Type A	Type B	Type C	Type D	Type E	Type F	Type G	Type H	Type I	Type J	Type K	Type L	Type M
X	X	X	X	X	X	X	X	X	X	X	X	X

QRS-121

Fraudulent/Counterfeit Parts Prevention

Issue Date: April 2015 **Issue:** 00

CHANGES LOG

Issue	Approval Date	Main changes	Interested Paragraphs
00	December 2014	First Issue	All

REFERENCE DOCUMENTS

Documents level	Document code (, paragraph) and title
Higher Level COS Documents	
	QRS-01 Quality Requirements For Suppliers

CONTENTS

1 Purpose

Purpose of this document is to provide information and resources to increase the awareness of counterfeit parts and their impact on AgustaWestland products

2 Applicability

This procedure shall be applied to all the suppliers as defined in QRS01

3 Effective date

July 2015.

4 Ownership

The Supplier Quality Assurance (SQA) is responsible for coordinating the input of content to this QRS and any subsequent amendments supported by other relevant Departments/Functions as required.

5 Acronyms, definitions and abbreviations

AW AgustaWestland
OCM Original Component Manufacturer
SQA Supplier Quality Assurance

Suspect Parts
A part in which there is an indication that it may have been misrepresented by the supplier or manufacturer and may meet the definition of fraudulent part or counterfeit part provided below.

Fraudulent Parts
Any suspect part misrepresented to the Customer as meeting the Customer's requirements.

E.g. used product sold as new, or old/obsolete products being sold as the latest version/generation.

Counterfeit Parts
A fraudulent part that has been confirmed to be a copy, imitation, or substitute that has been represented, identified, or marked as genuine, and/or altered by a source without legal right with intent to misled, deceive, or defraud.

E.g. imitation or copy of an authentic product

6 Means of Understanding

The use of ***shall***, ***should***, ***must***, ***will*** and ***may*** within this document *shall* observe the following rules:

- the word ***shall*** in the text denotes a mandatory requirement: deviations from such a requirement is not permissible without formal agreement,
- the word ***should*** in the text denotes a recommendation or advice on implementing such a requirement of the document; such recommendations or advice is expected to be followed unless good reasons are stated for not doing so,
- the word ***must*** in the text is used for legislative or regulatory requirements and *shall* be complied with,
- the word ***will*** in the text denotes a provision or service or an intention in connection with a requirement contained in this document,
- the word ***may*** in the text denotes a permissible practice or action; it does not express a requirement contained in this document.

These means of understanding are applicable in the entirety of the document.

7 Requirements

The Supplier shall develop and implement a "fraudulent/counterfeit control plan" explaining his process used for risk mitigation; disposition and reporting of suspect or confirmed fraudulent/counterfeit spare parts or parts used on major assemblies.
This control plan should contain at least the following areas:

- Personnel Training
- Parts Availability
- Purchasing Process
- Purchasing Information
- Verification of purchased/returned product
- In process investigation
- Material and Parts Control
- Reporting
- Post Delivery Support

7.1 Personnel Training

Relevant personnel, including those ones involved in the management of programs, projects, purchasing, quality assurance, inspection, receiving, production and engineering activities shall be adequately trained regarding their role in relation to awareness, avoidance, discovery, and mitigation provisions regarding suspicious/fraudulent/counterfeit parts.

7.2 Parts Availability

The process shall maximize the availability of authentic parts, originally developed and/or qualified for the entire life cycle of the product, including the management of their obsolescence.
See Appendix A.

7.3 Purchasing Process

Processes shall:

a) Document the validation criteria and assess potential sources of supply to determine the risk of receiving fraudulent and/or counterfeit parts. Records of this activity shall be maintained. See Appendix B.
b) Specify a clear intent to procure directly by OCM or buy from authorized suppliers that reflect the requirements described in the section above. If it is discovered that the source of supply is not authorized for the part (s) in question, these supplies should be subject to the same criteria as those purchased from unauthorized vendors.
c) Ensure that the approved/ongoing supplier has assets in an effective process of risk mitigation of supplying fraudulent/counterfeit parts. See Appendix B.
d) Require a documented risk assessment and a risk mitigation plan, specific to the provision for each procurement from suppliers who are not authorized or OCM.

7.4 Purchasing Information

a) The documented processes shall specify the requirements of the order / contract to minimize the risk of receiving fraudulent/counterfeit parts and require, as a minimum:
   Full Traceability in the supply chain up to the OCM or aftermarket manufacturer that identifies the name and location of all intermediaries in the supply chain from the manufacturer to the supplier itself. If the full traceability of the supply chain is not possible or there is suspicion that the documents can be falsified, documented risk analysis is required.
b) Specify the transfer of the requirements of this procedure to all suppliers and subcontractors. In the event that a supplier or subcontractor does not have a control plan for counterfeit parts/fraudulent in accordance with this procedure, a risk analysis is required for each delivery. See Appendix D.

7.5 Verification of purchased/returned product

The documented processes to ensure:

a) Identification of suspected or confirmed fraudulent/counterfeit parts before formal acceptance. The rigor of the verification of processes should be commensurate with the product risk. See Appendix E.
b) The returned part process shall specify the inspections to validate the authenticity of the parts returned. See Appendix E and Appendix F.

7.6 In process investigation

The documented processes should be directed to find, verify and monitor fraudulent or counterfeit parts in post-acceptance and in service, being suspected or confirmed.

7.7 Failure Analysis

When failure analysis is carried out and a failure is isolated on a single part, the process shall determine and document whether the malfunction can be traced back to a counterfeit/fraudulent part.

7.8 Material and Parts Control

The documented processes shall specify methods for:

a) Control excess number of nonconforming parts to prevent that from being introduced into the supply chain in fraudulent circumstances. See Appendix F.
b) Control suspected or confirmed fraudulent/counterfeit parts to preclude their use or re-introduction into the supply chain by identifying them and segregating from acceptable parts and putting them in quarantine. Quarantine consists of an area with controlled access.

7.9 Reporting

The documented processes shall ensure that all cases of suspected or confirmed fraudulent/counterfeit parts are reported appropriately, within the organization, customers, government organizations, industries to support the programs and authorities that have jurisdiction. See Appendix G.

7.10 Post Delivery Support

The control plan shall describe the processes in place to solve non conformances related to suspected counterfeit/fraudulent parts that may or have been used in production and delivered to customers, suppliers or other organisations i.e. on loan, temporary use. Control Plan shall include the investigation and reporting processes.

8 Forms and annexes/supplements

8.1 Forms

N/A

8.2 Annexes / Supplements

N/A

9 Appendixes

Appendix A – Parts availability
Appendix B – Purchasing Processes
Appendix C – Supply Chain Traceability
Appendix D – Procurement Contract Examples
Appendix E – Product Assurance
Appendix F – Material Control
Appendix G – Reporting

9.1 Appendix A – Parts Availability

9.1.1 Design, proposal, and program planning

During Design, Proposal and Program Planning, the supplier should assess the availability for the entire long term of authentic parts and part sources to grant production and support system. If the assessment reveals risks, the supplier should take the steps necessary to reduce exposure to fraudulent/counterfeit parts, including:

a. Lifetime
b. System re-design
c. Alternate/multiple sources
d. Substitutions
e. Planning for adequate procurement lead times

9.1.2 Design, proposal, and program planning

Obsolescence can increase the risk of acquiring fraudulent/counterfeit parts. To reduce this risk, suppliers shall proactively manage the life cycle of their products through the use of an Obsolescence Management Plan or Diminishing Manufacturing Sources and Material Shortage (DMSMS) management plan.

9.2 Appendix B – Purchasing Process

9.2.1 Procurement Approach

All the parts should be purchased, whenever possible, directly from the OCMs or from authorized suppliers. Independent distributors should be used only after consideration of alternate parts, redesign, schedule adjustments and a reasonable search for material from authorized sources has been conducted and approval has been obtained for a designated authority.

OCM franchise agreements typically include provisions that protect the user by ensuring product integrity and supply chain traceability, such as:

a) Original manufacturer warranty.
b) Proper handling, storage and shipping procedures.
c) Failure analysis and corrective action support.
d) Certificates of conformance and acquisition supply chain traceability.

Authorized distributors should provide product acquired through franchise agreements with OCM. When a distributor does not provide products in this manner, the distributor is considered independent distributors (with limited means to ensure product integrity and supply chain traceability) for those products.

Procurement assurance processes for avoiding fraudulent/counterfeit parts should begin prior to the tendering of a contract for the product. The extent of these processes should be commensurate with risks related to the source of supply and product criticality.

9.2.2 Supplier Approval and Source Selection

Supplier approval and source selection should include:

a) Buyer's historical experience with the source.
b) Previous problems noted by external sources.
c) How long the source has been in business.
d) Source's demonstrated adherence and/or certification to higher level quality standards.
e) Source's demonstrated adherence to applicable provisions of SAE International Counterfeit Avoidance Standards.
f) Results of the audit (See 9.2.3)
g) Acceptable documented purchasing and product acceptance processes and practices for verifying the authenticity of parts supplied.
h) Use of outsourced and/or in-house laboratories.
i) Use of quality inspectors that have been trained and qualified concerning types and means of parts counterfeiting and how to conduct effective product authentication.
j) Terms of the supplier warranty, return policy and product liability.

Buyers shall ensure that independent distributors have established documented processes and the financial means to support any contractual guarantees expected. Purchase

agreements shall include product certifications and contractual remedies such as financial penalties if inaccuracies are found.

Buyers shall investigate independent distributors through reporting sources in advance of procurement activity to ensure suspect fraudulent/counterfeiting incidents have not occurred.

An industry standard can be used to help evaluate the suitability of an independent distributor.

9.2.3 Audits

Audits demonstrating that the supplier's quality management system incorporates adequate documented processes to prevent the purchase, acceptance, use, and delivery of fraudulent/counterfeit parts should be performed before purchasing product, and periodically thereafter. These audits should occur at intervals sufficient to determine that the supplier's quality management system.

Using the results of audits performed by other private sector or Government organizations is an acceptable alternative to second or third party auditing provided the auditing process, attributes, and auditor qualifications are evaluated and deemed adequate to assure compliance with this procedure and/or other requirements.

Audit scope and frequency should be commensurate with the assessed risk of the source. Audit requirements may range from completion of a survey assessment of the sources processes and controls or a full facility audit of these processes.

When authorized suppliers provide services which are not authorized by an OCM, it is recommended the Organization clearly identifies the role in the transaction that the supplier provides.

9.3 Appendix C - Supply Chain Traceability

OCMs and distributors are required to provide a certificate of conformity and complete traceability of the supply chain. Acquisition of traceability throughout the supply chain consists of the name and location of all intermediaries in the supply chain, from the manufacturer to the direct source. The supplier must ensure that these requirements are clearly indicated on the shipping documents, regardless of which level of the supply chain provides the parties. Product without traceability shall be considered as scrap and disposed of in a controlled way.

In order to assure supply chain traceability when parts are bought through an authorized distributor, the following documentation shall be required:

- For procurement of product for commercial or industrial use, product delivered by the manufacturer to the authorized distributor is required to contain a certificate of conformity and a packing list'. Indirect deliveries may be accepted when accompanied by a Packing Slip only. This document normally identifies the manufacturer, distributor to whom the parts were supplied, distributor purchase order number, part number and quantity. Additional information may be provided. Shipments of commercial and industrial parts are typically accompanied by a distributor packing list, certificate of conformity of the distributor and of all the supply chain. Purchase orders should require that material purchased through authorized distribution be acquired directly from OCMs or authorized suppliers.
- For procurement of product for military use, a manufacturer certification to a specified military or aerospace specification or standard is required. This documentation should contain at a minimum the manufacturer, distributor, distributor purchase order, part number, quantity, and date code of each quantity supplied. Additional information, as required by governing specifications, may also be provided. A copy of this document must accompany shipment of parts to the end customer and, for parts procured through authorized distributors, must be accompanied by a certificate of conformance showing full supply chain traceability. Certificate of conformance requirements are often contained within general military specification.

While it is prudent to request independent distributors to provide these certificates of conformance and acquisition supply chain traceability, independent distributors often do not have this documentation. Supply chain traceability to the OCM may not have been maintained, is lost or unavailable. An independent distributor's unavailability to provide certificates of conformance and acquisition supply chain traceability does not include wrongdoing or that the products offered are noncompliant, however, in these circumstances the procuring organization assumes unknown levels of risk regarding product authenticity and must take appropriate risk mitigation actions.

9.4 Appendix D – Procurement contract examples

The following clauses should be included in all contracts/purchase orders.

In order to minimize the risk of procuring fraudulent/counterfeit product, the buyer's procurement contract language should include requirements which will help ensure that conforming, authentic material is provided. The seller's responsibilities should be plainly stated and agreed upon, including:

a) Product supply chain traceability – the seller should be capable of providing full supply chain traceability for the parts being purchased, including names and addresses of prior sources (if any). Both buyer and seller should maintain records containing date and lot codes, and any serialization associated with the purchase order and invoice.
b) Tests and inspections – the seller should be notified by the customer of all tests and inspections that they will be required to perform to assure product authenticity, including development of accept/reject criteria and qualification of test/inspection personnel.
c) Quality management system – the seller should be required to comply with, and/or be certified to, an appropriate higher level quality standard (e.g. EN9100 series, ISO 9001, …)
d) Acceptance of financial responsibility – the seller should be notified that they may be liable for remedial costs associated with provision of fraudulent/counterfeit product. Procurement contract should state that the buyer is not under obligation to return suspect or confirmed fraudulent/counterfeit product. The buyer may request proof of financial responsibility, such as product liability/completed operations certificate of insurance. The buyer may also request evidence of professional liability and/or product recall insurance with limits from the seller if the cost is commercially feasible for the seller.
e) Length of obligation – the seller should be informed of the specific time period for which their responsibility applies. Term and conditions between supplier and seller should allow for reasonable time period for the buyer to detect, quarantine, and confirm fraudulent/counterfeit or substandard product. The supplier should perform a level of inspection or test sufficient to detect gross or common indications of counterfeiting before the time expires.
f) Required documentation – the seller should be provided with clear and specific instruction concerning deliverable documentation. Documentation requirements, including certificates of conformance and test/inspection data, should be included in the contract terms and conditions.
g) Penalties associated with fraud – the seller should be notified of potential penalties associated with fraud and falsification.

9.5 Appendix E – Product Assurance

For cases where procurements must be made from other than authorized suppliers, or there is reason to doubt a component's/part's authenticity, additional tests and inspections should be performed, as necessary, to detect parts. The following mitigation methods can be applied to reduce the risk of receiving fraudulent/counterfeit parts. These methods may not definitively distinguish authentic parts from fraudulent/counterfeit parts, but when properly used will minimize the risk of fraudulent/counterfeit parts entering the production system. For high risk applications, it may be necessary to perform life testing and other static, dynamic and functional testing as additional tests in order to attain the requisite confidence level.

Questionable test results may require performance of comprehensive failure analysis. This suite of tests and inspections is intended to supplement, not to replace, product acceptance procedures applied by the organization. It assumes that there is capability for a full set of tests.
Product risk is determined by supplier reliability and product criticality. The higher the product risk, the greater the sample size and the more definitive/invasive the testing techniques should be. Part risk may be re-evaluated after each test to determine if additional testing is required.

These methods can be applied to detect fraudulent/counterfeit parts:

a) Documentation and Packaging Inspection
b) Visual
c) Inspection for Evidence of Remarking or Resurfacing
d) Solvent Test for Remarking
e) Solvent Test for Resurfacing
f) Scanning Electron Microscope
g) Radiological
h) Lead Finish Evaluation (X-ray Spectroscopy – XRF or Energy Dispersive Spectroscopy – EDS/EDX)
i) Electrical Testing
j) Burn-in
k) Thermal Cycle Testing
l) Hermetic Property Verification (Fine and Gross Leak)
m) Encapsulation Physical Analysis
n) Destructive Physical Analysis

Highest Level of Testing			
Level of testing	Burn-in	Population of Material Tested	100% of ALL Material Tested
	Electrical Testing		
	Hermeticity Testing		
	Thermal Cycle Testing		% of Parts Tested from each Date/Lot Code
	Destructive Physical Analysis		
	X-ray Fluorescence		
	X-ray		Small % of Population Rested
	Marking Permanency		
	External Visual Inspection		
Lowest Level of Testing			

9.6 Appendix F – Material Control

The Supplier's documented procedure should define the responsibilities and authorities for the review and disposition of non-conforming product, and the process for approving personnel making these decision.

NOTE: in this procedure, the term non-conforming, means suspect, fraudulent and/or counterfeit parts.

a) Scrap Product
b) Surplus Product
c) Return Product
d) Control of Suspect or Confirmed Fraudulent/Counterfeit parts

9.7 Appendix G – Reporting

Upon identification of suspect or confirmed fraudulent/counterfeit parts, the Supplier shall provide timely (within 5 days) notification to AW.