



ERICKSON QUALITY DOCUMENT 300

TITLE: QUALITY REQUIREMENTS FOR ERICKSON PURCHASE ORDERS

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TABLE OF REVISIONS

REV	DESCRIPTION	BY	DATE
IR	Initial release of Requirements procedure		03/17/2000
A thru 4	Removed for clarity		07/20/2004
5	Major re-write to accommodate Computing System changes, Supplier .vs Vendor terminology as well as business unit driven changes. Most sections affected. Added sections A3, C6.	D. Goldstein P. MacNair K. Haataja	02/03/2015

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Page 2 of 15

Erickson Quality
Document
Revision Level
Revision Date
Initial Release

300

5

02/03/2015

03/17/2000

TABLE OF CONTENTS

SECTION I: MANUFACTURING AND PROCESS PURCHASING

A. QUALITY SYSTEM REQUIREMENTS

- A1. Vendor's Minimum Quality System
- A2. Serialization
- A3. Customer Quality Passdown

B. SOURCE INSPECTION OF PARTS

- B1. Source Inspection

C. PART CERTIFICATION REQUIREMENTS

- C1. Process Requirements
- C2. Part/Assembly Certification
- C5. Functional Test Reports
- C6. Counterfeit Parts Program

D. OTHER REQUIREMENTS FOR VENDOR'S

- D1. Inspection by Statistical Methods
- D2. Non-Conforming Material - Control at Vendor
- D3. Non-Conforming Material Submitted to Erickson Material Review Board (MRB)
- D4. Resubmission of Articles after rework by the Vendor per Material Review Board (MRB) instructions
- D6. Burn Test Certification
- D8. Approved Sources of Supply
- D9. Age/Deterioration Control (Perishable Items)
- D12. First Article or Prototype Parts
- D13. Standard Hardware
- D15. Purchases of Erickson over run manufactured parts.

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Page 3 of 15

Erickson Quality
Document
Revision Level
Revision Date
Initial Release

300

5

02/03/2015

03/17/2000

SECTION II: OVERHAUL AND REPAIR PURCHASING**E. OVERHAUL/REPAIR/INSPECT/TEST OR OTHER MAINTENANCE**

- E1. First Article Parts
- E2. Deviations
- E3. Vendor is considered a Non-Certificated Facility
- E4. Certification for the Work Performed
- E5. FAA Form 8130-3 Requirement

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Page 4 of 15

Erickson Quality
Document
Revision Level
Revision Date
Initial Release

300

5

02/03/2015

03/17/2000

SCOPE:

This document conveys the content of each Erickson Incorporated (Erickson) Quality Requirement listed on Erickson Purchase orders. These Quality Requirements are in addition to any Erickson design data listed on the Erickson Purchase Order and must be provided with the Articles at time of submission to Erickson by the Vendor.

Questions or comments may be directed to SI@ericksonaviation.com.

This document details requirements for all types and configurations of purchases used by Erickson. Only the requirements shown on the Purchase Order should be interpreted as applicable to that order.

SECTION I: MANUFACTURING AND PROCESS PURCHASING**A. QUALITY SYSTEM REQUIREMENTS****A1. Vendor's Minimum Quality System**

Vendors shall maintain a Quality System in conformance with their own documented procedures. The Vendor shall flow down Erickson quality system requirements to sub-contract Suppliers to the extent necessary to ensure the characteristics, which are not verifiable upon receipt, are adequately controlled by the sub-contract supplier. The vendor's quality system is subject to Erickson's mail survey and onsite audit by Erickson Quality personnel and/or the FAA representatives at any time. Erickson will provide as much notice as possible when a visit is planned.

Non-conforming material shall be handled in accordance with sections D2 and D3 of this document.

A2. Serialization

Parts and/or assemblies will be serialized in accordance with Engineering drawings and Purchase Order (PO) requirements where required and per the requirements of ES9070. Serial numbers may be assigned by Erickson as part of the PO, and the vendor must identify all parts using EAC supplied serial numbers prior to shipping parts to Erickson. The vendor may use substitute serial numbers from their internal system where serialization is required by drawing provided the serial numbers are non-repeating.

A3. Customer Quality Passdown

Parts on this Purchase Order are to be manufactured/processed to Customer Quality and Technical requirements as shown within the body of the Purchase Order. Vendor must comply with all requirements as noted. Non-conformances may be submitted on Erickson's QAR/NCR form but will be handled via the Customer's Material Review Board process.

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Page 5 of 15

Erickson Quality
Document
Revision Level
Revision Date
Initial Release

300

5

02/03/2015

03/17/2000

B. SOURCE INSPECTION

B1. Source Inspection

Source inspection is required prior to shipment of parts from the vendor's facility. An advance notice of 14 days (minimum) will be provided to Erickson Quality Department whenever the vendor schedules the shipment of items requiring source inspection. The vendor or sub-contract vendor will furnish (without charge) suitable facilities and equipment to accommodate source inspections. At the time of Erickson source inspection, the vendor will provide objective evidence to Erickson inspectors of all PO, drawing, and process requirements as well as dimensions recorded during the manufacturing or inspection process.

All Source Inspection requests will be sent to SI@ericksonaviation.com and must include the part number, purchase order number, quantity of parts to be inspected as well as the date the parts will be available for inspection (alternate dates may also be suggested).

If parts are accepted by the source inspector, their acceptance will be documented. The original copy of the documentation showing evidence of Erickson source inspection acceptance must accompany each shipment. The vendor may make copies for their records as desired.

In order to expedite EAC source inspections at your facility please provide the following for the Erickson source inspector at the time of inspection.

1. A copy of the purchase order for the part number being inspected.
2. A complete copy of the drawing with all sheets, ADCN's, RTE's, & EO's etc.
3. All Vendor Technical Assistance Forms (VTA's) for the part number.
4. All required certifications and a C of C.
5. The packing slip.
6. Measurement tools to inspect any feature on the part.
7. Dispositioned copies of any QAR/NCR's that have been written on the part.
8. A completed FAI package (if applicable)

Note: A Source Inspection waiver may be granted based on Erickson production/repair scheduling requirements. A waiver will not be granted solely to facilitate the vendor's delivery date.

C. PART CERTIFICATION REQUIREMENTS

C1. Materials and Process Record Requirements

Vendor is responsible for complying with all material and process specifications contained on engineering drawings and associated documents.

Materials certification must include:

- The applicable specification number and revision
- Name and title of a representative of the agency or sub-contract supplier certifying conformance to specification requirements

- Reference the Vendors PO number
- Where required, be traceable to original material lot, approved standards, or agencies

Castings / Forgings

Each lot shall be accompanied by certifications attesting that the lot is conforming to the drawing. If required by the drawing or supporting documents, chemical analysis and test results of mechanical properties will be provided for each lot produced.

The certification must include:

- The drawing part number and drawing revision
- The applicable material specification number and revision
- Name and title of a representative of the agency or vendor or sub-contract vendor certifying conformance to specification requirements
- Reference the Erickson PO number and/or Vendors PO number
- Where required, be traceable to original material lot, approved standards, or agencies.

Processes

Processes requiring certification include, but are not limited to the following:

- Welding
- Shot Peening
- Heat Treating and Carburizing
- Grinding and Temper Etch
- Electroplating
- Dip, Barrier and Chemical Conversion coatings
- Cold Working of metals
- Processes performed to a secondary specification

The vendor shall retain a certification from the sub-tier supplier who conducted the work verifying the accomplishment of all processes. The certification shall specify the following:

- Part Number
- Purchase Order Number
- Date
- Process Name
- Process Specification Number and Revision
- Process Vendor's name

The vendor must keep on file (minimum 10 years) tangible objective evidence of these certifications and provide them to Erickson in accordance with the PO Quality Requirements or upon request.

Deliverable: To supply Erickson with certifications for all materials and processes in accordance with the requirements of the Purchase Order or at a later date as requested.

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C2. Part/Assembly Certification of Conformity

Certification of Parts

Each shipment must be accompanied by one (1) dated, legible, and reproducible copy of a statement that certifies conformance of the items/materials shipped with Erickson drawing and/or vendor's Source Controlled Drawing, and/or PO requirements.

The conformity statement must reference at a minimum

- Erickson PO number
- part number
- part quantity
- the date of certification
- drawing or specification revisions
- Reference to any rework performed per rework instructions contained in a Quality Action Request/Non-Conformance Report (QAR/NCR) disposition.

Certification of Assemblies

If the item to be manufactured is an assembled article, a certificate of conformance is required for the assembly.

Note: For both part and assembly certifications, all processes performed in-house must be listed and all Certifications to Erickson must be maintained for a minimum of 10 years.

Deliverable: One (1) dated, legible, and reproducible copy of a statement that certifies conformance of a Detail or Assembly.

C3. Removed.

C4. Removed.

C5. Functional Test Reports and Certification

Each shipment must be accompanied by one (1) dated, legible, and reproducible copy of function test reports, the results of which can be identified with test requirements for the submitted material, and traceable to a specific testing machine. The reports must bear the signature and title of an authorized representative of the company, must reflect the date of the test, and must assure conformance with requirements.

All functional test reports must be accompanied by one (1) dated, legible, and reproducible copy of a functional test certification, for the submitted material and it must attest to compliance with applicable tests. This certificate must bear the signature and title of an authorized representative of the vendor.

Deliverable: One (1) dated, legible, and reproducible copy of function test reports, the results of which are traceable to the relevant test.

C6. Counterfeit Parts Program

Vendor shall have and maintain procedures that will ensure traceability of Material and Electronics parts to the OEM/OCM. Vendor shall validate the authenticity of Certifications for parts received. The procedures shall be written around the guidelines of AS6174 and AS5553.

Deliverable: Have and maintain Counterfeit Parts Program.

D. OTHER REQUIREMENTS FOR VENDORS

D1. Inspection using Statistical Methods

All parts and all dimensions/features must be inspected 100%. The vendor may request (in writing to SI@ericksonaviation.com) approval to statistically sample dimensions/features of parts or part families (i.e.: machined parts, sheet metal parts, extrusion of parts etc.). Erickson's Director of Quality or designee must grant such sampling system approval in writing. In no case will this sampling system approval eliminate the requirement to provide 100% of the first article dimensions/features, etc.

Note: All requests to use statistical sampling methods must be accompanied by the vendors internal approved sampling plan procedure as well as documentation of any training requirements in place.

Deliverable: Vendor must inspect 100% until Vendors internal Sampling Plan is submitted and accepted by Erickson.

D2. Non-Conforming Material - Control at vendor

The vendor shall have implemented procedures for the identification, segregation, preservation, and control of all non-conforming materials at their facility.

In the event a non-conformance is discovered after shipment to Erickson, the vendor must maintain a positive recall system that includes immediate disclosure of the condition and the potential consequences to Erickson.

Deliverable: Non-conforming materials shall be segregated and controlled; shipped non-conforming material shall be subject to recall under a positive recall system.

D3. Non-Conforming Material at Supplier Submitted to Erickson Material Review Board (MRB)

In the event the vendor has a non-conforming article and believes it is not re-workable to the drawing, technical requirements, and/or the PO, the vendor must submit a properly executed EAC Quality Action Request/Non-Conformance Report (QAR/NCR) Form. This Form should be

submitted to the EAC Buyer listed on the EAC Purchase Order. When the MRB action is completed the vendor will be notified by EAC Quality of the disposition and will receive a copy of the completed QAR/NCR sent to the vendors Quality Manager or representative

Note: The vendor shall only ship the non-conforming articles after Erickson MRB accepts the non-conformances or re-work is performed as directed in the MRB disposition, if any. The vendor will ship the articles that have had MRB action with a copy of the completed QAR/NCR form).

Deliverable: All non-conforming material shall be reported to the Buyer/Planner via a QAR/NCR form

D4. Resubmission of Articles after rework by the vendors per MRB Instructions. (QAR/NCR Returns)

Articles may be resubmitted to Erickson after reworking by the vendor in accordance with an Erickson MRB disposition. All resubmitted articles must be identified with the QAR/NCR number on the shipping documentation, the article itself, and the Certificate of Conformance. The vendor shall also send to Erickson all applicable certificates for the reworked condition. See C1 for guidance.

Deliverable: Articles containing rework performed as directed by an Erickson MRB action may be re-submitted to Erickson for acceptance.

D5. Removed

D6. Burn Test Certification

To assure compliance to the applicable FAR section, each shipment of materials requiring burn tests must be accompanied by one (1) legible and reproducible copy of a statement certifying compliance to the applicable regulation. If the vendor lacks facilities for testing, certification from an accredited test facility will accompany the material.

Deliverable: Where Burn Test Certification is required, the article will be accompanied by one (1) legible and reproducible copy of a statement certifying compliance to the applicable regulation.

D7. Removed

D8. Approved Sources of Supply

Your company is listed on Erickson's drawings as an approved source for the part listed on Erickson's PO. The vendor is responsible to inform Erickson of all changes or revisions to your internal part numbers. Changes or revisions not listed on Erickson's drawings will not be acceptable until Erickson's engineering incorporates these revisions to the Erickson drawing. Your Quality system is charged with identifying any deviations on parts supplied to Erickson.

Note: All Parts/Assemblies/Processes accomplished to a revision level not shown on the Erickson drawing will be evaluated and approved prior to acceptance of incoming products.

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Deliverable: Your engineering data has been approved and incorporated into Erickson drawings. If it changes, you must notify Erickson

D9. Age/Deterioration Control (Perishable Items)

Materials and articles subject to deterioration of quality by virtue of time or environment shall be identified by the date on which the shelf life began and include the limiting conditions under which the material can be held. Perishable items supplied to Erickson must have a remaining usable shelf life of at least two thirds (2/3) the original shelf life. Exceptions will be evaluated and authorized on a case – by – case basis.

In addition to Erickson part marking requirements contained in ES0037, materials should be packaged and labeled in accordance with ARP5316, Section 5 – Packaging, or AMS 2817. The vendor shall add an expiration date or shelf life duration to the labels and/or certification required by these type of items.

Note: If items being ordered are not subject to deterioration by time and/or environment, the vendor may ignore this requirement.

Deliverable: Materials subject to time and/or environmental deterioration will be identified with an appropriate shelf life and shipped to Erickson with at least 2/3 of the original shelf life remaining.

D10. Removed to Terms and Conditions.

D11. Removed to Terms and Conditions.

D12. First Article or Prototype Parts

All First Article parts and assemblies must be inspected 100%. The vendor shall provide a First Article Inspection Report in compliance to *AS9102, Aerospace First Article Inspection Requirements* including any upper level customer requirements and accompanied by all supporting material and process certifications with a “bubbled” drawing for feature identification.

Circumstances requiring a First Article Inspection will comply with *AS9102, Aerospace First Article Inspection Requirements* and the following:

1. The first time the part is manufactured.
2. The first time the part is manufactured after a design change (may be a partial FAI).
3. The first time a part is manufactured after a 3 year break or as specified by the customer.
4. The first time the part is manufactured after a change in the manufacturing environment to include (but not limited to):
 - a. A change in manufacturing materials (may be a partial FAI).
 - b. A change in manufacturing processes (may be a partial FAI).
 - c. A change in manufacturing location (may be a partial FAI).

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d. A change in tooling or NC programming that may affect product quality (may be a partial FAI).

e. A natural or man-made event that adversely affects manufacturing machines or structures.

Note: A partial FAI contains only the data to account for the changes from the original and accepted FAI.

A partial First Article may be allowed on a case by case basis if the change is a missed or discrepant characteristic contained in an initial First Article, if the change is a minor engineering change not requiring a revision to the drawing, if the change is to a similar material only, or if the change is related to process equipment only. Such allowances will be reviewed and documented on a case – by – case basis.

An Original Equipment Manufacturer (OEM) may provide evidence of previous First Article approvals for a current OEM part number and revision level in lieu of a new First Article Inspection completion.

In addition to the typical AS9102 requirements, FAI documents for Prototype parts shall indicate the Prototype status of the drawing and the parts will be segregated by Erickson Inspection according to internal procedures until such time as the drawing is formally accepted and released as part of the Type Design.

Deliverable: First Article Inspection Report in compliance to AS9102.
Segregation of Prototype parts upon delivery.

D13. Standard Hardware

This section applies to Aerospace specific hardware i.e.: AN, NS, NAS, MS and similar items as well as Industry standard items (diodes, switches, connectors, etc.) where the engineering data is not proprietary to a specific company.

The vendor shall certify that they are providing parts and materials that conform to the applicable specifications, drawings and/or purchase order requirements. The conformity statement must reference at a minimum:

- Date of certification
- Erickson PO number
- Part number.
- All original materials and process certifications as provided by the manufacturer.

Deliverable: One (1) dated, legible, and reproducible copy of a statement that certifies conformance to a standard hardware drawing or specification including revision level.

D14. Removed

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D15. Purchases of Erickson over run manufactured parts.

Components manufactured in excess to the Erickson's original Purchase Order quantities (overruns) available from the manufacturing company and traceable through the original manufacturing order may be purchased by Erickson at a later date by making reference on the new purchase order to the original purchase order without the need to generate a new First Article Inspection Report. Full certification of materials and processes are required to conform to Quality Requirements C1 and C2.

Note: This requirement does not apply to Standard Hardware (AN, NAS, MS, etc.), see Quality Requirement D13.

Deliverable: One (1) dated, legible, and reproducible copy of a statement that certifies conformance with the requirements of the original purchase order.

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SECTION II: OVERHAUL AND REPAIR PURCHASING

E. OVERHAUL/REPAIR/INSPECT/TEST OR OTHER MAINTENANCE

E1. First Article Parts

A First Article acceptance is required prior to the processing/repair of subsequent parts. Submit the First Article router, if applicable, along with the parts. Provide all process certifications at the time of submission. Final certification may be submitted after the process is approved.

E2. Deviations

Any deviation discovered by the vendor will have an Erickson Non-Conformance Report (QAR/NCR) written by the vendor and submitted to the Erickson Buyer/Planner and the Chief Inspector.

E3. Vendor is considered a Non-Certificated Facility

Vendor is considered a non-certificated facility and shall be made available for FAA audits during the term of this contract. The Erickson Repair Station retains responsibility for all work performed. The vendor shall notify the Buyer/Planner or the Chief Inspector in writing of any questions, difficulties or discrepancies encountered. The vendor must provide copies of all worksheets and test results at the time of delivery of the article.

E4. Certification for the Work Performed

Parts and/or assemblies which have been overhauled, repaired, inspected, tested, rebuilt or altered shall be accompanied by a vendor certification (FAA 8130-3 preferred) for the work performed.

Any overhaul/repair parts submitted to Erickson which have undergone any processing such as heat treating, electroplating, anodize, NDT, etc. must be accompanied by an FAA Form 8130-3 or a certification that the process was performed in accordance with the PO instructions or applicable specification. Any supporting data that documents applicable specifications for processes incorporated on material or parts are to be made available to Erickson upon written request.

The certification shall specify the following (as a minimum):

- Vendor's Name
- Quantity
- Process Name
- Date
- Part number of parts processed
- Process specification and revision
- Signature of responsible company representative

Note: All processed parts that require a subsequent machining/grinding shall have a dimensional inspection report provided for all machined/ground features. This may be an included item on the certification or included as an attachment.

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E5. FAA Form 8130-3 Requirement

All parts / components shall be accompanied by an FAA Form 8130-3. This includes (but is not limited to) overhaul, repair, tested articles and all PMA articles.

Note: PMA parts deemed not critical, must contain the following statement in block 12:
"This PMA part is not a critical component"

If your company is an EASA approved Repair Station, the FAA 8130-3 form must also provide EASA certification and "Dual Release".

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Page 15 of 15

Erickson Quality
Document
Revision Level
Revision Date
Initial Release

300

5

02/03/2015

03/17/2000
