Standard Operating Practice

S.O.P. No. 52-10-007.0-00-004

FIRST ARTICLE INSPECTION REQUIREMENTS FOR AIRCRAFT ACCESSORIES PURCHASED PARTS (Excluding Forgings and Castings)

1.0 PURPOSE

To establish a First Article Inspection procedure and define requirements for Product suppliers.

2.0 SCOPE

This document states that a First Article Inspection (FAI) must be performed to verify dimensional and test requirements detailed on the part drawing and related specifications. The part for First Article Inspection shall be manufactured from production tooling and processes. All purchase orders shall indicate first article requirements.

3.0 APPLICABLE DOCUMENTS

QCP 7.2	FIRST ARTICLE INSPECTION
SAE AS9102	AEROSPACE FIRST ARTICLE INSPECTION REQUIREMENT
ARG-1072	FIRST ARTICLE INSPECTION STATUS SHEET
SOP 52-10-011.1-00-001	VENDOR REQUEST FOR MATERIAL REVIEW BOARD ACTION

4.0 APPLICABILITY

(Situations which require First Article Inspection)

* Those circumstances covered in the applicability and requirements of SAE AS9102 and QCP 7.2.
* Modified standard hardware with assigned six digit part numbers (i.e. washers, shims and fasteners).
* When requested by Eaton.

NOTE: AN, MS, NAS or ANSI standard catalog hardware, protective closures, chemical compounds, o-rings, castings, SK parts, rapid proto types and forgings are excluded from this First Article Inspection procedure.

5.0 PURCHASING REQUIREMENTS

5.1 Upon receiving and examining the purchase requisition, the Purchasing Agent shall determine the first article inspection requirements as follows:

5.1.1 For new parts, the first article requirements will have been listed in the remarks of the purchase requisition.

5.1.2 For repeat buys, the first article requirements will be determined using the following criteria:

- When the supplier is producing the part for the first time, a complete first article inspection is required.
- When the last date of purchase from a selected supplier exceeds two years from the current date, a complete first article inspection is required.
- The revision of the part, determined from the Engineering Screens in WDS will be compared with the current First Article Inspection Status Sheet in the cost study folder.
    - If the current revision is different from that in the cost study folder, all Engineering Order (EOs) affecting these revisions must be reviewed for first article requirements.
    - If any EOs are identified as requiring a first article a partial first article for affected characteristics will be required.
- Product affected by a change in manufacturing process, source, equipment (machine) or NC Program, shall require a full or partial FAI as applicable. It is the supplier's responsibility to perform the FAI under any or all of these conditions. It shall also identify the change reason on the completed FAI Form.
- If there are no EOs requiring a first article and the supplier has made the part in the last two years, and no change in process as defined above had occurred, then no first article is required.

5.2 If a partial or complete first article is required, the Purchasing Agent shall identify the first article requirements on the purchase order with a "Y" in the FAI field.

6.0 PROCEDURES

6.1 Supplier Requirements

- The Supplier shall perform the First Article Inspection as stated on the Purchase Order in accordance with SAE AS9102.

  When verification of the First Article Inspection sample is to be performed at Eaton, the FAI sample shall be clearly identified (i.e.: tagged, marked on the container and segregated from production parts).

6.1.1 First Article Inspection and Approval

Supplier Preparation of Required Reports

- The supplier shall use full size blueprint(s).

- The original marked up blueprint with the identified characteristics shall be submitted with the sample layout inspection report as a part of the FAI package.

- The supplier must include material and special process certifications on all components.

- During First Article Inspection, all bar stock material is to be subjected to independent material verification testing (complete chemistry and physical comparison to actual certification values are not required, a chemical alloy identification is sufficient). Suppliers whose system provides for random testing of bar stock/plate material shall not be subject to this requirement. Excluded from above requirements are material supplied by Eaton, castings, forgings, rubber and cast bronze material which have their own verification procedures

- When a partial First Article Inspection is required on characteristics affected by an Engineering Order (E.O.), the E.O. may be used in lieu of the original blue print for identifying characteristics to be inspected.

- In the column titled "design tooling", list the method of characteristic measurement (i.e. micrometers, CMM or verniers).

- Include the supplier request for MRBA number in the column titled “non-conformance number” for any characteristic that is not in conformance.

6.2 The supplier shall not ship any production parts to Eaton without an approved FAI unless written approval is obtained from the Eaton Quality Manager.

- Certified Suppliers: DSQRs may review and approve FAI’s (self-release).

- Source Inspection: The Eaton Source Inspector will review and approve FAI at the supplier site, at time of source inspection.

- Destination Inspection: The Supplier will initially ship only the FAI part and package to Eaton for review and approval. Once written FAI approval is obtained from Eaton, the supplier shall be permitted to ship balance of production parts to Eaton.

7.0 QUALITY DEPARTMENT

7.1 Receiving Inspection Responsibilities

Receiving Inspection is responsible for the following:

- Upon arrival of an (IR) Inspection Report, determine whether a first article inspection was verified at source inspection, if verification is required in receiving inspection or if performed by a certified supplier.

- When source inspection has been waived by Quality Manager, Quality Assurance shall perform the inspection responsibilities. (See 7.2)

- If first article inspection was waived, perform the complete first article inspection.

- 100% verification of entire FAI package, for completeness and accuracy.

- Complete First Article Inspection Status Sheet (Form ARG 1072), including all pertinent information and verification status.

- Upon completion of the First Article Inspection Sheet, receiving inspection shall forward a completed copy to Purchasing, file a copy with FAI Package, and file electronic copy on share drive.

- For initial/full FAI's, mark FAI part with and a circled "F". Document on a NCR, FAI scrap part from production. FAI part to be stored with FAI record retention.

7.2 Source Inspector Responsibilities

- Review the supplier's sample FAIR for completeness.

- Inspect selected characteristics and record actuals in Column 14 of the FAIR form 3

- Compare actuals with suppliers' actuals and resolve any major differences.
- Review certifications and/or test results.

- If FAIR is approved, the source inspector shall stamp the certifications and the sample layout inspection report