 Products or services that do not comply with approved design data, i.e. drawings, specifications and/or documentation requirements defined on purchase orders, will result in the goods being returned for a corrective action request via FOR-216 - Supplier Rejection Note. External providers shall complete the form indicating containment actions, root cause analysis, corrective actions.

11.2 The Supplier Reject Note shall be completed and returned to PAL within 30 days of issue. The form should be submitted electronically to the e-mail address [quality@percival-aviation.co.uk](mailto:quality@percival-aviation.co.uk).

## **12. Shelf Life**

12.1 All items shall be supplied with no more than 20% of shelf life expired at the time of receipt at PAL.

12.2 Certification shall indicate the shelf life expiry date, where applicable.

12.3 The external provider shall practice monitoring of shelf life to ensure that such products or materials are not used in production or supplied when time expired.

## **13. Reporting of Safety Concerns**

13.1 There is a legal responsibility to report any issues that may affect the airworthiness of aircraft or the safety of aircraft and people on the ground to the appropriate authorities.

13.2 PAL will take on that legal responsibility but the external provider must support PAL by notifying PAL QA Department on +44 (0)1489 569 000, as soon as they become aware of any of the following:

- a. Design - Any failure, malfunction, defect or other occurrence related to a product or part which has resulted in or may result in an unsafe condition.
- b. Manufacturing – Products or parts released by the external provider with deviations from applicable design data that could lead to a potential unsafe condition.
- c. Maintenance - Serious structural damage, incorrect assembly, serious damage to electrical wiring, the use of counterfeit parts, misleading, incorrect or insufficient documentation, evidence of fire or any occurrence where the human performance is involved.

13.3 PAL will carry out an investigation and either report the findings to the authorities or not, using Percival Aviation's industry knowledge as to whether the issue qualifies as a reportable occurrence.



**Notes:**

- 1). In circumstances where there is a threat to the safety of an aircraft or people on the ground the regulatory authorities require that immediate action is taken. Most reports are logged onto a database for analysis to identify trends which may lead to a safety occurrence.
- 2). The nature of PAL products is such that the reporting of an issue to the regulatory authorities is unlikely. Never the less, reporting of dangerous occurrences is a legal responsibility and therefore must be acted upon when appropriate.

**14 Preservation and Packing**

- 14.1 The external provider shall preserve the manufactured products; throughout production until delivery, to ensure its conformity to requirements. The products shall be free from foreign objects, special handling and storage for sensitive equipment and hazardous products.
- 14.2 The products shall be supplied with the best commercial packaging methods to ensure protection against damage or deterioration of the products and for safety in handling during shipment. The packaging shall clearly be labelled with safety warnings and/or cautions, if applicable.

**15 Notification of Significant Changes**

The external provider shall notify PAL as soon as is practicable of significant changes to the following:

- a. Company ownership
- b. Certifications and Approvals
- c. Relocation of premises

**16 Counterfeit Parts**

- 16.1 The external provider shall take measures to avoid and detect the use of counterfeit materials and products by purchasing from their approved external providers and the visual inspection of purchased product / materials and accompanying documentation as appropriate.
- 16.2 Verification activities, such as material testing shall be performed where the external provider identifies a high risk of nonconformity, including counterfeit parts and material.
- 16.3 PAL shall be informed of the discovery of counterfeit product or material at any stage in the process from Goods Inwards onwards.

**Note:**

Counterfeit or suspected counterfeit parts shall be controlled to prevent re-entry into the supply chain.

## **17 Foreign Object Debris (FOD)**

17.1 FOD is any object, particle, substance, debris or agent that is present where it is not supposed to be and in aviation environment could create a hazard to aircraft, equipment, or personnel, it could also contaminate the product or otherwise undermine quality control standards or injure personnel. Examples of FOD include – swarf, loose bolts and nuts, etc.

The external provider shall make sure that products or services provided to PAL are free from FOD.

## **18 Documentation Requirements**

18.1 The documents detailed below shall be supplied along with the goods, if requested on the Purchase Order –

18.2 To ensure no additional levies are incurred on any parts or materials shipped and entering into the UK for receipt by Percival Aviation from EU registered companies, suppliers are requested to make sure that a statement of origin of parts and/or materials, and Harmonised System (HS) code(s) are stated clearly on all associated shipment documentation’.

Products and services will be provided by the external provider on the certificate required by the PAL Purchase Order. Raw Material Certificates for metals to be provided.

- a. A First Article Inspection report shall be provided for products, in accordance with AS9102. The external provider may use their own FAI documentation provided it complies with AS9102 or PAL FAI documents available from <http://percivalaviation.com/ga-suppliers-tcs/>
- b. Flammability Test results in line with CS25.853 Appendix F, Part 1 OR 14 CFR 25.853 Appendix F, Part 1 for the raw material batch/es used or supplied.

18.2 If any of the documentation requested on the PO cannot be provided, this has to be notified to PAL Quality Department on +44 (0)1489 569 000 or e-mail [quality@percival-aviation.co.uk](mailto:quality@percival-aviation.co.uk) prior to PO Acknowledgement.

## **19 PO Limitations**

Certain POs have limitations imposed based on the specific external provider. If there are any issues in relation to this, please contact PAL Quality Department +44 (0)1489 569 000 or e-mail [quality@percival-aviation.co.uk](mailto:quality@percival-aviation.co.uk) prior to PO Acknowledgement.

## **20 Flammability Testing**

20.1 With applicable parts only, PAL can only accept Flammability Test results in line with CS25.853 Appendix F, Part 1 or 14 CFR 25.853 Appendix F, Part 1 for the raw material batch/es used or supplied on the Design Subcontractors List detailed within MPA 1J PART 21J Design Organisation Handbook.

20.2 With applicable parts only, suppliers not identified on the Design Subcontract List will provide 3 x 3" x 12" test specimens with every batch. This test must be conducted at PAL in line with CS25.853(a) Appendix F, Part 1 or 14 CFR 25.853 Appendix F, Part 1.

**APPENDIX A – SUBCONTRACTORS WITH AS9100 AND/OR ISO 9001 CERTIFICATION**  
(THE CERTIFYING BODY SHALL BE APPROVED BY AN INTERNATIONALLY RECOGNISED ACCREDITATION BODY LIKE UKAS, ANAB, ENAC, ETC.)

- A.1 In addition to the Common Requirements and requirements detailed in this Appendix, the subcontractor shall also follow the AS9100 and/or ISO 9001 requirements.
- A.2 For each purchase order placed by PAL, the subcontractor will confirm that their scope of approval from the standard's authority covers the products or services to be provided. If not, the subcontractor shall immediately contact PAL Quality Department on +44 (0)1489 569 000 or e-mail [quality@percival-aviation.co.uk](mailto:quality@percival-aviation.co.uk).
- A.3 PAL drawings and specifications provided to subcontractors shall be stored and controlled to ensure the security of all proprietary data.
- A.4 The subcontractor will prevent the unintended use of obsolete approved design data and documentation. Security measures will be in place to prevent electronic data being changed by unauthorised personnel.
- A.5 The subcontractor will perform the work required by the PAL purchase order, in accordance with their AS9100 and/or ISO 9001 certification.
- A.6 Production of products and services shall be planned and managed in a structured, sequence of actions to meet requirements and require identification of who carried out which activity. Evidence of completed planned production stages shall be retained as a record and will show both the planned and achieved standard of the product or service.
- A.7 When reviewing the resources needed to achieve conformity to approved design data, the resources needed to achieve on-time delivery shall also be taken into account.
- A.8 A list of all calibrated equipment shall be held, uniquely identifying each instrument. A system shall be in place for ensuring calibrated equipment is re-calibrated under suitable environmental conditions by the due date.
- A.9 Products and services will be produced in accordance with approved design data i.e. all necessary drawings, specifications and other technical information provided by PAL. The subcontractor shall ensure the correct revision of documents (if applicable, in line with PO) is available to persons performing the work.
- A.10 During production, the product will be identified such that the requirements are traceable, including the implementation of identified changes and batch traceability of all raw materials used.
- A.11 In process inspection /verification stages will be included in the production process where verification of conformity cannot be carried out at later stages.
- A.12 Products and services will be inspected and tested as applicable prior to release to ensure they are in conformance to approved design data and in a condition for safe performance.

- A.13 The certificate of conformance must refer to the organisations AS9100 and/or ISO 9001 certification, but only if the product or service required falls within the scope of their certification.
- A.14 Product dispositioned for scrap shall be conspicuously and permanently marked or positively controlled until rendered physically unusable.
- A.15 The subcontractor shall measure product or service conformity and on time delivery performance, taking action when planned results are not or will not be achieved.
- A.16 The subcontractor shall maintain all records, including incoming documentation and data, relevant to the demonstration of compliance with approved design data, for a period of at least 10 years. Copies of records and reports showing evidence of conformity shall be made available to PAL on request or for review and audit.
- A.17 In the event of a nonconforming product, material or service produced or delivered to PAL, the subcontractor shall take necessary actions to contain the effect of the nonconformity on other processes, products or services.
- A.18 PAL shall be informed as soon as possible of the delivery of any non-conforming products or services.
- A.19 As part of training, the subcontractor will make staff aware of:
- a. Their contribution to product or service conformity and safety.
  - b. The importance of ethical behaviour.
- A.20 The subcontractor shall notify PAL as soon as is practicable of significant changes to the following:
- a. Changes to production capacity, capability or methods affecting products or services provided to PAL.
  - b. Changes in the production or quality systems that may have an important impact on the conformity/airworthiness of products or services supplied to PAL.
  - c. Suppliers or Subcontractors where there are implications upon the product or service supplied to PAL.

#### **A.21 Production Permits and Concessions**

- A.21.1 Product that does not conform to approved design data may only be supplied with prior consent from PAL Design Department. Details of the non-conformity shall be recorded on a PAL FOR-307 - Production Permit or Concession form together with root cause analysis and proposed corrective actions. The form is obtainable from the link: <http://percivalaviation.com/qa-suppliers-tcs/> and is to be emailed to the link: [quality@percival-aviation.co.uk](mailto:quality@percival-aviation.co.uk).

**Notes:**

- 1) On no account is the subcontractor to deviate from the approved design data without the written authority of the PAL Design Department, i.e. a fully signed off Concession or Production Permit.
- 2) Working to verbal instructions or electronic media that fall outside of the above is not acceptable.

A.21.2 PAL Design Department will determine the disposition and return the signed document irrespective of whether the Production Permit or Concession is accepted or not.

A.21.3 Non-conforming product shall not be delivered without the completed and approved production permit or concession attached. Certification shall reference applicable Production Permit / Concession numbers.

**A.22 Property Belonging to PAL**

A.22.1 All free issues of materials, parts, tooling, equipment, etc. and intellectual property, including drawings, specifications, etc., forwarded to subcontractors in support of purchase orders, shall at all times remain the property of PAL. They must be identified, verified, segregated and stored in suitable conditions and handled appropriately.

A.22.2 Losses or damage sustained to PAL property shall be declared and may require financial reimbursement. Documented information relating to what has occurred shall be maintained by the external provider.

A.22.3 Subcontractors shall also account for PAL property when requested to do so by PAL.

**A.23 Subcontracting**

A.23.1 Work related to PAL Purchase Orders or Advice Notes shall not be sub-contracted without written approval by PAL.

A.23.2 Subcontractors shall be responsible for flow-down of these requirements to their sub-tier external providers.

A.23.3 Subcontractors are responsible for the conformity of materials/products or services to approved design data and on time delivery from sub-tier external providers and therefore the resolution of sub-tier external provider quality and delivery issues.

**APPENDIX B – SUBCONTRACTORS WITHOUT QMS CERTIFICATION**  
(INCLUDING QMS CERTIFICATION WHERE THE CERTIFYING BODY IS NOT APPROVED BY AN INTERNATIONALLY  
RECOGNISED ACCREDITATION BODY LIKE UKAS, ANAB, ENAC, ETC.)

B.1 It is not mandatory for subcontractors to hold formal QMS certification such as ISO 9001, AS9100, etc. However, subcontractors are required to effectively control all activities related to PAL purchase orders. The subcontractor shall operate controlled processes, including those contained within this Appendix, to ensure that the product or service supplied to PAL continues to comply with approved design data and contractual requirements.

**B.2 Review of Customer Requirements**

B.2.1 PAL requirements for products and services are specified in Purchase Orders or Advice Notes. They may include drawings, specifications, requirements for delivery and post-delivery, statutory and regulatory requirements and any other requirements considered necessary.

**Note:**

It is the subcontractor's responsibility to ensure that drawings used match the part revision noted on Purchase Order or Advice Notes.

B.2.2 The subcontractor shall review these requirements to ensure adequate definition and to identify any special requirements or risks. Any issues arising shall be resolved with PAL.

B.2.3 When reviewing the resources needed to achieve conformity to approved design data, the resources needed to achieve on-time delivery shall also be taken into account.

B.2.4 As a result of any changes to requirements of products and services by PAL, the subcontractor shall ensure that relevant documented information is amended and the necessary personnel made aware of the changes.

**B.3 Production Planning**

B.3.1 Products and services will be produced in accordance with approved design data i.e. all necessary drawings, specifications and other technical information provided by PAL, so as to ensure repeatability.

B.3.2 Production of products and services shall be planned and managed in a structured, sequence of actions to meet requirements and require identification of who carried out which activity. Evidence of completed planned production stages shall be retained as a record and will show both the planned and achieved standard of the product or service.

B.3.3 Planning will include where in the sequence of manufacture, verification activities (in-process or final) shall take place. The criteria for acceptance and rejection will be apparent.

B.3.4 The organization shall implement and control the processes needed to assure product safety, as appropriate to the organisation and the product.

## **B.4 Control of Externally Provided Products and Services**

- B.4.1 Subcontractor shall evaluate and select sub-tier external providers based on their ability to consistently supply products and services to requirements, against agreed lead times.
- B.4.2 Where there are multiple sub-tier external providers, subcontractors shall maintain a list of those used for manufacture and/or procurement of products for PAL.
- B.4.3 The subcontractor shall identify and manage the risks associated with the external provision of products and services, as well as the selection and use of sub-tier external providers.
- B.4.4 It is the responsibility of subcontractors to ensure that sub-tiers provided products or service conforming to requirements, through the implementation of appropriate inspection and/or test processes. If sub-tier external providers are designated by PAL, they are to be used.

## **B.5 Operations**

- B.5.1 Subcontractors shall be responsible for developing, verifying, validating and maintaining adequate equipment and tooling controls. Equipment and tooling design / definitions shall be verified to ensure they meet requirements. Validation shall be performed to ensure they operate per requirements prior to its release for production.
- B.5.2 Any changes to production or service provision i.e. changes affecting processes, production, equipment, tools, digital files, etc. shall be performed by authorised personnel only.
- B.5.3 For special processes where the resulting output cannot be verified by subsequent monitoring or measurement, the subcontractor shall control the processes.
- B.5.4 During production, product will be identified such that the requirements are traceable, including the implementation of identified changes and batch traceability of all raw materials used.

## **B.6 Product Identification and Traceability**

- B.6.1 Products or services shall be traceable to the original manufacturer.
- B.6.2 The subcontractor shall be able to identify the configuration standard achieved, against the PO and account for any differences.
- B.6.3 The unique identification of the product shall be recorded in order to provide an appropriate level of traceability.
- B.6.4 Documented Information relating to product configuration and traceability shall be maintained.

## **B.7 Inspection and Test**

- B.7.1 In process inspection /verification stages will be included in the production process where verification of conformity cannot be carried out at later stages.
- B.7.2 Products and services will be inspected and tested as applicable prior to release to ensure they are in conformance to approved design data and in a condition for safe performance.

B.7.3 Where required by PAL, the subcontractor shall provide test specimens for inspection/ verification or auditing.

## **B.8 Calibration of Monitoring and Measuring Equipment**

B.8.1 A register of monitoring and measuring equipment used in demonstration of conformity for deliverable products and services shall be maintained. The system shall provide unique identification of this calibrated equipment.

B.8.2 Calibrated equipment shall be recalibrated under suitable environmental conditions by the due date. Calibration will be to the manufacturers' specification or a nationally recognised standard, such as BSI.

B.8.3 Calibration records shall be reviewed to justify the need to replace equipment or change the calibration interval. If an instrument fails calibration, appropriate mitigating action must be taken to identify product that does or may not conform to approved design data and to recall it as necessary.

B.8.4 Calibrated equipment shall be safeguarded from adjustments, damage or deterioration that would invalidate the calibration status and in turn measurement results.

### **Note:**

Any personally owned or customer supplied monitoring and measuring equipment used to provide evidence of product or service conformity shall also be treated as calibrated equipment.

## **B.9 Control of Non-Conforming Product**

B.9.1 The subcontractor shall ensure that nonconforming product is identified and segregated to prevent it being mixed with conforming product.

B.9.2 Prior to disposal, product dispositioned for scrap shall be permanently and conspicuously marked or positively controlled until physically deformed to the point that the part is unusable.

B.9.3 In the event of the nonconforming product, materials or services being produced or delivered to PAL, the subcontractor shall take necessary actions to contain the effect of the nonconformity on other processes, products or services.

B.9.4 PAL shall be informed as soon as possible of any nonconforming product or services delivered.

B.9.5 Returns received from PAL shall be investigated to understand the root cause of the non-conformance. Action will be taken to correct the non-conformance, including any additional parts in stock or WIP and to prevent the issue occurring again.

B.9.6 The subcontractor will complete the FOR-216 - Supplier Rejection Note accompanying the part and return it to PAL.



## **B.10 Performance Measurement**

B.10.1 The subcontractor shall measure product/service conformity and on time delivery performance, taking action when planned results are not or will not be achieved.

## **B.11 Release of Products and Services**

B.11.1 The subcontractor shall make sure that all the planned stages have been completed and verified that the product or service conforms to the requirements.

B.11.2 Documented information relating to the evidence of conformity to the requirements and traceability to the persons authorising the release shall be maintained.

B.11.3 Products and services will be provided by the subcontractor on the certification required by the PAL purchase order, e.g. a Certificate of Conformance.

B.11.4 The subcontractor shall not release products or services for use pending its complete verification.

## **B.12 People**

B.12.1 The subcontractor shall determine and provide the adequate number of persons necessary for effective implementation of the various activities detailed throughout this Manual (as required) and for the operation and control of its processes.

B.12.2 The subcontractor shall determine necessary competences for personnel whose work affects the conformity to product requirements and provide training as necessary. Appropriate checks and documented information relating to education, training, skills and experience shall be conducted and maintained respectively.

## **B.13 Infrastructure**

B.13.1 The subcontractor shall determine, provide and maintain the infrastructure necessary for the operations of its processes so as to achieve conformity of products and / or services. Infrastructure can include but not limited to - buildings, utilities, equipment, hardware, software, tools, etc.

B.13.2 A suitable environment for the necessary operation of processes and delivery of conforming product will be maintained.

## **B.14 Control of Documented Information**

B.14.1 The subcontractor shall maintain documented information appropriate to support the contents of this manual. This information can vary depending on the size of the organisation, products and services provided, complexity of processes and the competence of persons involved.

B.14.2 All of this documented information shall be controlled to ensure only reviewed and approved versions are available. Documentation shall remain legible, easy to retrieve and use.

**Notes:**

- 1). It is the responsibility of the subcontractor to ensure that the latest issue of documents are available at the point of use when required and to prevent the unintended use of obsolete approved design data and documents.
- 2). Security measures will be in place to prevent electronic data being changed by unauthorised personnel.

B.14.3 The subcontractor shall maintain all records, including incoming documentation and data, relevant to the demonstration of compliance with approved design data. Copies of records and reports showing evidence of conformity shall be made available to PAL on request or for review and audit.

B.14.4 Records shall be stored securely to prevent loss and in appropriate environmental conditions to prevent deterioration, for a minimum of 10 years. All electronic information shall have appropriate measures in place to ensure security and availability in the event of system failure, fire or natural disaster.

**B.15 Communications**

B.15.1 The subcontractor shall notify PAL as soon as is practicable of significant changes to the following:

- a. Changes to production capacity, capability or methods affecting products or services provided to PAL.
- b. Changes in the production or quality systems that may have an important impact on the conformity/airworthiness of products or services supplied to PAL.
- c. Suppliers or Subcontractors where there are implications upon the product or service supplied to PAL.

**B.16 Subcontracting**

B.16.1 Work related to PAL Purchase Orders or Advice Notes shall not be sub-contracted without written approval by PAL. In certain cases, PAL may choose to supply raw material for the sub-tier external provider to manufacture the parts and the external provider to perform inspection.

B.16.2 Subcontractors shall be responsible for flow-down of these requirements to their sub-tier external providers.

B.16.3 Subcontractors are responsible for the conformity of materials/products or services to approved design data and on time delivery from sub-tier external providers and therefore the resolution of sub-tier external provider quality and delivery issues.

## **APPENDIX C – MANUFACTURERS**

(WHERE THE PRODUCTS ARE PRODUCED TO MANUFACTURER'S DESIGN)

### **C.1 Manufacturer with QMS certification -**

- C.1.1 If the Manufacturer holds any QMS Certification (the certifying body shall be approved by an internationally recognised accreditation body like UKAS, ANAB, ENAC, etc), the Manufacturer shall follow the respective QMS requirements + Common Requirements + Requirements detailed in section C.1.
- C.1.2 The Manufacturer will provide products required by PAL purchase order, in accordance with their QMS certification.
- C.1.3 For each purchase order placed by PAL, the Manufacturer will confirm that their scope of approval from the standard's authority covers the products to be provided. If not, the manufacturer shall immediately contact PAL Quality Department on +44 (0)1489 569 000 or e-mail [quality@percival-aviation.co.uk](mailto:quality@percival-aviation.co.uk).
- C.1.4 The Manufacturer shall maintain all records, including incoming documentation and data. Copies of records and reports showing evidence of conformity shall be made available to PAL on request for review and audit. Records shall be stored securely to prevent loss and deterioration, for a minimum of 10 years.
- C.1.5 PAL shall be informed as soon as possible of any non-conforming product or services delivered.
- C.1.6 Manufacturers shall apply appropriate controls to their direct and sub-tier external providers, to ensure the requirements in this section i.e. C.1 are met.

### **C.2 Manufacturer without QMS certification -**

- C.2.1 If the Manufacturer does not hold any QMS certification (including QMS certification where the certifying body is not approved by an internationally recognised accreditation body like UKAS, ANAB, ENAC, etc), Common Requirements + requirements detailed below, in this section i.e. C.2 shall be followed.
- C.2.2 The Manufacturer shall determine necessary competences for personnel whose work affects the conformity to product requirements and provide training as necessary.
- C.2.3 The Manufacturer shall determine, provide, and maintain the infrastructure necessary for the operation of its processes and to achieve conformity of products and services.
- C.2.4 All measuring and monitoring equipment shall be identified individually and calibrated under suitable environmental conditions by the due date. Calibration will be to the manufacturers' specification or a nationally recognised standard, such as BSI.
- C.2.5 The Manufacturer shall implement and control the processes needed to assure product safety and reliability.

- C.2.6 The Manufacturer shall ensure that it has the ability to meet the requirements for products and services to be offered to PAL. The organization shall conduct a review before committing to supply products and services to the PAL.
- C.2.7 Products and services shall be produced in accordance with the design i.e. in-line with drawings or specifications or other technical information.
- C.2.8 Products and services will be inspected and tested as applicable prior to release to ensure they are in conformance with the design and in a condition for safe performance.
- C.2.9 The Manufacturer shall make sure that all the planned stages have been completed and verified that the product or service conforms to the design requirements.
- C.2.10 The product shall be identified so as to identify the differences between the actual and required configuration.
- C.2.11 The unique identification of the product shall be recorded in order to provide an appropriate level of traceability. Traceability requirements include – ability to trace all products manufactured from the same batch of raw material, or from same manufacturing batch through to its destination i.e. delivery, scrap, etc, for an assembly - the ability to trace its components to the assembly and then to the next higher assembly.
- C.2.12 Control of Non-Conforming Product**
- C.2.12.1 The Manufacturer shall ensure that nonconforming product is identified and segregated to prevent it being mixed with conforming product.
- C.2.12.2 Prior to disposal, product dispositioned for scrap shall be permanently and conspicuously marked or positively controlled until physically deformed to the point that the part is unusable.
- C.2.12.3 PAL shall be informed as soon as possible of any nonconforming product or services delivered.
- C.2.12.4 Returns received from PAL shall be investigated to understand the root cause of the non-conformance. Action will be taken to correct the non-conformance, including any additional parts in stock or WIP, to prevent the issue occurring again. The vendor will complete the FOR-216 - Supplier Rejection Note and return it to PAL
- C.2.13 Documented information relating to the evidence of conformity to the requirements and traceability to the persons authorising the release shall be maintained.
- C.2.14 Control of Documented Information**
- C.2.14.1 The Manufacturer shall maintain documented information appropriate to support the contents of this manual. This information can vary depending on the size of the organisation, products and services provided, complexity of processes and the competence of persons involved.

- C.2.14.2 The Manufacturer shall maintain all records, including incoming documentation and data. Copies of records and reports showing evidence of conformity shall be made available to PAL on request for review and audit.
- C.2.14.3 Records shall be stored securely to prevent loss and deterioration, for a minimum of 10 years.
- C.2.15 When required by PAL, the Manufacturer shall provide test specimens for independent inspection or verification. Testing typically involves, for Metals - check for composition and hardness, for adhesives – check for composition, for fabrics – flammability testing, etc.
- C.2.16 Manufacturers shall apply appropriate controls to their direct and sub-tier external providers, to ensure the requirements detailed in this Appendix are met.

## **APPENDIX D – SUPPLIERS**

### **D.1 Supplier with AS9120 certification -**

- D.1.1 Suppliers are required to effectively control all activities related to PAL purchase orders. The supplier shall operate controlled processes in-line with the common requirements + requirements detailed in section D.1 + AS9120 standard, to ensure that the products supplied to PAL comply with PAL requirements.
- D.1.2 The Supplier will provide products required by PAL purchase order, in accordance with their AS9120 certification.
- D.1.3 For each purchase order placed by PAL, the supplier will confirm that their scope of approval from the standard's authority covers the products to be provided. If not, the supplier shall immediately contact PAL Quality Department on +44 (0)1489 569 000 or e-mail [quality@percival-aviation.co.uk](mailto:quality@percival-aviation.co.uk).
- D.1.4 The Supplier shall maintain all records relating to the product which include but not limited to – Test and Inspection Reports, Certificate of Conformity or EASA Form 1, lot or batch traceability records, shelf life information, any applicable concessions, etc. Apart from the documentation requirements detailed on the PO, the supplier shall also provide the traceability back to manufacturer certification. These records shall be adequately stored by the stockist for a period of at least 10 years from the date they were supplied to PAL.
- D.1.5 PAL shall be informed as soon as possible of any non-conforming product or services delivered.
- D.1.6 Suppliers shall apply appropriate controls to their direct and sub-tier external providers, to ensure the requirements detailed in this section D.1 are met.

### **D.2 Supplier without AS9120 certification -**

- D.2.1 In addition to the Common Requirements, the supplier shall also adhere to the requirements detailed below.
- D.2.2 The Supplier shall maintain all records relating to the product which include but not limited to – Test and Inspection Reports, Certificate of Conformity or EASA Form 1, lot or batch traceability records, shelf life information, any applicable concessions, etc. Apart from the documentation requirements detailed on the PO, the stockist shall also provide the traceability back to manufacturer certification with evidence of product's conformity.
- D.2.3 The Supplier shall determine necessary competences for personnel whose work affects the conformity to product requirements and provide training as necessary.
- D.2.4 The Supplier shall determine, provide and maintain the infrastructure needed to achieve conformity to product requirement, in combination with preservation and distribution of the products adequately.
- D.2.5 The Supplier shall review the requirements and ability to provide the products to PAL prior to acceptance of Purchase Order.

- D.2.6 The Supplier shall evaluate and select suppliers based on their ability to supply product in accordance with PAL requirements. The supplier is also responsible for the conformity of products purchased from suppliers that meets PAL requirements.
- D.2.7 The Supplier shall periodically review the supplier performance that includes, but not limited to on-time delivery and conformity to product requirements.
- D.2.8 Suppliers shall apply appropriate controls to their direct and sub-tier external providers, to ensure the requirements detailed in this Appendix are met.
- D.2.9 The Supplier shall establish and implement the inspection or other activities for ensuring that purchased product meets their purchase in-turn PAL requirements.
- D.2.10 The Supplier shall maintain production identification and traceability via labels, bar codes, etc from receipt; during splitting, storage, packaging, and preservation operations until delivery. Traceability requirements include – ability to trace all products manufactured from the same batch of raw material, or from same manufacturing batch through to its destination i.e. delivery, scrap, etc, for an assembly - the ability to trace its components to the assembly and then to the next higher assembly.
- D.2.11 All measuring and monitoring equipment shall be identified individually and calibrated under suitable environmental conditions by the due date. Calibration will be to the manufacturers' specification or a nationally recognised standard, such as BSI.
- D.2.12 Control of Non-Conforming Product**
- D.2.12.1 The Supplier shall ensure that nonconforming product is identified and segregated to prevent it being mixed with conforming product.
- D.2.12.2 Prior to disposal, product dispositioned for scrap shall be permanently and conspicuously marked or positively controlled until physically deformed to the point that the part is unusable.
- D.2.12.3 PAL shall be informed as soon as possible of any non-conforming product or services delivered.
- D.2.12.4 Returns received from PAL shall be investigated to understand the root cause of the non-conformance. Action will be taken to correct the non-conformance, including any additional parts in stock or WIP, to prevent the issue occurring again. The supplier will complete the FOR-216 - Supplier Rejection Note and return it to PAL.
- D.2.13 The Supplier shall maintain all records generated right from product receipt documentation to product delivery documentation, adequately for a minimum of 10 years.
- D.2.14 Suppliers shall apply appropriate controls to their direct and sub-tier external providers, to ensure the requirements detailed in this section D.2 are met.

## **APPENDIX F – TEST HOUSE**

- F.1 The Test House shall follow the Common Requirements + Requirements detailed in this appendix + Requirements detailed in the standard the testing is being carried to.
- F.2 The Test House shall review the ability to carry out the testing in line with the PAL PO requirements.
- F.3 Once reviewed the test house shall carry out the testing and then provide a report, clearly indicating the test results.
- F.4 All measuring and monitoring equipment used shall be identified individually and calibrated under suitable environmental conditions by the due date. Calibration will be to the manufacturers' specification or a nationally recognised standard, such as BSI.
- F.5 All records generated to support the test carried out shall be stored for a period of at least 10years.



**AMENDMENT RECORD**

DATE	DESCRIPTION	NEW ISSUE	REV
10/01/2016	New format and sample forms removed.	1	0
02/12/2016	Amended to identify new PAL document references.	1	1
02/02/2018	Addressed changes from AS9100C to AS9100D & split the requirements for various types of suppliers used by PAL.	2	0
09/09/2019	Amended to identify minimum requirements when a standard response has been received and Flammability Test Requirements added	2	1
27/01/2020	Address changed	3	0
07/01/2021	Addition of PO statement/ requirement	4	0