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| | | Document Number: MN-TNG-QA-02 | Supplier Quality Manual | | |
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| Approved by: | Title: VP Quality, Jim Thompson <i>Jim Thompson</i> | Date 9/1/2020 | Title: Sr. Director Supply Chain, William Lawless Date <i>William Lawless</i> | | 9-10-2020 |
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Supplier Quality Management System Requirements

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RATIONALE

This manual establishes The NORDAM Group (hereafter referred to as NORDAM) Quality Management System (QMS) requirements for suppliers and all members of their supply chain who provide aerospace products, materials, processes or services to NORDAM locations world-wide.

Section 1 is structured as a companion to SAE Aerospace Standard AS9100™Rev.D Quality Management Systems – Requirements for Aviation, Space and Defense Organizations, and is supplemented by unique NORDAM requirements as defined herein.

These specifications apply to all NORDAM suppliers and all members of their supply chain that design, develop, and / or produce aviation, space and defense products; and also provide post-delivery support, including the provision of maintenance, spare parts or materials for their own products. These suppliers and all members of their supply chain are to follow the full requirements of AS9100™Rev.D and the additional supplements noted in this section. The paragraphs in this section are numbered to correspond with the paragraphs of AS9100™Rev.D.

Section 2 is structured as a companion to SAE Aerospace Standard AS9110™Rev.C Quality Management Systems – Requirements for Aviation Maintenance Organizations and is supplemented by unique NORDAM requirements as defined herein.

These specifications apply to all NORDAM suppliers and all members of their supply chain whose primary business is providing maintenance, repair and overhaul services for aviation commercial and military products. This includes all sub-tier organizations with and without National Airworthiness Authority (NAA) repair station certification. These suppliers and all members of their supply chain are to follow the full requirements of AS9110™Rev.C and the additional supplements noted in this section. The paragraphs in this section are numbered to correspond with the paragraphs of AS9110™Rev.C.


Section 3 is structured as a companion to SAE Aerospace Standard AS9120™Rev.B Quality Management Systems – Requirements for Aviation, Space and Defense Distributors and is supplemented by unique NORDAM requirements as defined herein.

These specifications apply to all NORDAM suppliers and all members of their supply chain that procure parts, materials and assemblies and resells these products to a customer in the aviation, space and defense industries. This includes organizations that procure products and split them into smaller quantities including those that coordinate a customer controlled service on the product. These suppliers and all members of their supply chain are to follow the full requirements of AS9120™Rev.B and the additional supplements noted in this section. The paragraphs in this section are numbered to correspond with the paragraphs of AS9120™Rev.B.

Exceptions or the use of any alternative method of compliance from the requirements of this manual shall be documented by the supplier and submitted to the appropriate NORDAM buyer who will in turn forward to the NORDAM Corporate Supplier Quality department. The NORDAM [Corporate Supplier](#) Quality department will review, document, and notify the supplier of any approved deviations from the requirements included herein.

Other unique requirements not contained in this Supplier Quality Manual may be flowed down to the supplier on the PO or other documents such as the Contract, Long Term Agreement (LTA) or customer specific procedures such as Quality Supplier Supplement (QSS) series documents.

Suppliers are encouraged to regularly review and understand all of the Supplier requirements found under the ‘Suppliers’ dropdown tab at <http://www.nordam.com/>.

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FORWARD

A total commitment to customer satisfaction and continuous quality improvement must be shared by NORDAM and all of its suppliers. Each of us form part of a larger supply chain and together we must maintain effective quality management systems to provide superior quality products to our end customers.

It is the intent of NORDAM to purchase products, materials and services from suppliers who share this vision and who can consistently meet NORDAM's high expectations.



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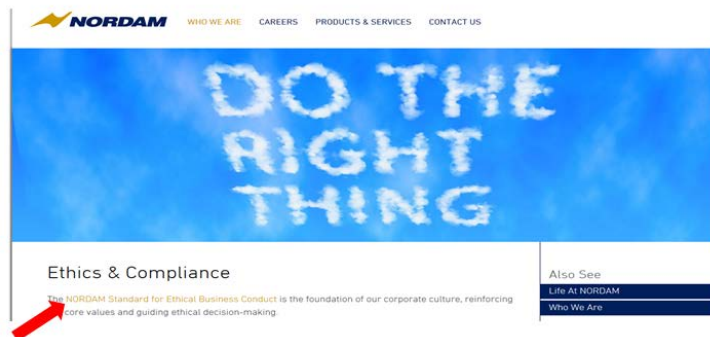
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SECTION 1: MANUFACTURERS

Quality Management Systems - Requirements for Manufacturers that Design, Develop and/or Produce Aviation, Space and Defense Products and Services

INTRODUCTION

- 0.1 General.**
No additional requirements
- 0.2 Quality Management Principles**
No additional requirements
- 0.3 Process Approach**
No additional requirements
- 0.4 Relationship with Other Management System Standards**
No additional requirements
- 0.5 Policies and Information**
- 0.5.1** Suppliers and all members of their supply chain who supply parts to satisfy a NORDAM Purchase Order (PO) shall be compliant to this manual.
- 0.5.2** The supplier shall provide right of access to their facility and the facilities of all members of their supply chain for review, verification, and analysis of their quality management system, quality control, inspection system, and maintenance process. Right of access shall be granted to Federal Aviation Administration (FAA), National Transportation Safety Board (NTSB), Department of Transportation (DOT), Department of Defense (DOD), NORDAM (and qualified second or third parties) and NORDAM's customers. The FAA, NTSB, DOT, DOD, NORDAM, European Aviation Safety Agency (EASA), National Aviation Authority (NAA), and NORDAM's customers have the right to inspect and test all parts at all places and times to the extent practical and permitted under export control regulations.
- 0.5.3** NORDAM reserves the right to maintain a NORDAM representative on-site at the supplier's or sub-tiers facilities.
- 0.5.4** NORDAM reserves the right to disapprove a supplier's Quality System as well as the Quality System of any member of their supply chain.
- 0.5.5** Supplier shall maintain a drug-free workplace program to provide a safe workplace and discourage alcohol and drug abuse.
- 0.5.6** Suppliers shall permit NORDAM access to all data in OASIS databases.
- 0.5.7** STANDARD FOR ETHICAL BUSINESS CONDUCT. NORDAM is committed to conducting business fairly, impartially, and in an ethical and proper manner. Supplier shall read NORDAM's Standard for Ethical Business Conduct found at www.nordam.com, Who We Are, Ethics and Compliance, and all suppliers shall comply with the Standard while performing obligations to NORDAM.



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1. SCOPE

No additional requirements.

1.1 Application

This section of the manual contractually applies to NORDAM suppliers and all members of their supply chain who provide product, materials or services to prepare, build, support, or install parts onto an aircraft in accordance with NORDAM purchase order or contract requirements.

NORDAM suppliers are required to access the NORDAM website to review this and any other documents required to satisfy the PO requirements. The supplier shall perform a full documentation review of NORDAM specifications to ensure they are working to and flowing down to sub-tiers the latest revision documents including this manual.

Suppliers are responsible for notifying NORDAM of changes in the supplier's senior leadership, (Director and above), ownership, name, location or address, change in process or product, loss of any accreditation (AS9100, Nadcap etc.), or any other quality system changes in their or their sub-tier that can affect process or product affecting NORDAM. The notification shall be provided to NORDAM in a written statement within seventy-two (72) hours of any of these changes. This notification shall be sent to the appropriate NORDAM buyer. Upon receipt of this written notification NORDAM will determine necessary actions.

Any exception to the Suppliers AS9100 accreditation will constitute an exception to the same clause of this Supplier Quality Manual.

Suppliers who are not accredited under the AS9100 Standard and request an exception or deviation from any clause of this Supplier Quality Manual shall submit a formal request sent to the appropriate NORDAM buyer to forward to the Corporate Supplier Quality Department for review.

2. NORMATIVE REFERENCES

The following documents are valuable for the application of this document.


- IAQG SCMH, International Aerospace Quality Group – Supply Chain Management Handbook.
- [AS9100 Quality Management Systems – Requirements for Aviation, Space, and Defense Organizations](#)
- AS9102 Aerospace First Article Inspection Requirement.
- AS9103— Aerospace Series – Quality Management Systems – Variation Management of Key Characteristics.
- [AS9117— Delegated Product Release verification](#)
- [AS13001 Delegated Product Release Verification Training Requirements](#)
- AS9145— Aerospace Series – Requirements for APQP and PPAP
- AS9146— Foreign Object Damage (FOD) Prevention Program
- AS13000— Problem Solving Requirements for Suppliers
- [AS13003— Measurement Systems Analysis Requirements](#)
- [AS13004 Process Failure Mode and Effects Analysis \(PFMEA\) and Control Plans](#)
- [AS13006 Process Control Methods](#)
- ISO 9000— Quality Management Systems — Fundamentals and Vocabulary
- ISO 9001— Quality Management Systems — Requirements

3. TERMS AND DEFINITIONS

No additional requirements.

4. CONTEXT OF THE ORGANIZATION

[4.1–4.4 No additional Requirements](#)

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4.5 NORDAM reserves the right to flow down the requirements of APQP and PPAP by invoking AS9145 or specific OEM focused documents.

5. LEADERSHIP

No additional requirements.

6. PLANNING

No additional requirements.

7. SUPPORT

7.1 Resources

7.1.1 General

No additional requirements.

7.1.2 People

No additional requirements.

7.1.3 Infrastructure

No additional requirements.

7.1.4 Environment for the Operation of Processes

a.- b. No additional requirements.

c. Where inspection lighting requirements are not specified by NORDAM, suppliers shall have defined lighting requirements and environmental controls for consistent visual inspection. (e.g. appropriate lighting intensity, defined work station parameters and verification frequency, distance to product being inspected etc.).

7.1.5 Monitoring and Measuring Resources

7.1.5.1 General

a.- b. No additional requirements

c. Measuring equipment used in all stages of product realization shall be controlled and calibrated. No non-calibrated or "Reference Only" measuring instrument are to be used during any phase of fabrication, manufacturing or production.

7.1.5.2 Measurement Traceability

a.- c. No additional requirements.

d. NORDAM reserves the right to flow down AS13003 – Measurement Systems Analysis Requirements for the Aero Engine Supply Chain.

7.1.6 Organizational Knowledge

No additional requirements.

7.2 Competence

No additional requirements.

7.3 Awareness

No additional requirements.

7.4 Communications

No additional requirements.

7.5 Documented Information

7.5.1 General

No additional requirements.

7.5.2 Creating and Updating

No additional requirements.


7.5.3 Control of Documented Information

7.5.3.1 a. - b. No additional requirements.

c. All quality records (non-electronic) shall be documented in ink or other permanent marking.

d. Corrections to work instructions or documents shall be recorded, dated and traceable to the person making the change (e.g., signature, stamp, etc.) in ink or other permanent marking method with the original data being legible and retrievable after the change.

e. Documents submitted to NORDAM that contain technical data shall include a statement near the beginning of the document such as "This document contains technical data" or an equivalent

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statement. This statement shall be repeated throughout the document. United States (U.S.) organizations shall also identify the Export Control Classification Number (ECCN) or U.S. Munitions List (USML) classification. Other organizations shall identify applicable export classifications related to the documents submitted to NORDAM.

7.5.3.2 a. - c.

No additional requirements.

7.5.3.2d.

The supplier shall maintain an adequate records system. All NORDAM related records/documented information shall be retained in a safe and secure manner in electronic or paper format for a minimum of ten (10) years from completion of the NORDAM purchase order. NORDAM contract may require record retention to be extended beyond the ten (10) year retention period.

7.5.3.2e.

No additional requirements.

8. OPERATION

8.1 Operational Planning and Control

a. - j. No additional requirements.

k. Suppliers shall notify NORDAM prior to any planned work transfer or any planned change implementation within the supplier organization or its supply chain. This includes manufacturing locations changes within the organization or changes in a supplier or a sub-tier supplier's location. The supplier shall have documented procedures for implementing this requirement, ensuring it is applied in their supply base and that decisions to interrupt flow of material from any existing source shall not take place until approved by NORDAM. NORDAM may choose to participate in the transfer activity to mitigate any risks associated with the transfer.

If the transfer of work involves transfer of NORDAM ITAR or other technical data to a party or location requiring an export license, NORDAM must approve the work transfer. If approved, NORDAM will assist Supplier in obtaining all required government licenses prior to transfer of work. NORDAM recommends a gated process to control work transfers. A guideline on implementing a process for work transfers can be found in the IAQG SCMH. (International Aerospace Quality Group – Supply Chain Management Handbook)

Work Transfers shall be submitted to NORDAM through Work Transfer [Supplier Notification Form FR-TNG-SC-33](#) located on <https://www.nordam.com/suppliers>.

8.1.1 Operational Risk Management

No additional requirements.

8.1.2 Configuration Management

a. - b. No additional requirements.

Control of Digital Media


Supplier shall maintain records and procedures which control configuration and accuracy of software used to manufacture, test, or accept hardware. Software may include, but is not limited to, machine control data, Computer Aided Design/Computer Aided Manufacturing (CAD/CAM) models, and CATIA models, etc. The storage media for software may include, but is not limited to computer drives, compact disks, and numerical controlled (NC) tapes.

Items to be maintained for the purposes of this section shall include as a minimum:

- a. A test data set to ensure accuracy of transmitted data,
- b. A directory for the latest released data sets, and
- c. Appropriate data security (i.e. back-up, secure storage area, etc.).

8.1.3 Product Safety

No additional requirements.

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8.1.4 Prevention of Counterfeit Parts

Supplier shall prevent and mitigate the use of counterfeit parts. Suppliers shall comply with the requirements of AS5553 for electronic components and AS6174 for non-electronic products. Suppliers shall request and obtain approval through their NORDAM buyer prior to the use of or shipment of product or material with broken traceability or from a non-authorized supplier.

8.2 Requirements for Products and Service

8.2.1 Customer Communication

a. - e. No additional requirements.

f. Changes that may affect quality shall be documented and communicated to the applicable NORDAM representative prior to implementation of the change. The changes may require a full or partial FAI at the discretion of NORDAM.

Examples of Changes:

- Ownership
- Company name change
- Management
- Manufacturing location
- Process
- Product
- Inspection Techniques

g. All correspondence and communication between NORDAM and the supplier shall be in the English language. The supplier is responsible for providing supplier's specifications, procedures, and reports in the English language. In cases where the supplier maintains copies in their native language as well as in English and there is a conflict, the English language document shall take precedence.

8.2.2 Determining the Requirements for Products and Services

No additional requirements.

8.2.3 Review of the Requirements for Products and Services

No additional requirements.

8.2.4 Changes to Requirements for Products and Services

No Additional requirements.

8.3 Design and Development of Products and Services

8.3.1 General

8.3.2 Design and Development Planning

a. - j. No additional requirements.


k. [All material used to fabricate Military components shall be smelted per DFAR 252.225 Qualifying Countries.](#)

l. Parts Manufacturer Approval (PMA) or Type Technical Standard Order Authorization (TSOA) Holders. Suppliers holding Parts Manufacturer Approval (PMA) shall provide Authorized Release Certificate (for example as applicable FAA 8130-3, EASA Form One, JAA Form One, or Transport Canada Form One) for the product(s) shipped.

Suppliers approved to manufacture parts or components under a Parts Manufacturer Approval (PMA) or a Type Technical Standard Order Authorization (TSOA) shall retain documents from the FAA stating authorization to manufacture those parts per CFR Part 21.

Supplier not holding PMA may be requested to explain their process for control and manufacturing of parts including a review of the quality, inspection and testing systems.

8.3.3 Design and Development Inputs

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- No additional requirements.
- 8.3.4 Design and Development Controls
No additional requirements.
- 8.3.5 Design and Development Outputs
No additional requirements.
- 8.3.6 Design and Development Changes
No additional requirements.

8.4 Controls of Externally Provided Processes, Products, and Services

8.4.1 General

Supplier is responsible for ensuring that procurements from sub-tier suppliers conform to all requirements of the NORDAM purchase order, including the provisions of this manual. Sub-tier suppliers shall meet NORDAM quality requirements and it is the responsibility of the NORDAM supplier to ensure their sub-tier suppliers are qualified to NORDAM contract, purchase order, and requirements of this manual.

8.4.2 Type and Extent of Controls

- a. - d. No additional requirements.
- e. Ensure that procurements from sub-tier suppliers conform to all requirements of the NORDAM purchase order, including the provisions of this manual.
- f. For calibration services supplied on NORDAM purchase order, supplier shall maintain a National Institute of Standards and Technology (NIST), International Organization of Standardizations (ISO) or equivalent agency traceable calibration system capable of ensuring the accuracy of all measuring equipment utilized in the inspection and acceptance of NORDAM products.

Information for External Providers

No additional requirements.

8.5 Production and Service Provision

8.5.1 Control of Production and Service Provision

- a. – q. No additional requirements.

r. Key Characteristics:


When NORDAM drawing/model, specification, and/or purchase order, includes key characteristic requirements; supplier shall comply with the requirements of the latest revision of AS9103. [The supplier shall identify additional key characteristics based on their knowledge of their manufacturing processes. Supplier shall conduct effective variation management activities on identified key characteristics and process for dimensionally managed parts.](#) Supplier shall establish control plans for applicable key characteristics and strive to achieve a Cpk of 1.33 [\[that is 4 \$\Sigma\$ \(sigma\)\]](#) or better. If not achievable, contact the appropriate NORDAM buyer who will consult with the NORDAM Quality Manager for direction. [The supplier may decide to perform 100% inspection on all identified key characteristic in lieu of Cpk of 1.33.](#)

s. Non-destructive Testing:

Nondestructive Testing (NDT) processes shall be specified on the purchase order, drawings/models, or referenced specifications. Records, film, or other suitable documentation stating the acceptance or the rejection of the test performed shall accompany each shipment and shall include the name of the supplier that performed the testing. The NDT report shall contain purchase order number or supplier's traceable number (i.e. work order or job number, lot control number, batch number, serial number).

t. Unusual Visual Appearance

1. An unusual visual appearance can exist when a NORDAM product contains a visual condition, which could result in unfavorable reaction or questions from a customer.
2. Examples include, but are not limited to the following:

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- a. discoloration
 - b. uneven surface condition
 - c. evidence of rework/repair
 - d. result of process change which alters the appearance of the part from parts shipped prior to the process change
 - e. visual difference between same/similar parts or between deliveries.
3. If the visual appearance violates an engineering requirement or is a result of a repair, a waiver must be submitted to NORDAM for disposition.
 4. If the visual appearance does not violate engineering requirements, but is considered “Unusual Visual Appearance”, the manufacturing source must contact the responsible NORDAM buyer, who will work with the Program Quality Engineering for concurrence prior to the part being shipped.
- 8.5.1.1 Control of Equipment, Tools, and Software Programs
- a. Control of Digital Media

Supplier shall maintain records and procedures which control configuration and accuracy of software used to manufacture, test, or accept hardware. Software may include, but is not limited to, machine control data, Computer Aided Design/Computer Aided Manufacturing (CAD/CAM) models, and CATIA models, etc. The storage media for software may include, but is not limited to computer drives, compact disks, and numerical controlled (NC) tapes.

Items to be maintained for the purposes of this section shall include as a minimum:


 - A test data set to ensure accuracy of transmitted data,
 - A directory for the latest released data sets, and
 - Appropriate data security (i.e. back-up, secure storage area, etc.).
 - b. Boeing Digital Product Definition (DPD) data.

To use Boeing furnished datasets as authority for design, manufacture or inspection, a supplier must comply with D6-51991.
 - c. Tools used at suppliers as inspection media, must be approved by the applicable NORDAM buyer and NORDAM quality. Generally, tools must demonstrate maximum 1/3 tolerance of engineering; however, this requirement is program specific.
- 8.5.1.2 Validation and Control of Special Processes
- a. – f. No additional requirements.
 - g. Supplier test results:

Results of testing, records, film, or other suitable documentation shall be reported as required on purchase orders, drawings, or specifications referenced. NORDAM shall be notified of any test failures prior shipment.

A copy of the test report is required with each shipment and shall include the following information as a minimum:

 - Purchase order number,
 - Required results and actual results,
 - Date of test,
 - Specification and revision level,
 - Signature or name of company representative.
 - h. OEM Special Process Supplier:
 - i) Some OEMs require suppliers and their sub-tiers to use only their own OEM approved Special Process Suppliers and NORDAM requires all Special Process Suppliers to hold Nadcap accreditation. NORDAM shall identify the NORDAM / OEM Special Process Suppliers by supplying the appropriate drawings and specifications required

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to manufacture the parts. Approved Special Process Suppliers may also be identified by accessing the OEM's website. If the supplier is unable to access the OEM's website or if the Nadcap accreditation is not available, the supplier shall contact the NORDAM buyer for assistance.

- i. Qualification of Supplier and Supplier's Sub-Tier Special Process Supplier: NORDAM requires that all Special Process Suppliers and their Special Process sub-tiers shall hold Nadcap accreditation. Should the Special Process Supplier not hold Nadcap accreditation or want to use a non Nadcap accredited Special Process Sub-tier Supplier, the supplier shall obtain [written](#) approval from NORDAM [Corporate Supplier Quality Department](#) prior to performing any special process work.
- j. Example of NORDAM identification of Special Processes:
 - Chemical processing
 - Coatings
 - Composite manufacture and repair
 - Heat treating
 - Non-Conventional Machining
 - Nondestructive testing
 - Materials Testing
 - Welding
 - Brazing
 - Shot Peening
 - Other process as defined by the OEM and/ or Nadcap.

8.5.1.3 Production Process Verification

A First Article Inspection (FAI) shall be accomplished and performed in accordance with the latest revision of SAE AS9102. NORDAM reserves the right to request a full or partial FAI at any time particularly when product or quality management system escapes have occurred.

Delta FAI's will be required on all revisions to the drawing that alter the original FAI.

1) First Article Documentation

Supplier shall maintain records to comply with the latest revision of AS9102 First Article Inspection Requirement. The supplier's completed first article inspection documentation using AS9102 forms shall accompany the shipment.


The FAIR shall include all dimensions/tests specified on the purchase order, drawings/models, and specifications referenced by the purchase order or drawing/model. At a minimum, inspected parts shall be identified in a manner to maintain traceability to the individual reports.

All content representing AS9102 Forms 1, 2 and 3 shall be completed. Indicate N/A where no data is reported. The Inspector shall sign or stamp and date the form.

Suppliers holding a NORDAM PO are responsible for assuring completion of the FAI Report per this requirement for all finished part characteristics generated by its supply chain. [On Site Source Inspection is required for all FAIR's unless previously waived by NORDAM Quality.](#)

In addition to AS9102 requirements, each report shall also include the following:

- i. Fully ballooned drawing(s). When design requirements are in a DPD format and traditional 2D drawing information is not available for all applicable design requirements, DPD design characteristics required for product realization shall be extracted, verified, and included in the FAIR.
- ii. A photograph of the product part marking.
- iii. A photograph of the part.

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- iv. For an assembly level FAI, all lower level and detail FAI's shall be included in the FAI report.
- v. CMM Reports if used, must be supplied with FAI Report.
- 2) Additional requirements for AS9102 Form 1
 - i. Field 8, VPC and Revision level (if any)
 - ii. Field 11, Supplier Code: Record assigned Supplier Code.
 - iii. Field 12, P.O. Number: Record Purchase Order
- 3) Additional requirements for AS9102 Form 3
 - i. Field 14, for each characteristic: Record FAI inspection measuring equipment used as a media of inspection and record FAI inspector identification (e.g. signature, stamp, electronic authorization, etc.) used to signify the person that accomplished the inspection.
 - ii. NORDAM requires that all suppliers understand and adopt measuring systems that are capable and repeatable to ensure the data recorded is accurate. NORDAM may challenge FAI results if inadequate measuring instruments or techniques are employed. SAE standard AS13003 and Automotive Industry Action Group (2010). Measurement System Analysis, 4th ed., are excellent resources.
- 4) All notes, applicable or not, from Drawings, Build of Materials (BOM), Parts List (PL), and Vendor Part Configuration (VPC).
- 5) The purchase order may mandate additional FAI requirements.
- 6) Supplier Control Drawings (SCD) parts require a full FAI for all detail parts and processes contained within the unit.
- 7) For guidelines on completing an FAI refer to IAQG SCMH.

8.5.2 Identification and Traceability Product Identification

For products supplied to a NORDAM purchase order, the supplier shall assure that product is correctly identified per applicable drawings/model, specifications, or other documents.


Part number identification shall be accomplished per the applicable drawing/model, specifications or other documents. If no method is specifically called up, the supplier shall contact their NORDAM buyer who will obtain the information. Part identification shall be traceable to appropriate supplier quality records.

Final acceptance of all items to be delivered to NORDAM, shall be indicated by means of the supplier's unique identifier or stamp on all products.

As a minimum requirement, product manufactured for NORDAM shall be identified with the following:

- a. Part number per the purchase order,
- b. Drawing revision and Advanced Drawing Change Notice (ADCN) or equivalent, at date of manufacture,
- c. Manufacturer part number, if applicable,
- d. Supplier's traceable number (i.e. work order or job number, lot control number, serial number, batch number),
- e. Indication of acceptance by supplier's quality system inspection stamp, if permissible and if supplier utilizes stamps,
- f. NORDAM's nonconforming material number if the item was processed per Nonconforming Material section of this manual.

If parts cannot be labeled due to size, or when identification of the part itself would result in damage or mutilation, the identification shall be placed with the item. This requirement is in addition to any part marking instructions listed on the applicable drawing or specification.

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[When multiple material heat/batch lots are consumed on a single work order, the part marking shall include the heat/batch lot number traceable to pertinent supplier quality records](#)

8.5.3 Property Belonging to Customers or External Provisions

a. NORDAM Furnished Material (NFM)

NORDAM material issued to a supplier for fabrication and/or processing is required to be controlled so the furnished material is used only for NORDAM products. The supplier shall notify the NORDAM buyer of any missing or damaged materials.

The use of NFM does not absolve the supplier from the obligation of performing receiving inspection of NFM product.

b. NORDAM Furnished Tooling (NFT)

Supplier is responsible for the following related to NORDAM furnished tooling:

- i. Ensure the proper care and upkeep.
- ii. Track and maintain all tooling while in supplier's possession
- iii. Notification to NORDAM buyer of any loss or damage upon discovery.
- iv. Make records available to NORDAM or NORDAM authorized representative upon request.
- v. Returning furnished tooling at the conclusion of contract, unless notified otherwise in writing by NORDAM buyer.
- vi. Conduct a physical inventory of tooling, as directed by the NORDAM contract and/or buyer, and submit a list identifying the tool number to the NORDAM buyer, who in turn will submit to NORDAM Tooling Logistics.
- vii. Any additional requirements noted in NORDAM purchase order.

c. Control of US Government Tooling

Supplier shall control US government tooling in accordance with U.S. FAR 52.245-1 Government Property or as instructed per NORDAM purchase order.

d. Control of Boeing Tooling

Supplier shall adhere to the requirements of Boeing D950-11059-1 BDS Special Tooling Requirements and D33200-1 Boeing Suppliers Tooling.

e. Control of other Customer Tooling

Supplier shall adhere to the requirements of the Customer Supplier Quality Manual or Customer Tooling Manual from which the tooling belongs. If the Customer Supplier Quality Manual or Customer Tooling Manual is not available, contact the NORDAM buyer for instruction.

f. Tool Maintenance or Modification / Rework


Supplier is required to perform visual review of tool before and after each use to ensure parts produced from the tooling meet the quality expectation of the tooling. If tooling is degraded or substandard, or part quality is impacted by tooling, supplier is to contact NORDAM buyer immediately advising of situation. Supplier is required to obtain authorization from applicable NORDAM buyer prior to performing maintenance on any tools belonging to NORDAM/government/customer.

Vendor owned tooling that is in place with NORDAM exclusive use agreements will not be modified in any way that will impact the end result of the part being fabricated, without the concurrence of NORDAM tooling/engineering. Minor maintenance for general tool upkeep is excluded on vendor owned tooling for notification requirements.

g. Tool Storage

Tools shall be stored according to the following minimum requirements:

- i. The supplier shall apply a suitable grease and protective coating, as applicable.

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- ii. No tooling made of a composite material which must endure vacuum integrity for autoclave pressurized or oven negative pressure at elevated temperatures will be allowed to be stored outdoors.
- iii. Tooling destined for outdoor storage will require NORDAM concurrence prior to such storage. As required each tool shall have a picture map of points of preservation requirements, and the materials to be used at each location. A tool preparation check list may be used in lieu of a picture map defining points of requirements based on metallic composition. Hard covers will be used over fiberglass or plastic tooling to minimize damage from sunlight and water. Covers are to be maintained, secured and properly attached during all storage events in the out of door elements.
- iv. All tooling that has been prepared for outdoor storage shall have visual review completed by the tooling representative and approval noted that the tool is ready for storage.
- v. All tooling stored out of doors in an unprotected environment will require visual bi-annual review and touch up of protection as required.

8.5.4 Preservation

a – f. No additional requirements.

g. Safety Data Sheets

Supplier may provide Safety Data Sheet (SDS) (formerly MSDS or Material Safety Data Sheet) for products, as applicable. If the term “Hazardous Material” applies to any item(s) ordered by NORDAM, it is required that a SDS accompany product shipment.

i) Direct Ship Authorization

a. Direct Shipment to Other Persons:


Direct Shipment of NORDAM items to other companies/persons **IS NOT PERMITTED** without written approval from NORDAM. Any of these items that are discovered to be shipped from supplier facility without proper written authorization from NORDAM may be considered suspected unapproved parts (SUP) and reported to the OEM or the design authority and the FAA.

b. Supplier Responsibility for NORDAM Approved Direct Shipments:

Supplier is responsible to perform the following for each shipment to other persons:

- i. Request or petition direct shipment approval (DSA) from NORDAM buyer prior to any shipment being made.
 - ii. Direct ship the article.
 - iii. Provide a direct ship declaration with the shipment.
 - iv. Provide a signed/stamped (C of C) statement of conformance certifying that the article conforms to approved data and type design.
 - v. Provide traceability to the end-item user purchase order, or purchase request.
 - vi. Maintain evidence that the supplier has direct ship authorization from the approved manufacturer.
 - vii. Provide a statement (direct ship declaration) that delegation of inspection authority has been granted by the approved manufacturer and that the inspection was performed on behalf of the approved manufacturer.
- ii) For material stored below room temperature, the supplier shall include temperature recorder(s) with the shipment. Supplier shall position the temperature recorder(s) to provide accurate indication of the material condition for the lot.
- iii) Packaging and Delivery

Supplier shall ensure that all products are packaged and shipped properly using the following requirements:

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- a. Each product shall be clearly identified.
- b. Package
 - All packaging shall provide physical, chemical and cleanliness protection to prevent damage to or deterioration of the products during transportation and storage.
 - Package each purchase order line item separately.
 - No contact between parts during shipping. (i.e. metal-to-metal).
- c. Container Materials & Weight
 - Use proper and appropriate containers to prevent damage to packaged product and in accordance with International Plant Protection Convention (IPPC) for Wood Packaging Materials (WPM).
 - Use proper and appropriate dunnage as cushioning to prevent shifting of products and damage in transit.
 - Shipments over seventy-five (75) pounds should be divided into multiple containers or secured and shipped on a pallet in such a manner that shall prevent damage.
- d. Documentation
 - Supplier shall include with each shipment, all documentation required by the applicable purchase order and this manual. All documents shall be accurate, legible, and written in English language.

These guidelines do not relieve the supplier of responsibility for properly controlling the packaging and shipping function in a manner that prevents damage in handling and in transit. Shipments arriving not in accordance with the above, or with obviously inadequate packaging, are subject to rejection and return, at the cost of the supplier.


8.5.5 Post-Delivery Activities
No additional requirements.

8.5.6 Control of Changes
No additional requirements.

8.6 Release of Products and Services
a. - b. No Additional requirements
c. Certificate of Conformance (C of C)

Suppliers shall provide Certificate of Conformance (C of C) with the following information where applicable:

- i. NORDAM part number and revision level.
- ii. Manufacturer part number.
- iii. Part description.
- iv. Purchase order number or supplier's traceable number (i.e. work order or job number, lot control number, serial number, or batch number).
- v. Statement of compliance to applicable drawings/models, specifications or other specified technical data and their revision level. If unable to comply with NORDAM purchase order requirements due to superseding of reference documents the superseding relationship shall be documented on the C of C.
- vi. Signature or name of an authorized representative of supplier. Statement of certification by company, department, and/or specified individual representing the certifying organization.
- vii. Special Process documentation as follows for each part:
 - A copy of subcontractor's special process C of C containing the specification, and revision level, or

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- A list of all special processors who contributed to the shipped part, the specification, and revision level.
- viii. Serial number.
- ix. Country of Origin as defined in the U.S. Export Regulations.
- x. Lot or batch number.
- xi. Kit shipments of a collection of different part numbers shipped to NORDAM in one box as defined by NORDAM purchasing shall include a pick list containing part number, quantity, and traceability reference for each part to the supplier's internal manufacturing records.
- xii. If item was processed per Nonconforming Material section of this manual, the C of C shall state what work was done to the item.

d. Certificate of Conformance (C of C) For Military Contracts

For military contracts identified by NORDAM purchase order, the supplier shall provide C of C containing information that provides uninterrupted trace from raw material and continue with all processing certifications (for heat treat, passivate, prime, etc. as applicable) through to the final product.

The C of C shall contain the information listed above and include the following additional requirements:

- i. Documents accompanying fasteners and hardware of the C of C originating from the original manufacturing source.
- ii. Special process providers C of C shall include reference to NORDAM purchase order number for NORDAM requested manufactured products.

8.7 Control of Nonconforming Outputs

8.7.1. a. - d. No additional requirements.

e. Notice of Escape

i. Delivered Products:

In the event a non-conforming condition is detected after delivery or use has started, the supplier shall notify the NORDAM buyer immediately, not to exceed twenty-four (24) hours, upon discovery of the condition. Furthermore, supplier shall provide formal notification in writing addressed to the attention of the NORDAM buyer and to the appropriate Quality department. This notification shall include all pertinent information concerning the condition (i.e. purchase order, part numbers, serial number, quantities, time frame, description of condition, etc.) and the corrective action taken to prevent recurrence. Failure to comply may result in disapproval or other actions.

ii. Engineering Designs:


In the event a non-conforming condition is discovered that affects previously delivered engineering designs, the supplier shall notify NORDAM buyer immediately, not to exceed twenty-four (24) hours, upon the discovery of the condition. Furthermore, supplier shall provide formal notification in writing addressed to the attention of the NORDAM buyer and to the appropriate Quality and Engineering Departments. This notification shall include all pertinent information concerning the condition (i.e. purchase order, time frame, description of condition, etc.) and the corrective action taken to prevent recurrence. Failure to comply may result in disapproval or other actions.

f. Nonconforming Material:

The supplier shall maintain an effective system for controlling nonconforming materials and components including procedures for identification, segregation, documentation, evaluation, and disposition to prevent unintended release or use.

g. Nonconformance Documentation:

When necessary, supplier shall produce nonconforming material reports that include the following information, at a minimum:

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- Complete article identification,
- Date of report initiation,
- Complete description of the nonconformance,
- Cause of the nonconformance,
- Corrective actions taken or recommended, and
- Signatures of initiator and individual or Material Review Board (MRB) members who signed the cause and corrective action disposition.

h. Supplier Options for Disposition of Nonconforming Materials

Supplier's disposition of nonconforming materials is limited to one of the following:

- i) Rework to required configuration to meet engineering drawing/model, specification, purchase order requirements.
- ii) Scrap if unfit for use unless material is NORDAM furnished or charges to NORDAM are involved. Supplier shall notify NORDAM buyer before proceeding further if NORDAM furnished material is involved. Product with disposition as scrap shall be clearly identified and physically mutilated to render the part unusable within 30 days of final disposition unless otherwise instructed in writing by the NORDAM representative.

i. NORDAM Material Review Board (MRB) Disposition

NORDAM MRB disposition is required when material is found to depart from engineering drawing/model, specification, purchase order requirements and cannot be reworked back to the original requirements. (i.e. an MRB disposition of use-as-is, rework or scrap.)

The supplier shall await NORDAM MRB disposition on any nonconformance to NORDAM requirements.

Nonconformance of these types shall be submitted to the NORDAM buyer.

To obtain NORDAM MRB disposition the following steps are required:


- i) The supplier shall initiate a Non-Conformance Report.
- ii) The supplier shall then forward the Non-Conformance Report to the appropriate NORDAM buyer. The information will be transferred from supplier's non-conformance report to a NORDAM Quality Notification (QN) for disposition.
- iii) The NORDAM buyer shall submit the QN to NORDAM's MRB/Engineering for a disposition decision.
- iv) Copies of the completed QN shall be sent to the supplier by the NORDAM buyer.

Upon receipt of the completed QN from NORDAM, the supplier shall perform the following:

- i) Complete per instructions as documented on the QN.
- ii) Inspect the product in accordance with documented procedures.
- iii) Complete the QN with the Quality signature or stamp with date.
- iv) Mark the QN number on all affected product.
- v) Ship the completed product and include a copy of the completed QN. The applicable QN number(s) shall be referenced on the Certificate of Conformance (C of C) and shipping documentation.
- vi) Product with disposition as scrap shall be clearly identified and physically mutilated to render the part unusable within 30 days of final disposition unless otherwise instructed in writing by the NORDAM representative.

Product found to be discrepant may be returned to supplier for rework or replacement.

8.7.2. a. - d. No additional requirements.

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9. PERFORMANCE EVALUATION

9.1 Monitoring, Measurement, Analysis, and Evaluation

9.1.1 General

No additional requirements.

9.1.2 Customer Satisfaction

No additional requirements.

9.1.3 Analysis and Evaluation

No additional requirements.

9.2 Internal Audit

No additional requirements.

9.3 Management Review

9.3.1 General

No additional requirements.

9.3.2 Management Review Inputs

No additional requirements.

9.3.3 Management Review Outputs

No additional requirements.

10. IMPROVEMENT

10.1 General


No additional requirements.

10.2 Nonconformity and Corrective Actions


Note: NORDAM reserves the right to flow down the use of AS13000 – Problem Solving Requirements for Suppliers as guidance.

10.3 Continual Improvement

No additional requirements.

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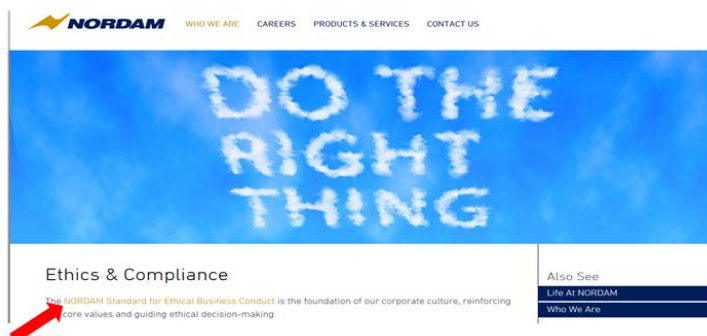
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SECTION 2: MAINTENANCE ORGANIZATIONS

Quality Management Systems - Requirements for Aviation Maintenance Organizations

INTRODUCTION

- 0.1 General.**
No additional requirements
- 0.2 Quality Management Principles**
No additional requirements
- 0.3 Process Approach**
No additional requirements
- 0.4 Relationship with Other Management System Standards**
No additional requirements
- 0.5 Policies and Information**
- 0.5.1** Suppliers shall ensure that all members of their supply chain who supply parts to satisfy a NORDAM PO are compliant to this manual.
- 0.5.2** The supplier shall provide right of access to their facility and the facilities of all members of their supply chain for review, verification, and analysis of their quality management system, quality control, inspection system, and maintenance process. Right of access shall be granted to Federal Aviation Administration (FAA), National Transportation Safety Board (NTSB), Department of Transportation (DOT), Department of Defense (DOD), NORDAM (and qualified second or third parties) and NORDAM's customers. The FAA, NTSB, DOT, DOD, NORDAM, European Aviation Safety Agency (EASA), National Aviation Authority (NAA), and NORDAM's customers have the right to inspect and test all parts at all places and times to the extent practical and permitted under export control regulations.
- 0.5.3** NORDAM reserves the right to maintain a NORDAM representative on-site at the supplier's or sub-tiers facilities.
- 0.5.4** NORDAM reserves the right to disapprove a supplier's Quality System as well as the Quality System of any member of their supply chain.
- 0.5.5** Supplier shall maintain a drug-free workplace program to provide a safe workplace and discourage alcohol and drug abuse.
- 0.5.6** Suppliers shall permit NORDAM access to all data in OASIS databases.
- 0.5.7** STANDARD FOR ETHICAL BUSINESS CONDUCT. NORDAM is committed to conducting business fairly, impartially, and in an ethical and proper manner. Supplier shall read NORDAM's Standard for Ethical Business Conduct found at www.nordam.com, Who We Are, Ethics and Compliance, and all suppliers shall comply with the Standard while performing obligations to NORDAM.



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1. SCOPE

No additional requirements.

1.1 Application

This section of the manual contractually applies to NORDAM suppliers and all members of their supply chain who provide maintenance to product, materials or services to support the repair maintenance/overhaul of parts onto an aircraft in accordance with NORDAM purchase order or contract requirements. NORDAM suppliers are required to access the NORDAM website to review this and any other document required to satisfy the PO requirements. The supplier shall perform a full documentation review of NORDAM specifications to ensure they are working to and flowing down to sub-tiers the latest revision documents including this manual.

Suppliers are responsible for notifying NORDAM of changes in the supplier's senior leadership, (Director and above), ownership, name, location or address, change in process or product, loss of any accreditation (AS9110, Nadcap etc.), or any other quality system changes in their or their sub-tier that can affect process or product affecting NORDAM. The notification shall be provided to NORDAM in a written statement within seventy-two (72) hours of any of these changes. This notification shall be sent to the appropriate NORDAM buyer. Upon receipt of this written notification NORDAM will determine necessary actions.

Any exception to the Suppliers AS9110 accreditation will constitute an exception to the same clause of the Supplier Quality Manual.

Suppliers who are not accredited under the AS9110 Standard and request an exception or deviation from any clause of this Manual shall submit a formal request sent to the appropriate NORDAM buyer to forward to the Corporate Quality Director for review.

2. NORMATIVE REFERENCES

The following documents are valuable for the application of this document.

- IAQG SCM, International Aerospace Quality Group – Supply Chain Management Handbook.
- AS9102 Aerospace First Article Inspection Requirement.
- ~~AS9103— Aerospace Series – Quality Management Systems – Variation Management of Key Characteristics.~~
- [AS9110 Quality Management Systems – Requirements for Aviation Maintenance Organizations](#)
- ~~AS9117 Delegated Product Release verification~~
- [AS13001 Delegated Product Release Verification Training Requirements](#)
- AS9145 Aerospace Series – Requirements for APQP and PPAP
- AS9146 Foreign Object Damage (FOD) Prevention Program
- AS13000 Problem Solving Requirements for Suppliers
- ~~AS13003— Measurement Systems Analysis Requirements for the Aero Engine Supply Chain~~
- [AS13004 Process Failure Mode and Effects Analysis \(PFMEA\) and Control Plans](#)
- [AS13006 Process Control Methods](#)
- ISO 9000 Quality Management Systems — Fundamentals and vocabulary
- ISO 9001 Quality Management Systems — Requirements


3. TERMS AND DEFINITIONS

No additional requirements.

4. CONTEXT OF THE ORGANIZATION

General Requirements

Certificated contract maintenance supplier shall maintain FAA certified or equivalent repair station in accordance with 14 CFR 145. The supplier shall maintain a current status of their agency Certificate, Operations Specifications, Capabilities List, Repair Station Manual, and Training

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Manual. Being a National Aviation Authority (NAA) certificated FAA or equivalent repair station does not relieve the supplier from responsibility of complying with all NORDAM purchase order requirements and requirements of this manual.

5. LEADERSHIP

No additional requirements.

6. PLANNING

No additional requirements.

7. SUPPORT

7.1 Resources

7.1.1 General

Drug and Alcohol program

Suppliers based in the United States must maintain a Drug and Alcohol program in accordance with 14 CFR 120. Evidence shall be maintained to verify drug and alcohol testing program requirements are implemented. Supplier shall also provide evidence of flow down to sub-tier suppliers that perform contract maintenance for supplier on NORDAM's customer's parts. The objective evidence shall include a procedure to obtain and subsequently retain, for a minimum of ten (10) years from date of work, proof that U.S. based sub-contracted maintenance/preventive maintenance providers, at all tiers (certificated and non-certificated), have an FAA approved active anti-drug and alcohol misuse prevention program (AAMPP).

7.1.2 People

No additional requirements.

7.1.3 Infrastructure

No additional requirements.

7.1.4 Environment for the Operation of Processes

a-b. No additional requirements.

c. Lighting intensity and cleanliness for work areas and inspection benches shall be evaluated by the management for suitability for the work performed.

7.1.5 Monitoring and Measuring Resources

7.1.5.1 General

Measuring equipment used in all stages of [Maintenance or Sub-Contract Maintenance work](#) -shall be controlled and calibrated. No non-calibrated or "Reference Only" measuring instrument are to be used.

7.1.5.2 Measurement Traceability

NORDAM reserves the right to flow down AS13003 – Measurement Systems Analysis Requirements for the Aero Engine Supply Chain.

7.1.6 Organizational Knowledge

No additional requirements.

7.2 Competence

No additional requirements.

7.3 Awareness

No additional requirements.

7.4 Communications

No additional requirements.

7.5 Documented Information

7.5.1 General


No additional requirements.

7.5.2 Creating and Updating

No additional requirements.

7.5.3 Control of Documented Information

7.5.3.1 a. – b. No additional requirements.

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c. All quality records (non-electronic) shall be documented in ink or other permanent marking.

d. Corrections to work instructions or documents shall be recorded, dated and traceable to the person making the change (e.g., signature, stamp, etc.) in ink or other permanent marking method with the original data being legible and retrievable after the change.

e. Documents submitted to NORDAM that contain technical data shall include a statement near the beginning of the document such as "This document contains technical data" or an equivalent statement. This statement shall be repeated throughout the document.

United States (U.S.) organizations shall also identify the Export Control Classification Number (ECCN) or U.S. Munitions List (USML) classification.

Other organizations shall identify applicable export classifications related to the documents submitted to NORDAM.

7.5.3.2 a. – c. No additional requirements.

7.5.3.2 d.

The supplier shall maintain an adequate records system. All records/documented information shall be retained in a safe and secure manner in electronic or paper format for a minimum of ten (10) years from completion of the NORDAM purchase order. NORDAM contract may require record retention to be extended beyond the ten (10) year retention period.

7.5.3.2 e. No additional requirements.

8. OPERATION

8.1 Operational Planning and Control

a. – j.) No additional requirements.

k. Suppliers shall notify NORDAM prior to any planned work transfer or any planned change implementation within the supplier organization or its supply chain. This includes [Maintenance or Sub-Contract Maintenance](#) locations changes within the organization or changes in a supplier or a sub-tier supplier's location. The supplier shall have documented procedures for implementing this requirement, ensuring it is applied in their supply base and that decisions to interrupt flow of material from any existing source shall not take place until approved by NORDAM. NORDAM may choose to participate in the transfer activity to mitigate any risks associated with the transfer.

If the transfer of work involves transfer of NORDAM ITAR or other technical data to a party or location requiring an export license, NORDAM must approve the work transfer. If approved, NORDAM will assist Supplier in obtaining all required government licenses prior to transfer of work. NORDAM recommends a gated process to control work transfers. A guideline on implementing a process for work transfers can be found in the IAQG SCMH. (International Aerospace Quality Group – Supply Chain Management Handbook)

Work Transfers shall be submitted to NORDAM through Work Transfer [Supplier Notification Form FR-TNG-SC-33](#) located on <https://www.nordam.com/suppliers>.

8.1.1 Operational Risk Management

No additional requirements.


8.1.2 Configuration Management

Supplier shall maintain records and procedures which control configuration and accuracy of software used to manufacture, test, or accept hardware. Software may include, but is not limited to, machine control data, Computer Aided Design/Computer Aided Manufacturing (CAD/CAM) models, and CATIA models, etc. The storage media for software may include, but is not limited to computer drives, compact disks, and numerical controlled (NC) tapes.


Items to be maintained for the purposes of this section shall include as a minimum:

- a. A test data set to ensure accuracy of transmitted data,
- b. A directory for the latest released data sets, and
- c. Appropriate data security (i.e. back-up, secure storage area, etc.).

8.1.3 Product Safety

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- No additional requirements.
- 8.1.4 Prevention of Counterfeit Parts
Supplier shall prevent and mitigate the use of counterfeit parts. Suppliers shall comply with the requirements of AS5553 for electronic components and AS6174 for non-electronic products. Suppliers shall request and obtain approval through their NORDAM buyer prior to the use of or shipment of product or material with broken traceability or from a non-authorized supplier.
- 8.1.5 Prevention of Suspected Unapproved Parts
No additional requirements
- 8.1.6 Installation of Approved Parts
No additional requirements
- 8.2 Requirements for Products and Service
- 8.2.1 Customer Communication
- a. – e. No additional requirements.
- f. Changes that may affect quality shall be documented and communicated to the applicable NORDAM representative prior to implementation of the change. The changes may require a full or partial FAI at the discretion of NORDAM.
Examples of Changes:
- Ownership
 - Company name change
 - Management
 - Manufacturing location
 - Process
 - Product
 - Inspection Techniques
- g. All correspondence and communication between NORDAM and the supplier shall be in the English language. The supplier is responsible for providing supplier's specifications, procedures, and reports in the English language. In cases where the supplier maintains copies in their native language as well as in English and there is a conflict, the English language document shall take precedence.
- 8.2.2 Determining the Requirements for Products and Services
No additional requirements.
- 8.2.3 Review of the Requirements for Products and Services
No additional requirements.
- 8.2.4 Changes to Requirements for Products and Services
No Additional requirements.
- 8.3 Design and Development of Products and Services
- 8.3.1 General
- 8.3.2 Design and Development Planning
- a. – j. No additional requirements.
- [k. All material used to fabricate Military components shall be smelted per DFAR 252.225 Qualifying Countries](#)
- Design and Development Controls
No additional requirements.
- 8.3.3 Design and Development Outputs
No additional requirements.
- 8.3.4 Design and Development Changes
No additional requirements.
- 8.4 Controls of Externally Provided Processes, Products, and Services
- 8.4.1 General
Supplier is responsible for ensuring that procurements from sub-tier suppliers conform to all requirements of the NORDAM purchase order, including the provisions of this manual.

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Sub-tier suppliers shall meet NORDAM quality requirements; it is the responsibility of the NORDAM supplier to ensure their sub-tier suppliers are qualified to NORDAM contract, purchase order, and requirements of this manual.

8.4.1.1 The Organization Shall:

a. – e. No additional requirements

f. Mills located outside the USA

Supplier shall request approval from the appropriate NORDAM quality department when procuring metallic material obtained from mills located outside of the United States of America (USA) that do not hold a bi-lateral agreement with the FAA.

Supplier is responsible for ensuring that procurements from sub-tier suppliers conform to all requirements of the NORDAM purchase order, including the provisions of this manual.

Sub-tier suppliers shall meet NORDAM quality requirements; it is the responsibility of the NORDAM approved supplier to ensure their sub-tier suppliers are qualified to NORDAM contract, purchase order, and requirements of this manual.

8.4.2 Type and Extent of Controls

a. – d. No additional requirements

e. Ensure that procurements from sub-tier suppliers conform to all requirements of the NORDAM purchase order, including the provisions of this manual.

f. For calibration services supplied on NORDAM purchase order, supplier shall maintain a National Institute of Standards and Technology (NIST), International Organization of Standardizations (ISO) or equivalent agency traceable calibration system capable of ensuring the accuracy of all measuring equipment utilized in the inspection and acceptance of NORDAM products.

8.4.3 Information for External Providers

No additional requirements.

8.5 Production and Service Provision

8.5.1 Control of Production and Service Provision

a. – q. No additional requirements.

8.5.1.1 Control of Equipment, Tools, and Software Programs

Control of Digital Media

Supplier shall maintain records and procedures which control configuration and accuracy of software used to manufacture, test, or accept hardware. Software may include, but is not limited to, machine control data, Computer Aided Design/Computer Aided Manufacturing (CAD/CAM) models, and CATIA models, etc. The storage media for software may include, but is not limited to computer drives, compact disks, and numerical controlled (NC) tapes.

Items to be maintained for the purposes of this section shall include as a minimum:

- A test data set to ensure accuracy of transmitted data,
- A directory for the latest released data sets, and
- Appropriate data security (i.e. back-up, secure storage area, etc.).

Boeing Digital Product Definition (DPD) data.


To use Boeing furnished datasets as authority for design, manufacture or inspection, a supplier must comply with D6-51991.

8.5.1.2 Validation and Control of Special Processes

a. – f. No additional requirements.

e. Supplier test results:

Results of testing, records, film, or other suitable documentation shall be reported as required on purchase orders, drawings, or specifications referenced. NORDAM shall be notified of any test failures prior shipment.

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A copy of the test report is required with each shipment and shall include the following information as a minimum:

- Purchase order number,
- Required results and actual results,
- Date of test,
- Specification and revision level,
- Signature or name of company representative.

f. NORDAM / OEM Special Process Supplier:

- a. Supplier shall be an approved NORDAM / OEM Special Process Suppliers and/or shall hold Nadcap accreditation. NORDAM shall identify the NORDAM / OEM Special Process Suppliers by supplying the appropriate drawings and specifications required to manufacture the parts. Approved Special Process Suppliers may also be identified by accessing the OEM's website. If the supplier is unable to access the OEM's website, supplier shall contact NORDAM buyer.

g. Qualification of [Supplier and Supplier's Sub-Tier Special Process Supplier](#):

[NORDAM requires that all Special Process Suppliers and their Special Process sub-tiers shall hold Nadcap accreditation. Should the Special Process Supplier not hold Nadcap accreditation or want to use a non Nadcap accredited Special Process Sub-tier Supplier, the supplier shall obtain written approval from NORDAM Corporate Supplier Quality Department prior to performing any special process work.](#)

Example of NORDAM identification of Special Processes:

- Chemical processing
- Coatings
- Composite manufacture and repair
- Heat treating
- Non-Conventional Machining
- Nondestructive testing
- Materials Testing
- Welding
- Brazing
- Shot Peening
- Other process as defined by the OEM and/ or Nadcap.


8.5.1.3 Production Process Verification.

As applicable for new parts, a First Article Inspection (FAI) shall be accomplished and performed in accordance with the latest revision of SAE AS9102. NORDAM reserves the right to request a full or partial FAI at any time particularly when product or quality management system escapes have occurred.

Delta FAI's will be required on all revisions to the drawing even if the part dash number is not affected.

1) First Article Documentation

Supplier shall maintain records to comply with the latest revision of AS9102 First Article Inspection Requirement. The supplier's completed first article inspection documentation using AS9102 forms shall accompany the shipment.

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The FAIR shall include all dimensions/tests specified on the purchase order, drawings/models, and specifications referenced by the purchase order or drawing/model. At a minimum, inspected parts shall be identified in a manner to maintain traceability to the individual reports.

All content representing Forms 1, 2 and 3 shall be completed. Indicate N/A where no data reported. The Inspector shall sign or stamp and date the form.

Suppliers holding a NORDAM PO are responsible for assuring completion of the FAI Report per this requirement for all finished part characteristics generated by its supply chain.

In addition to AS9102 requirements, each report shall also include the following:

- i. Fully ballooned drawing(s). When design requirements are in a DPD format and traditional 2D drawing information is not available for all applicable design requirements, DPD design characteristics required for product realization shall be extracted, verified, and included in the FAIR.
 - ii. A replication of product part marking (via photograph or sample) that represents production marking.
 - iii. A photograph of the part.
 - iv. For an assembly level FAI, all lower level and detail FAI's shall be included in the FAI report.
- 2) Additional requirements for AS9102 Form 1
 - i. Field 11, Supplier Code: Record assigned Supplier Code.
 - ii. Field 12, P.O. Number: Record Purchase Order.
 - 3) Additional requirements for AS9102 Form 3
 - i. Field 14, for each characteristic: Record FAI inspection measuring equipment used as a media of inspection and record FAI inspector identification (e.g. signature, stamp, electronic authorization, etc.) used to signify the person that accomplished the inspection.
 - ii. NORDAM Quality requires the use of CMM or similar equipment with a traceable report for form 3. Contact NORDAM buyer if an exception is required.
 - 4) The purchase order may mandate additional FAI requirements.
 - 5) Supplier Control Drawings (SCD) parts require a full FAI for all detail parts and processes contained within the unit.
 - 6) For guidelines on completing an FAI refer to IAQG SCMH.

8.5.1.4 Evaluation of a New Capability

No additional requirements.

8.5.2 Identification and Traceability

Product Identification

For products supplied to a NORDAM purchase order, the supplier shall assure that product is correctly identified per applicable drawings/model, specifications, or other documents.


Part number identification shall be accomplished per the applicable drawing/model, specifications or other documents. If no method is specifically called up, then part number identification shall be accomplished by permanent ink marking of the parts.

Part identification shall be traceable to appropriate supplier quality records.

Final acceptance of all items to be delivered to NORDAM, shall be indicated by means of the supplier's inspection signature or stamp on all product.

As a minimum requirement, product manufactured for NORDAM shall be identified with the following:

- a. Part number per the purchase order,


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- b. Drawing revision and Advanced Drawing Change Notice (ADCN) or equivalent, at date of manufacture,
- c. Manufacturer part number, if applicable,
- d. Supplier's traceable number (i.e. work order or job number, lot control number, serial number, batch number),
- e. Indication of acceptance by supplier's quality system inspection stamp, if permissible and if supplier utilizes stamps,
- f. NORDAM's nonconforming material number if the item was processed per Nonconforming Material section of this manual.

If parts cannot be labeled due to size, or when identification of the part itself would result in damage or mutilation, the identification shall be placed with the item. This requirement is in addition to any part marking instructions listed on the applicable drawing or specification.

8.5.3 Property Belonging to Customers or External Provisions

- a. **NORDAM Furnished Material (NFM)**
NORDAM material issued to a supplier for fabrication and/or processing is required to be controlled so the furnished material is used only for NORDAM products. The supplier shall notify the NORDAM buyer of any missing or damaged materials.
The use of NFM does not absolve the supplier from the obligation of performing receiving inspection of NFM product.
- b. **NORDAM Furnished Tooling (NFT)**
Supplier is responsible for the following related to NORDAM furnished tooling:
 - i. Ensure the proper care and upkeep.
 - ii. Track and maintain all tooling while in supplier's possession
 - iii. Notification to NORDAM buyer of any loss or damage upon discovery.
 - iv. Make records available to NORDAM or NORDAM authorized representative upon request.
 - v. Returning furnished tooling at the conclusion of contract, unless notified otherwise in writing by NORDAM buyer.
 - vi. Conduct a physical inventory of tooling, as directed by the NORDAM contract and/or buyer, and submit a list identifying the tool number to the NORDAM buyer, who in turn will submit to NORDAM Tooling Logistics.
 - vii. Any additional requirements noted in NORDAM purchase order.
- c. **Control of US Government Tooling**
Supplier shall control U S government tooling in accordance with U.S. FAR 52.245-1 Government Property as instructed per NORDAM purchase order.
- d. **Control of Boeing Tooling**
Supplier shall adhere to the requirements of Boeing D950-11059-1 BDS Special Tooling Requirements and D33200-1 Boeing Suppliers Tooling.
- e. **Control of other Customer Tooling**
Supplier should adhere to the requirements of the Customer Supplier Quality Manual or Customer Tooling Manual from which the tooling belongs. If the Customer Supplier Quality Manual or Customer Tooling Manual is not available contact the NORDAM buyer for instruction.
- f. **Tool Maintenance or Modification / Rework**
Supplier is required to perform visual review of tool before and after each use to ensure parts produced from the tooling meet the quality expectation of the tooling. If tooling is degraded or substandard, or part quality is impacted by tooling, supplier is to contact NORDAM immediately advising of situation. Supplier is required to obtain authorization

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from applicable NORDAM buyer prior to performing maintenance on any tools belonging to NORDAM/government/customer.

Vendor owned tooling that is in place with NORDAM exclusive use agreements will not be modified in any way that will impact the end result of the part being fabricated, without the concurrence of NORDAM tooling/engineering. Minor maintenance for general tool upkeep is excluded on vendor owned tooling for notification requirements.

g. Tool Storage

Tools shall be stored according to the following minimum requirements:

- i. The supplier shall apply a suitable grease and protective coating, as applicable.
- ii. No tooling made of a composite material which must endure vacuum integrity for autoclave pressurized or oven negative pressure at elevated temperatures will be allowed to be stored outdoors.
- iii. Tooling destined for outdoor storage will require NORDAM concurrence prior to such storage. As required each tool shall have a picture map of points of preservation requirements, and the materials to be used at each location. A tool preparation check list may be used in lieu of a picture map defining points of requirements based on metallic composition. Hard covers will be used over fiberglass or plastic tooling to minimize damage from sunlight and water. Covers are to be maintained, secured and properly attached during all storage events in the out of door elements.
- iv. All tooling that has been prepared for outdoor storage shall have visual review completed by the tooling representative and approval noted that the tool is ready for storage.
- v. All tooling stored out of doors in an unprotected environment will require visual bi-annual review and touch up of protection as required.

8.5.4 Preservation

a. – g. No additional requirements.

h. Safety Data Sheets

Supplier may provide Safety Data Sheet (SDS) (formerly MSDS or Material Safety Data Sheet) for products, as applicable. If the term “Hazardous Material” applies to any item(s) ordered by NORDAM, it is required that a SDS accompany product shipment.

i. Direct Ship Authorization


a. Direct Shipment to Other Persons:

Direct Shipment of NORDAM items to other persons **IS NOT PERMITTED** without written approval from NORDAM. Any of these items that are discovered to be shipped from supplier facility without proper written authorization from NORDAM may be considered suspected unapproved parts (SUP) and reported to the OEM or the design authority and the FAA.

b. Supplier Responsibility for NORDAM Approved Direct Shipments:

Supplier is responsible to perform the following for each shipment to other persons:

- i. Request or petition direct shipment approval (DSA) from NORDAM prior to any shipment being made.
- ii. Direct ship the article.
- iii. Provide a direct ship declaration with the shipment.
- iv. Provide a signed/stamped (C of C) statement of conformance certifying that the article conforms to approved data and type design.
- v. Provide traceability to the end-item user purchase order, or purchase request.
- vi. Maintain evidence that the supplier has direct ship authorization from the approved manufacturer.

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- vii. Provide a statement (direct ship declaration) that delegation of inspection authority has been granted by the approved manufacturer and that the inspection was performed on behalf of the approved manufacturer.
- j. For material stored below room temperature, the supplier shall include temperature recorder(s) with the shipment. Supplier shall position the temperature recorder(s) to provide accurate indication of the material condition for the lot.
- k. Packaging and Delivery

Supplier shall ensure that all products are packaged and shipped properly using the following requirements:

- a. Each product shall be clearly identified.
- b. Package
 - Package products per industry standard.
 - Package each purchase order line item separately.
 - No contact between parts during shipping. (i.e. metal-to-metal).
- c. Container Materials & Weight
 - Use proper and appropriate containers to prevent damage to packaged product and in accordance with International Plant Protection Convention (IPPC) for Wood Packaging Materials (WPM).
 - Use proper and appropriate dunnage as cushioning to prevent shifting of products and damage in transit.
 - Shipments over seventy-five (75) pounds should be divided into multiple containers or secured and shipped on a pallet in such a manner that shall prevent damage.
- d. Documentation
 - Supplier shall include with each shipment, all documentation required by the applicable purchase order and this manual. All documents shall be accurate, legible, and written in English language.

These guidelines do not relieve the supplier of responsibility for properly controlling the packaging and shipping function in a manner that prevents damage in handling and in transit. Shipments arriving not in accordance with the above, or with obviously inadequate packaging, are subject to rejection and return, at the cost of the supplier.

8.5.5 Post-Delivery Activities

No additional requirements.

8.5.6 Control of Changes


No additional requirements.

8.6 Release of Products and Services

- a. – b. No Additional requirements
- c. Certificate of Conformance (C of C)

Suppliers of shall provide Certificate of Conformance (C of C) with the following information where applicable:

- i. NORDAM part number and revision level.
- ii. Manufacturer part number.
- iii. Part description.
- iv. Purchase order number or supplier's traceable number (i.e. work order or job number, lot control number, serial number, or batch number).
- v. Statement of compliance to applicable drawings/models, specifications or other specified technical data and their revision level. If unable to comply with NORDAM

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purchase order requirements due to superseding of reference documents the superseding relationship shall be documented on the C of C.

- vi. Signature or name of an authorized representative of supplier. Statement of certification by company, department, and/or specified individual representing the certifying organization.
 - vii. Special Process documentation as follows for each part:
 - A copy of subcontractor's special process C of C containing the specification, and revision level, or
 - A list of all special processors who contributed to the shipped part, the specification, and revision level.
 - viii. Serial number.
 - ix. Country of Origin as defined in the U.S. Export Regulations.
 - x. Lot or batch number.
 - xi. Kit shipments of a collection of different part numbers shipped to NORDAM in one box as defined by NORDAM purchasing shall include a pick list containing part number, quantity, and traceability reference for each part to the supplier's internal manufacturing records.
 - xii. If item was processed per Nonconforming Material section of this manual, the C of C shall state what work was done to the item.
- d. Certificate of Conformance (CofC) For Military Contracts

For military contracts identified by NORDAM purchase order, the supplier shall provide C of C containing information that provides uninterrupted trace from raw material and continue with all processing certifications (for heat treat, passivate, prime, etc. as applicable) through to the final product.

The C of C shall contain the information listed above and include the following additional requirements:


- i. Documents accompanying fasteners and hardware of the C of C originating from the original manufacturing source.
- ii. Special process providers C of C shall include reference to NORDAM purchase order number for NORDAM requested manufactured products.

8.7 Control of Nonconforming Outputs

8.7.1 a. - d. No additional requirements.

e. Notice of Escape

- i. Delivered Products
- ii. In the event a non-conforming condition is detected after delivery or use has started, the supplier shall notify the NORDAM buyer immediately, not to exceed twenty-four (24) hours, upon discovery of the condition. Furthermore, supplier shall provide formal notification in writing addressed to the attention of the NORDAM buyer and to the appropriate Quality department. This notification shall include all pertinent information concerning the condition (i.e. purchase order, part numbers, serial number, quantities, time frame, description of condition, etc.) and the corrective action taken to prevent recurrence. Failure to comply may result in disapproval or other actions.
- iii. Engineering Designs
- iv. In the event a non-conforming condition is discovered that affects previously delivered engineering designs, the supplier shall notify NORDAM buyer immediately, not to exceed twenty-four (24) hours, upon the discovery of the condition. Furthermore, supplier shall provide formal notification in writing addressed to the attention of the NORDAM buyer and to the appropriate Quality and Engineering Departments. This notification shall include all pertinent information concerning the condition (i.e. purchase order, time frame, description

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of condition, etc.) and the corrective action taken to prevent recurrence. Failure to comply may result in disapproval or other actions.

- v. Nonconforming Material
- vi. The supplier shall maintain an effective system for controlling nonconforming materials and components including procedures for identification, segregation, documentation, evaluation, and disposition to prevent unintended release or use.
- vii. Nonconformance Documentation

When necessary, supplier shall produce nonconforming material reports that include the following information, at a minimum:

 - Complete article identification,
 - Date of report initiation,
 - Complete description of the nonconformance,
 - Cause of the nonconformance,
 - Corrective actions taken or recommended, and
 - Signatures of initiator and individual or Material Review Board (MRB) members who signed the cause and corrective action disposition.
- f. Supplier Options for Disposition of Nonconforming Materials

Supplier's disposition of nonconforming materials is limited to one of the following:

 - iii) Rework to required configuration to meet engineering drawing/model, specification, purchase order requirements.
 - iv) Scrap if unfit for use unless material is NORDAM furnished or charges to NORDAM are involved. Supplier shall notify NORDAM buyer before proceeding further if NORDAM furnished material is involved. Product with disposition as scrap shall be clearly identified and physically mutilated to render the part unusable within 30 days of final disposition unless otherwise instructed in writing by the NORDAM representative.
- g. NORDAM Material Review Board (MRB) Disposition

NORDAM MRB disposition is required when material is found to depart from engineering drawing/model, specification, purchase order requirements and cannot be reworked back to the original requirements. (i.e. an MRB disposition of use-as-is, **rework** or scrap.)

The supplier shall await [for](#) NORDAM MRB disposition on any nonconformance to NORDAM requirements.


Nonconformance of these types shall be submitted to the NORDAM buyer.

To obtain NORDAM MRB disposition the following steps are required:

 - i) The supplier shall initiate a Non-Conformance Report.
 - ii) The supplier shall then forward the Non-Conformance Report to the appropriate NORDAM buyer. The information will be transferred from supplier's non-conformance report to a NORDAM Quality Notification (QN) for disposition.
 - iii) The NORDAM buyer shall submit the QN to NORDAM's MRB/Engineering for a disposition decision.
 - iv) Copies of the completed QN shall be sent to the supplier by the NORDAM buyer.

Upon receipt of the completed QN from NORDAM, the supplier shall perform the following:

 - i) Complete per instructions as documented on the QN.
 - ii) Inspect the product in accordance with documented procedures.
 - iii) Complete the QN with the Quality signature or stamp with date.
 - iv) Mark the QN number on all affected product.

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- v) Ship the completed product and include a copy of the completed QN. The applicable QN number(s) shall be referenced on the Certificate of Conformance (C of C) and shipping documentation.
- vi) Product with disposition as scrap shall be clearly identified and physically mutilated to render the part unusable within 30 days of final disposition unless otherwise instructed in writing by the NORDAM representative.

Product found to be discrepant may be returned to supplier for rework or replacement.

8.7.2. a. - d. No additional requirements.

9. PERFORMANCE EVALUATION

9.1 Monitoring, Measurement, Analysis, and Evaluation

9.1.1 General

No additional requirements.

9.1.2 Customer Satisfaction

No additional requirements.

9.1.3 Analysis and Evaluation

No additional requirements.

9.2 Internal Audits

No additional requirements.

9.3 Management Review

9.3.1 General

No additional requirements.

9.3.2 Management Review Inputs

No additional requirements.

9.3.3 Management Review Outputs

No additional requirements.

10. IMPROVEMENT

10.1 General


No additional requirements.

10.2 Nonconformity and Corrective Actions


Note: NORDAM reserves the right to flow down the use of AS13000 – Problem Solving Requirements for Suppliers as guidance.

10.3 Continual Improvement

No additional requirements.

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SECTION 3: DISTRIBUTORS

Quality Management Systems - Requirements for Aviation, Space and Defense Distributors

INTRODUCTION

0.1 General.

No additional requirements

0.2 Quality Management Principles

No additional requirements

0.3 Process Approach

No additional requirements

0.4 Relationship with Other Management System Standards

No additional requirements

0.5 Policies and Information

0.5.1 Suppliers shall ensure that all members of their supply chain who supply parts to satisfy a NORDAM PO are compliant to this manual.

0.5.2 The supplier shall provide right of access to their facility and the facilities of all members of their supply chain for review, verification, and analysis of their quality management system, quality control, inspection system, and maintenance process. Right of access shall be granted to Federal Aviation Administration (FAA), National Transportation Safety Board (NTSB), Department of Transportation (DOT), Department of Defense (DOD), NORDAM (and qualified second or third parties) and NORDAM's customers. The FAA, NTSB, DOT, DOD, NORDAM, European Aviation Safety Agency (EASA), National Aviation Authority (NAA), and NORDAM's customers have the right to inspect and test all parts at all places and times to the extent practical and permitted under export control regulations.

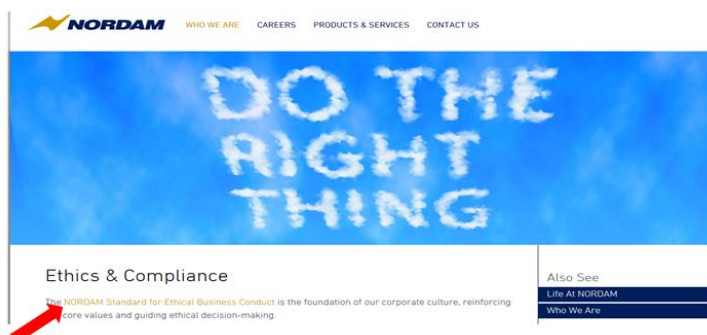
0.5.3 NORDAM reserves the right to maintain a NORDAM representative on-site at the supplier's or sub-tiers facilities.


0.5.4 NORDAM reserves the right to disapprove a supplier's Quality System as well as the Quality System of any member of their supply chain.

0.5.5 Supplier shall maintain a drug-free workplace program to provide a safe workplace and discourage alcohol and drug abuse.

0.5.6 Suppliers shall permit NORDAM access to all data in OASIS databases.

0.5.7 STANDARD FOR ETHICAL BUSINESS CONDUCT. NORDAM is committed to conducting business fairly, impartially, and in an ethical and proper manner. Supplier shall read NORDAM's Standard for Ethical Business Conduct found at www.nordam.com, *Who We Are, Ethics and Compliance*, and all suppliers shall comply with the Standard while performing obligations to NORDAM.



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1. SCOPE

No additional requirements.

1.1 Application

This section of the manual contractually applies to NORDAM suppliers and all members of their supply chain who procure parts, product, materials or assemblies and resells these products to a customer in the aviation, space and defense industries in accordance with NORDAM purchase orders or contract requirements. NORDAM suppliers are required to access the NORDAM website to review this and any other document required to satisfy the PO requirements. The supplier shall perform a full documentation review of NORDAM specifications to ensure they are working to and flowing down to sub-tiers the latest revision documents including this manual.

Suppliers are responsible for notifying NORDAM of changes in the supplier's senior leadership, (Director and above), ownership, name, location or address, change in process or product, loss of any accreditation (AS9120, Nadcap etc.), or any other quality system changes in their or their subtier that can affect process or product affecting NORDAM. The notification shall be provided to NORDAM in a written statement within seventy-two (72) hours of any of these changes. This notification shall be sent to the appropriate NORDAM buyer. Upon receipt of this written notification NORDAM will determine necessary actions.

Any exception to the Suppliers AS9120 accreditation will constitute an exception to the same clause of the Supplier Quality Manual.

Suppliers who are not accredited under the AS9120 Standard and request an exception or deviation from any clause of this Manual shall submit a formal request sent to the appropriate NORDAM buyer to forward to the Corporate Quality Director for review.

2. NORMATIVE REFERENCES

The following referenced documents are indispensable for the application of this document.

- IAQG SCM, International Aerospace Quality Group – Supply Chain Management Handbook.
- AS9120 Quality Management Systems – Requirements for Aviation, Space, and Defense Distributors
- AS13000 Problem Solving Requirements for Suppliers
- ISO 9000 Quality management systems — Fundamentals and vocabulary

3. TERMS AND DEFINITIONS

No additional requirements.

4. CONTEXT OF THE ORGANIZATION

No additional requirements.

5. LEADERSHIP


No additional requirements.

6. PLANNING

No additional requirements.

7. SUPPORT


- 7.1 Resources
No additional requirements.
- 7.2 Competence
No additional requirements.
- 7.3 Awareness

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- No additional requirements.
- 7.4 Communications
No additional requirements.
- 7.5 Documented Information
- 7.5.1 General
No additional requirements.
- 7.5.2 Creating and updating
No additional requirements.
- 7.5.3 Control of Documented Information
- 7.5.3.1 a. - b. No additional requirements.
c. All quality records (non-electronic) shall be documented in ink or other permanent marking.
d. Corrections to work instructions or documents shall be recorded, dated and traceable to the person making the change (e.g., signature, stamp, etc.) in ink or other permanent marking method with the original data being legible and retrievable after the change.
e. Documents submitted to NORDAM that contain technical data shall include a statement near the beginning of the document such as "This document contains technical data" or an equivalent statement. This statement shall be repeated throughout the document. United States (U.S.) organizations shall also identify the Export Control Classification Number (ECCN) or U.S. Munitions List (USML) classification. Other organizations shall identify applicable export classifications related to the documents submitted to NORDAM.
- 7.5.3.2 a. - c. No additional requirements.
No additional requirements.
- 7.5.3.2d.
The supplier shall maintain an adequate records system. All NORDAM related records/documented information shall be retained in a safe and secure manner in electronic or paper format for a minimum of seven (7) years from completion of the NORDAM purchase order. NORDAM contract may require record retention to be extended beyond the seven (7) year retention period. [\(NORDAM will retain copies of all the records the supplier provides electronically for a minimum of ten years.\)](#)
- 7.5.3.2e.
No additional requirements.

8. OPERATION

- 8.1 Operational Planning and Control
No additional requirements.
- 8.1.1 [\(Not used\)](#)
- 8.1.2 Configuration Management
No additional requirements.
- 8.1.3 [\(Not used\)](#)
- 8.1.4 Prevention of Counterfeit Parts
Supplier shall prevent and mitigate the use of counterfeit parts. Suppliers shall comply with the requirements of AS5553 for electronic components and AS6174 for non-electronic products. Suppliers shall request and obtain approval through their NORDAM buyer prior to the use of or shipment of product or material with broken traceability or from a non-authorized supplier.
- 8.2 Requirements for Products and Services
- 8.2.1 Customer Communication
a. – e. No additional requirements
f. Changes that may affect quality shall be documented and communicated to the applicable NORDAM representative prior to implementation of the change. The changes may require a full or partial FAI at the discretion of NORDAM.
Examples of Changes:
- Ownership

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- Company name change
- Management
- Manufacturing location
- Process
- Product
- Inspection Techniques

g. All correspondence and communication between NORDAM and the supplier shall be in the English language. The supplier is responsible for providing supplier's specifications, procedures, and reports in the English language. In cases where the supplier maintains copies in their native language as well as in English and there is a conflict, the English language document shall take precedence.

8.2.2 Determining the Requirements for Products and Services

No additional requirements.

8.2.3 Review of the Requirements for Products and Services

No additional requirements.

8.2.4 Changes to Requirements for Products and Services

No additional requirements.

8.3 Design and Development of Requirements for Products and Services

[8.3.1 General](#)

[8.3.2 Design and Development Planning](#)

[a. – j.](#) No additional requirements.

[k.](#) -All materials used to fabricate Military components shall be smelted per [DFAR 252.225](#)

[Qualifying Countries.](#)

[8.3.3 Design and Development Inputs](#)

[No additional requirements.](#)

[8.3.4 Design and Development Controls.](#)

[No additional requirements.](#)

[8.3.5 Design and Development Outputs](#)

[No additional requirements.](#)

[8.3.6 Design and Development Changes](#)

[No additional requirements.](#)

8.4 Control of Externally Provided Processes, Products, and Services

8.4.1 General

Mills located outside the USA

Supplier shall request approval from the appropriate NORDAM quality department when procuring metallic material obtained from mills located outside of the United States of America (USA) that do not hold a bi-lateral agreement with the FAA.

Supplier is responsible for ensuring that procurements from sub-tier suppliers conform to all requirements of the NORDAM purchase order, including the provisions of this manual.

Sub-tier suppliers shall meet NORDAM quality requirements; it is the responsibility of the NORDAM approved supplier to ensure their sub-tier suppliers are qualified to NORDAM contract, purchase order, and requirements of this manual.

8.4.2 Type and Extent of Control

No additional requirements.

8.4.3 Information for External Providers

No additional requirements.


8.5 Production and Service Provision

8.5.1 Control of Production and Service Provision

No additional requirements.

8.5.2 Identification and Traceability

Limited Shelf Life Material

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The containers of limited shelf life material shall be identified with NORDAM purchase order number, batch or lot number, and the expiration date unless otherwise noted in specifications. Supplier may provide Safety Data Sheet (SDS) (formerly MSDS or Material Safety Data Sheet) for products, as applicable. If the terms "Hazardous Material" applies to any items ordered by NORDAM, it is required that a SDS accompany product shipment.

8.5.3 Property Belonging to Customer or External Providers
No additional requirements.

8.5.4 Preservation

Limited shelf life materials shall have as least seventy-five (75) % of remaining shelf life available at the time of shipment unless NORDAM buyer authorizes an exception. NORDAM buyer shall note the purchase order text to alert receiving inspection of exception.

For material stored below room temperature, the supplier shall include temperature recorder(s) with the shipment. Supplier shall position the temperature recorder(s) to provide accurate indication of the material condition for the lot.

8.5.5 Post-Delivery Activities

No additional requirements.

8.5.6 Control of Changes

No additional requirements.

8.6 Release of Product and Services

a) Fasteners, Hardware and Off-The-Shelf-Items

Certificate of Conformance (C of C) is required from supplier for the quantity of parts supplied. The C of C shall contain the following information if applicable:

- i. NORDAM part number.
- ii. Manufacturer part number.
- iii. Part description.
- iv. Purchase order number or supplier's traceable number (i.e. work order or job number, lot or batch control number, serial number).
- v. Statement of compliance to applicable drawings/models, specifications or other specified technical data and their revision level.
- vi. Statement of certificate signed or stamped by company, department, and or specified individual representing the certifying organization.
- vii. Country of Origin as defined in the U.S, Export Regulations.
- viii. Lot or batch number, if applicable
- ix. Documents accompanying fasteners and hardware shall contain C of C originating from the original manufacturing source.

b) Metallic and Non-Metallic Materials

Suppliers shall provide Material Test Reports / Certificates of Analysis. Results of chemical and/or physical analysis, manufacture date, and expiration date, as applicable, are required for each lot or batch number and shall accompany each shipment.

Suppliers shall provide the raw material certification from the original mill. If raw material was purchased from a distributor, the certificate of conformance is also required.


c) Paint Products, Bonding Products, and Other Materials

Material Test Reports/Certificates of Analysis are not required from suppliers unless specifically listed on the purchase order. Suppliers shall provide results of chemical and/or physical analysis, manufacture date, and expiration date, as applicable, for each lot or batch number and shall be maintained of file at supplier's facility.


d) New Surplus (Unused) Part Condition

Supplier shall provide certificate of conformance (C of C) and traceability back to a regulated source stating that the material is new condition. Appropriate documentation may include on or a combination of the following:

- i. FAA Form 8130-3
- ii. EASA Form One
- iii. JAA Form One
- iv. SEG VOO 003

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- v. TC Form One
- vi. Certificate of Conformance
- vii. Material certification form that meet the requirements of ATA Spec 106.
- e) Overhauled, Repaired, Inspected or Modified Part Condition
Supplier shall provide:
 - i. Certificate and traceability back to the last operator and/or regulated source, including a non-incident/non-military statement.
 - ii. Original material certification form that meets the requirements of ATA Spec 106 stating that part is in the same condition as listed on the Authorized Release Certificate.
 - iii. The original FAA form 8130-3, JAA Form One, EASA Form One, CAAC AAC-038, SEG VOO 003 or TC Form One (dual FAA/EASA or JAA Release) issued by a repair facility that is approved to perform the repair by the relevant airworthiness regulatory authority.
 - iv. Details of work performed or teardown report, including Service Bulletins (SB) number, Modification number or Airworthiness Directives (AD), with revision number and date.
 - v. Name of service manual and/or part number of ATA chapter reference used to perform repair and revision level and revision date of the manual.
 - vi. Any repairs incorporated into the part must be repaired listed in the OEM's service, repair or overhaul manual. FAA DER 8110-3, Internal Engineering Notices (IENs), Engineering Orders (EOs), Technical Orders (TOs), Customers Departure Records (CDRs), or Departure Records (DR's type repairs will not be accepted by NORDAM without prior written approval. The repair scheme numbers must be listed in BOX 12 of the Authorized Release Certificate along with the revision number and date. Copies of the repair scheme explanation must be included in the shipment.
- f) Repairable / As Is / As Removed Parts Condition
Certificate of traceability back to the last operator and or the regulated source including a non-incident/non-military use statement and original materials certification form that meets the requirements of ATA Spec 106 stating the part is repairable, as-is, where is, or as-removed.
- g) Materials for Military Contracts
Supplier shall request approval from the appropriate NORDAM quality department when procuring metallic materials obtained from mills located outside of the United States of American (USA).
Supplier shall provide Certificate of Conformance (C of C). The C of C shall contain the following information and shall provide uninterrupted trace from a raw material and continue with all processing certifications (for heat treat, passivate, prime, etc., as applicable), through to the final product to:
 - i. NORDAM part number.
 - ii. Manufacturer part number.
 - iii. Part description.
 - iv. Purchase Order number or supplier's traceable number (i.e. work order or job number, lot or batch control number, serial number).
 - v. Statement of compliance to applicable drawing/models, specification or other specified technical data and their revision level. If unable to comply with NORDAM purchase order requirements due to superseding of reference documents the superseding relationship shall be documented on the C of C.
 - vi. Statement of certification by company, department, and/or specified individual representing the certifying organization.
 - vii. Special Process documentation shall be provided to NORDAM in the following format:

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- A copy of subcontractor's special process C of C containing the specification, and revision level, or
 - A list of all special processors who contributed to the shipped part, the specification, and the revision level.
- viii. Serial number, if required by engineering.
 - ix. Country of Origin as defined in the U.S Export Regulations.
 - x. Documents accompanying fasteners and hardware shall contain C of C originating from the original manufacturing source.
 - xi. Lot or batch number, if applicable.

8.7 Control of Nonconforming Outputs
No additional requirements.

9. **PERFORMANCE EVALUATION**
No additional requirements.

10. **IMPROVEMENT**
No additional requirements.

CHANGE HISTORY

| REV DATE | REV LEVEL | DESCRIPTION OF CHANGE | CHANGED BY: |
|------------|-----------|---|-------------|
| 03/26/2015 | H | Complete rewrite to be structured as a companion to AS9100C, AS9110B & AS9120A standards. | I. Colón |
| 04/17/2018 | I | Rewrite section 1 to match AS9100D. Rewrite section 2 to match AS9110C Rewrite section 3 to match AS9120B | I. Colón |
| 08/26/2020 | J | Changes indicated by mark on the side of this Manual and different color font. Formatting Changes | I. Colón |
| | | | |