

QC-001: QUALITY ASSURANCE CLAUSES (Q.C. Form No. 2)
Revision AU – May 2025
(Clauses are applicable only as noted on Purchase Order)

Revision	Changes	Approved	Issue Date
AE	Added: Clause 848 – Inspection Plan	M. Hammill	04 APR 2016
AF	Revised Clause 880A – Is: "...as required by the Terms and Conditions for the Purchase of Goods and Services, Clause 11.4." Was: "...for a minimum of seven years after shipment."	M. Hammill	02 NOV 2016
AG	Reformatted document to clean up pagination Added: Clauses 815 and 838 Revised Clause 873 – Added: "This Clause applies . . . protection against an ESD event."	M. Hammill	14 MAR 2017
AH	Added: Clause 849 – Process Capability	M. Hammill	22 MAY 2017
AJ	Added: Quality Policy statement to page 2	M. Hammill	20 SEP 2017
AK	Revised Clause 840 – Added "Any parts determined to be counterfeit must be positively destroyed. Supplier must not return to their sub-tier and they must not pass counterfeit parts to Cobham." Revised Clause 900 – Added "Seller must scrap counterfeit material (refer to QC Clause 840)."	M. Hammill	08 NOV 2017
AL	Updated hyperlink to Cobham Supplier Resource Forms Updated hyperlink to Boeing Approved Processors Revised Clause 908 - Added "and shall be included on the part label or on a tag attached to at least one part in the batch or lot."	C. Wade	19 JAN 2018
AM	QC 911 updated to "G. BAE Systems" QC 920 added	C. Wade	11 APR 2018
AN	QC 917 Removed "The supplier shall also include the document number and revision number of the applicable manufacturing work instructions on the Certificate of Conformance or Certificate of Inspection"	C. Wade	23 JUL 2018
AP	The link to Terms and Conditions and Quality Forms updated Update to various Quality Clauses, See Appendix A for details	C. Wade	25 FEB 2020

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AQ	Name change from Cobham to Mission Systems Orchard Park (MSOP). 814D added, FAI Plan for Digital Product Definition (DPD). 911A updated to require documentation with shipment. 917 updated to include form. 923 added for Digital Product Definition (DPD) requirement.	D. Whitehead	03 May 2023
AR	814 Lapse in production changed from one (1) to two (2) years per AS9102 C. Updated events requiring FAI to be in alignment with AS9102 C. 880A Updated reference to Terms and Conditions amendment for record retention requirement. 924 New QC for FAI lapse in production of one (1) year. 921 Updated reference to Eaton Aerospace form.	D. Whitehead	23 Oct 2023
AS	890, 891 Corrected link	D. Whitehead	07 Feb 2024
AT	822 – added “In accordance with EB2678 Appendix A” 911 - added “J” Change Request 726	D. Whitehead	26 Sept 2024
AU	807 Updated title and verbiage. Added QC 807 form. 906 Updated standards. Removed 2005 from ANSI/ISO/IEC. Added AZ540.1, or Z540.3 911A Replaced website with QC-911A Boeing Approved Processor Guide Change Request 755	D. Whitehead	30 May 2025

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Further clarification is available through Mission Systems Orchard Park (MSOP) Buyer for application and adherence to the following Quality Clauses

800 QUALITY PROGRAM REQUIREMENTS

REFER TO “EATON GLOBAL SUPPLIER EXCELLENCE MANUAL” Sec. 4.1 and 10.3 (4.1)

Available at: [Supplier Excellence Manual \(eaton.com\)](https://eaton.com/supplier-excellence-manual)

801 INSPECTION SYSTEM REQUIREMENTS - MIL-I-45208A

The supplier shall provide and maintain a system that complies with MIL-I-45208A “Inspection System Requirements”.

Compliance with this clause in no way relieves the seller of the responsibility to furnish acceptable supplies or services as specified on the purchase document. (A Quality Program IAW ISO-9002 may be utilized in lieu of this requirement).

802 QUALITY PROGRAM PROVISIONS - NHB 5300.4 (1B)

The seller shall provide and maintain a system that complies with NHB 5300.4 (1B) “Quality Program Provisions.” Compliance with this clause in no way relieves the seller of the responsibility to furnish acceptable supplies or services as specified on the purchase document.

803 INSPECTION SYSTEM PROVISIONS - NHB 5300.4 (1C)

The seller shall provide and maintain a system that complies with NHB 5300.4 (1C) “Inspection System Provisions.” Compliance with this clause in no way relieves the seller of the responsibility to furnish acceptable supplies or services as specified on the purchase document.

804 CONTROL OF INSPECTION EQUIPMENT

In house inspection/calibration measuring equipment utilized in the manufacture/calibration of this item must be calibrated and traceable to the National Bureau of Standards per ISO-10012.

805 SUPPLIER QA PROGRAM REQUIREMENTS: REFER TO QUALITY CLAUSE 800

807 NOTIFICATION OF CHANGE TO OWNERSHIP, LOCATION, OR DESIGN

The supplier shall notify MSOP of changes to ownership, manufacturing location, or processing location. The supplier shall notify MSOP as soon as it is apparent that an interruption of 90 or more days is anticipated in the production of an item.

When the supplier is the design authority, the supplier shall notify MSOP of any proposed changes to design, parts, materials, fabrication methods, or processes that may affect MSOP imposed specifications.

QC Form 807 available at: [Aerospace \(eaton.com\)](https://eaton.com/aerospace)

809 GOVERNMENT SOURCE INSPECTION (GSI) – NASA

All work on this order is subject to inspection and test by the Government at any time and place. The Government Quality Representative who has been delegated NASA Quality Assurance Functions on this procurement shall be notified immediately upon receipt of this order. The Government Representative shall also be notified forty- eight (48) hours in advance of the time articles or materials are ready for inspection or test.

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810 MSOP/CUSTOMER/GOVERNMENT RIGHT OF ACCESS

MSOP/Customer/Government reserves the right of access to subcontractor's facility for review of quality systems, records and facilities. The right to inspect any or all work included in this order is also reserved.

Verification by MSOP /Customer/Government does not absolve the supplier of the responsibility to provide acceptable product, nor shall it preclude subsequent rejection by MSOP /Customer/Government.

811 GOVERNMENT SOURCE INSPECTION (GSI) IMPOSED

Government inspection is required prior to shipment from your plant. On receipt of this purchase order/subcontract, promptly furnish a copy to the government representative who normally services your plants or if none, to the nearest Army, Navy, Air Force or Defense Supply Agency Inspection Office in your locality. In the event the representative or office cannot be located, contact MSOP Purchasing. Verification by MSOP/Customer/Government does not absolve the supplier of the responsibility to provide acceptable product, nor shall it preclude subsequent rejection by MSOP/Customer/Government.

* Documentation of Government acceptance required with shipment.

812 MSOP SOURCE INSPECTION

Source Inspection shall be conducted by MSOP at the supplier's facilities or where designated in this purchase order subcontract prior to shipment. The supplier shall contact MSOP supplier quality assurance representative at least five working days prior to date items will be ready for the mandatory inspection/test performance, including in process and/or final test. Required documentation for shipment must be completed and signed by the supplier authorized quality personnel, and available for the MSOP's supplier quality assurance representative.

Verification by MSOP does not absolve the supplier of the responsibility to provide acceptable product, nor shall it preclude subsequent rejection by MSOP /Customer/Government.

* Documentation of MSOP acceptance required with shipment.

813 FIRST ARTICLE INSPECTION: REFER TO QUALITY CLAUSE 814

814 FIRST ARTICLE INSPECTION (AS/EN/SJC 9102)

A First Article Inspection (FAI) or a partial FAI in accordance with AS9102 for affected characteristics is required when any of the following events occurs:

- Initial Production.
- A change in engineering definition affecting design characteristics.
- A change in manufacturing source(s), process(es), inspection method(s), tooling, materials/alternate materials, or location of manufacture.
- A change in numerical control program or translation to another media.
- A natural or man-made event, which may adversely affect the manufacturing process.
- An implementation of corrective action required to complete a previous FAI.
- A lapse in production for two (2) years for any characteristics that may be impacted. This lapse is from the completion of the last production operation to the actual restart of production.
- When multi- cavity molds/dies/tools are used, the First Article Inspection is required for each cavity.

A. Submit the first article report along with the shipment.

* Documentation required with shipment.

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- B. Submit the first article item to MSOP for inspection by MSOP personnel.
- C. The First Article Inspection shall be maintained on file and available upon request at the supplier's facility.
- D. FAI Plan: Prior to manufacture of deliverables the supplier shall provide an AS9102 FAI Plan showing all FAI characteristics required for a completed FAI for review by the MSOP Quality Engineer. The FAI plan shall include the planned AS9102 Forms 1, 2 and 3 along with the ballooned drawing or point map(s) pertaining to Digital Product Definition characteristics.

The supplier shall not manufacture parts until the Buyer confirms the Quality Engineer's review and approval (814D only).

*Documentation required prior to manufacturing (814D only).

815 FIRST ARTICLE TEST (FAT)

The Supplier shall submit a FAT plan in accordance with the specifications, drawings, and/or any requirements flow down documents as supplied with this order. The FAT plan shall include:

- Dates for submittal of the FAT procedure
- Dates and locations(s) for all testing with anticipated start/completion dates
- Date for submittal of the FAT report

The Supplier shall update/resubmit the FAT plan to cover any changes to the schedule. The procedure and test reports may be prepared using MIL-HDBK-831 as a guide and shall be approved by MSOP prior to start of the test. MSOP and its customer reserve the right to witness FAT testing at any point in the schedule.

Following First Article Test approval, it is the Supplier's responsibility to notify the MSOP authorized purchasing representative to determine what testing must be repeated when any of the following occurs:

- Receipt of new Purchasing Agreement or contract
- Significant change in manufacturing process (introduction of a new manufacturing technique, etc.)
- Change in any drawing configuration, component, or sub-component parts
- Change in manufacturing location

820 MANUFACTURING LOT OR BATCH NUMBER CONTROL

All parts on this order will be traceable to/identified with a lot or batch number. Where size and shape do not permit stamping, the smallest package shall be stamped. A lot or batch will be defined as material or parts produced by a single type, grade, class, size or composition under unchanged manufacturing conditions in accordance with the same drawing and/or specification revision unless otherwise defined in the P. O.

* Documentation required with shipment.

821 CONTROL OF LIMITED SHELF LIFE MATERIALS

- A. Cured elastomeric items which exceed the cure date by more than 30% of the specified shelf life shall not be furnished.
- B. Uncured elastomeric material exceeding 30% of the specified shelf-life from date of manufacture shall not be furnished.
- C. "Non-elastomeric materials exceeding 25% of the specified shelf life shall not be furnished unless written approval from MSOP Purchasing is obtained.

* Documentation required with shipment.

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822 LEVEL 1 MATERIAL CONTROL

The supplier shall provide a system suitable for control of Level 1 material in accordance with EB2678 Appendix A. Before Level 1 material will be released to the supplier's facility, a Level 1 Material Control Procedure must be submitted to MSOP for approval.

The supplier will not transfer Level 1 material to other facilities without receiving approval from MSOP. The supplier will be subject to Level 1 Material Control Audits by MSOP or the Government while Level 1 material resides at that facility.

823 TRACEABILITY

When parts are joined in an assembly, the seller shall prepare an "Assembly History Log" identifying each part in the assembly.

Fabricated parts shall be identified with serial number, material type, heat number, B/P and specification with applicable change letter or number.

Components in the assembly shall be traceable to records of acceptance by part number, serial number and lot number of material from which the components were fabricated by the supplier, and shall accompany the parts they represent to MSOP.

No two parts which have the same part number shall be identified with the same serial number unless otherwise specified.

* Documentation required with shipment.

824 CONTROL OF FORGINGS/CASTINGS

The Seller shall furnish MSOP with one sample forging/casting representative of all processing used. This test forging/casting is in addition to the production quantities required.

825 REPAIR OF CASTINGS/FORGINGS

Repairs to castings or forgings by welding or impregnation is not permitted without written approval from MSOP.

827 TEST SAMPLES FOR CASTINGS/FORGINGS

The supplier shall furnish with each shipment:

- A. Two test bars prepared to Federal Test Standard 151B of each heat as the casting supplied
- B. One spectrographic disc representing castings heat or melt supplied.
- C. Test bars and disc must be clearly and permanently marked with purchase order number, alloy identification and heat number it represents.

830 CONTROL OF NONDESTRUCTIVE TESTING (NDT)

Items requiring NDT shall be submitted, complete with drawing or document establishing NDT requirement, to a laboratory acceptable to Buyer. Test results shall be reported in writing to the Buyer, identifying the laboratory and the certified technician who performed and/or evaluated the tests, signed by a responsible laboratory representative. An adequate method of identifying and cross-referencing each x-ray film exposure, report and item must be provided. When parts are serialized, serial numbers must appear on the report and film with the control number.

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- A. Radiographic film of each lot and/or other NDT results, including foundry control NDT, shall be inspected by MSOP at the laboratory performing the work prior to shipment. The seller shall notify MSOP when the film is ready for review.
- B. NDT reports shall be submitted with each shipment to MSOP and shall include x-ray film when radiographic inspection is required.
- C. Submittal of NDT procedures/x-ray shooting schedule is required. Approval by MSOP is required prior to NDT.

831 NDT CERTIFICATION PROGRAM - MIL-STD-410

Personnel performing NDT must be certified in accordance with the requirements of MIL-STD-410 Nondestructive Testing Personnel Qualification and Certification. Level 1 contracts requiring NDT must be IAW SNT-TC- 1A. Copy of Qualification and Certification record to be available upon request.

832 WELDING SUBMITTAL/APPROVAL REQUIREMENTS

All weld schedules/procedures require MSOP approval prior to welding.

833 WELDING PERSONNEL CERTIFICATION

Personnel performing welding must be qualified/certified in accordance with the requirements of:

- A. MIL-STD-1595 superseded by AWS D17.1
- B. MIL-STD-248 are these current specs superseded by NAVSEA S9074-AQ-GIB-010/248

834 REPAIR OF WELDMENTS

No repair to a weldment is permitted without approval by MSOP.

835 SUPPLIER CONTROL AND CONFORMANCE OF SPECIAL PROCESSES

When special process specifications (e.g. heat treat, soldering, welding, anodizing, chemical film treatment, NDT, etc.) are a contract and/or drawing requirement, the supplier is responsible for maintaining a system to control special processes performed at their facilities.

836 USE OF MSOP APPROVED SUPPLIERS: REFER TO QC 911H**837 NONDESTRUCTIVE TESTING (NDT) CERTIFICATION**

Each shipment must be accompanied by one legible copy of a certification (Q.C. Form 837 furnished by MSOP, or supplier equivalent) signed by a responsible representative of the seller performing the NDT. When applicable, the supplier is to maintain and have available for examination, records reflecting certification of personnel, equipment and processes.

*Documentation required with shipment.

QC Form 837 available at: [Aerospace \(eaton.com\)](https://www.eaton.com/aerospace)

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838 SOLDERABILITY

Material supplied shall meet the solderability requirements of the product fabrication specification. When no solderability test is specified, the test shall be performed in- accordance with MIL-STD-202, Method 208.

The Supplier shall provide a written certification stating that the components provided were tested and meet the applicable solderability requirements as stated here-in.

- A. The certification shall reference the IPC/EIA J-STD-002 Solderability Test for component Leads, Terminations, Lugs, Terminal, and Wires.
- B. The certification shall reference the IPC/EIA J-STD-003 Solderability Test for Printed Boards

*Documentation required with shipment.

840 CONTROL OF NONCONFORMING MATERIAL

The supplier or lower-tier suppliers are not authorized to disposition nonconforming materials as “repair” or “accept as is”. For this purpose, material shall be defined as all material and components of the supplier and lower-tier supplier products which are under MSOP design control. Any nonconforming materials, components or parts shall be segregated and withheld from shipment to MSOP unless negotiated in advance (Supplier Deviation Approval Form - SDA) When authorized to ship nonconforming material, components or parts, the supplier shall insure that the nonconforming items are identified (e.g. tagged) and specifically referenced as being nonconforming on certification statements and SDA included with shipment. Materials or parts rejected by MSOP shall not be returned to MSOP without appropriate corrective action having been taken and then only with reference being made to the discrepancy report on the certification statement.

*SDA required with shipment.

QC Form 840 and SDA (Supplier Deviation Application) Guide available at: [Aerospace \(eaton.com\)](https://www.eaton.com/aerospace)

Note: Any parts determined to be counterfeit shall be retained as evidence. Supplier must not return to their sub-tier and they must not pass counterfeit parts to MSOP.

- 841 REFERENCE QC 922 B**
- 842 REFERENCE QC 921 F**
- 843 REFERENCE QC 922 A**
- 844 REFERENCE QC 921 F**
- 845 REFERENCE QC 921 C**
- 846 REFERENCE QC 921 A**
- 847 REFERENCE QC 921 B**
- 848 REFERENCE QC 922 A**
- 849 REFERENCE QC 921 F**

850 DELETED

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851 CERTIFICATION OF COMPLIANCE

Each shipment must be accompanied by one legible copy of a certification (Q.C. Form #851 furnished by MSOP or supplier equivalent) containing the following:

- Statement that material, processing, and finish of parts on this order meet all specifications and drawing requirements.
- MSOP part number and revision
- Purchase Order Number
- Quantity
- Printed Name, Signature & title of authorized company representative.

* Documentation required with shipment.

QC Form 851 available at: [Aerospace \(eaton.com\)](https://www.eaton.com/aerospace)

852 CERTIFICATION OF MATERIAL

Each shipment must be accompanied by one legible copy of a certification (Q.C. Form #852 furnished by MSOP or supplier equivalent) containing the following:

- Statement that materials used on this order meet all specifications and drawing requirements.
- Statement that test reports or manufacturer's certification of material used are available at your facility.
- MSOP part number and revision
- Purchase Order Number
- Printed Name, Signature & title of authorized company representative.

* Documentation required with shipment.

QC Form 852 available at: [Aerospace \(eaton.com\)](https://www.eaton.com/aerospace)

853 CERTIFICATION OF MSOP FURNISHED MATERIAL

Each shipment must be accompanied by one legible copy of a certificate (Q.C. Form #853 furnished by MSOP or supplier equivalent) containing the following:

- Statement that the items supplied were made from parts or material furnished by MSOP
- MSOP number and revision
- Purchase Order Number
- Traceability (i.e., lot number) of MSOP provided material
- Printed Name, Signature & title of authorized company representative

* Documentation required with shipment

QC Form 853 available at: [Aerospace \(eaton.com\)](https://www.eaton.com/aerospace)

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854 PROCESS CERTIFICATION

Each shipment must be accompanied by one legible copy of a certification (Q.C. Form #854 furnished by MSOP or supplier equivalent) containing the following:

- Special process specification and revision as referenced on the drawing, purchase order or packing sheet (i.e., military specification and/or MSOP process specification).
- Statement that supplier maintains and has available for examination, records reflecting certification of personnel, equipment and process.
- Printed Name, Signature & title of authorized company representative of the supplier performing the special process.

* Documentation required with shipment.

QC Form 854 available at: [Aerospace \(eaton.com\)](https://www.eaton.com/aerospace)

855 MATERIAL REPORTS (CHEMICAL/PHYSICAL)

Each shipment must be accompanied by one legible copy of test reports, identifiable with purchase order number, the specification including revision, material heat and/or lot number. Report must contain:

- A. Original Mill Certification
- B. Chemical/Physical Analysis
- C. Typical Test Results

Reports must contain the signature and title of a responsible representative of the organization performing the test.

* Documentation required with shipment.

856 CERTIFICATION OF MERCURY EXCLUSION

Each shipment made against the purchase order must contain a statement certifying:

- A. The manufacturer has taken appropriate steps to ensure supplies furnished under this order contain no metallic mercury or mercury compounds.
- B. The dealer/distributor has taken reasonable steps to ensure that the supplies furnished under this order have not been contaminated with mercury or mercury compounds.

The certification (QC Form 856 furnished by MSOP, or supplier equivalent) shall reference purchase order number, part number, and quantity of this shipment.

* Documentation required with shipment

QC Form 856 available at: [Aerospace \(eaton.com\)](https://www.eaton.com/aerospace)

857 CERTIFICATION OF MANUFACTURER

The supplier (distributor) shall provide the manufacturer's name and the P.O. number under which the distributor acquired the material.

* Documentation required with shipment.

QC Form 857 available at: [Aerospace \(eaton.com\)](https://www.eaton.com/aerospace)

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858 CERTIFICATION OF CALIBRATION (A)

Each item shall be accompanied by a signed certification of calibration stating that the item(s) have been calibrated and are traceable to nationally recognized standards.

- A. The certification shall reference the National Institute of Standards and Technology (NIST) test number for the calibration standard(s) used, where applicable.
- B. The certification shall reference the NIST test number and accuracy of the calibration standard (s) used, where applicable, including as-found and as-left data for the equipment being calibrated.

* Documentation required with shipment

870 HANDLING, STORAGE, PACKAGING, PRESERVATION, AND DELIVERY

- A. Unless otherwise specified, preservation, packaging, handling and shipping of items shall be in accordance with best commercial practices to prevent damage and ensure that original quality is maintained.
- B. Packaging shall be in accordance with MIL- STD-726
- C. Items shall be packaged using MSOP specified/designed trays, bins, etc. as indicated on the PO (tray size/count, dimensions, color and tray number if applicable). Substitutions are not permitted unless approved in advance by MSOP Engineering.

871 MATERIAL IDENTIFICATION INSTRUCTIONS

- A. Apply part number and revision letter per applicable drawing note.
- B. Bag and tag parts.
- C. Tag parts.
- D. Identify per procurement instruction requirements.
- E. Identify parts in accordance with MIL-STD- 130.

872 EEE MATERIAL

Each item on this purchase order must be identified with manufacturer and date/lot code number in accordance with applicable specifications.

* Documentation required with shipment

873 STATIC SENSITIVE DEVICES

Static sensitive devices (e.g., CMOS Integrated circuits) shall be stored, handled and packaged according to appropriate procedures to insure against damage by static induced voltages.

The packaging shall be marked to insure static awareness upon receipt at MSOP

This Clause applies to packaging of ESDS (ELECTRO-STATIC-DISCHARGE SENSITIVE)

Devices only. Examples include but are not limited to PWA's (Printed wiring Assemblies), CCAs (Circuit Card Assemblies), PCBAs (Printed Circuit Board Assemblies) here-in mentioned are considered populated boards with PTH (plated thru hole) and/or SMT (surface mount technology) devices. VMOS, CMOS, ICs, and other active devices that are considered class 0, 1, 2 and/or 3 ESDS devices shall be packaged in- accordance with ANSI. S20.20 requirements.

PCBs (Printed Circuit Boards) unpopulated are NOT considered ESDS (Electro-Static Discharge Sensitive).

FARADAY ANTISTATIC SHIELDING BAGS / PACKAGING SHALL BE UTILIZED for protection against an ESD event.

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874 LEVEL 1 MATERIAL IDENTIFICATION

Material on this purchase order is designated for Level 1 naval applications. It is mandatory that each piece of material be mill marked with the melt or heat number. Bar stock must be marked at both ends as a minimum. Chemical/physical material certifications shall be on the producing mill's letterhead and shall include the signature of an authorized representative of the mill, their typed name, title and date.

875 IDENTIFICATION OF SHELF LIFE MATERIALS

Seller shall identify each item, package or container, with the cure date of manufacture date, expiration date and special storage or handling conditions, in addition to the normal identification of name, part or code number, specification number, type, size, and quantity. This identification, including special storage and handling conditions shall be recorded on the certification (MSOP QC Form #875 furnished by MSOP, or supplier equivalent) and signed by an authorized representative of the seller. Shelf life for elastomeric items may be based on SAE ARP 5316, Storage of Aerospace Elastomeric Seals guidelines.

* Documentation required with shipment.

QC Form 875 available at: [Aerospace \(eaton.com\)](https://www.eaton.com/aerospace)

880 QUALITY RECORDS

- A. Quality records, including raw material certifications, work instructions, inspection and test data shall be retained at the supplier facility as required by the "Amendment to General Terms and Conditions for Purchase of Good and Services", section 40.3.
[eaton-aero-amendment-to-general-terms-and-conditions-for-purchase-of-goods-and-services.pdf](https://www.eaton.com/aerospace/amendment-to-general-terms-and-conditions-for-purchase-of-goods-and-services.pdf)
- B. Seller shall retain all material certifications, physical/chemical test reports, manufacturing, assembly, inspection, test results, and special process records until directed otherwise by the Purchaser. Under no circumstances should these records be destroyed without prior written approval. Records shall be made available upon request.

881 INSPECTION AND TEST SUBMITTAL

The supplier is required to ship one copy of the following data with each item shipped:

- A. Inspection and test data
- B. Inspection record per MSOP QC Form 881B
- C. Objective evidence of 100% inspection.
- D. Objective evidence of statistical process control.
- E. Test report

* Documentation required with shipment.

QC Form 881B available at: [Aerospace \(eaton.com\)](https://www.eaton.com/aerospace)

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883 PRODUCT FAILURE FEEDBACK

The supplier shall have a system for rapid feedback to MSOP of information concerning product failure of items covered by this Purchase Order, which occur during any phase of qualification and/or acceptance testing. This feedback system shall include, as a minimum, the following:

- Written notification to MSOP Purchasing within 24 hours after occurrence of failure.
- An outline of the failure investigation to be conducted within 5 working days of the failure.
- A failure analysis report which will completely describe the specific cause, the analysis method and the action taken to eliminate the cause within 30 days of the failure.

MSOP, with its customer, reserves the right to participate in any or all of the failure analysis investigation

890 SAFETY PRECAUTIONS FOR AMMUNITION AND EXPLOSIVES
DFAR 252.223-7002

Available at: [eaton-aero-amendment-to-general-terms-and-conditions-for-purchase-of-goods-and-services.pdf](#)

891 HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA
DFAR 252.223-7001

Available at: [eaton-aero-amendment-to-general-terms-and-conditions-for-purchase-of-goods-and-services.pdf](#)

892 LANDSCAPERS ENVIRONMENTAL AWARENESS STATEMENT: DELETED

893 BUILDING CONSTRUCTION ENVIRONMENTAL AWARENESS STATEMENT: DELETED

894 USE OF SPECIAL PROCESS SUBPROCESSORS: REFER TO QC 911B

895 RESTRICTIONS ON ACQUISITION OF SPECIALTY METALS AND ARTICLES CONTAINING SPECIALTY METALS DFAR 252.225-7008 and/or 252.225-7009

Available at: [PO Terms - FARS.pdf \(eaton.com\)](#)

896 FOREIGN OBJECT DAMAGE (FOD) PREVENTION

The Seller shall establish and maintain an effective Foreign Object Damage (FOD) Prevention Program to reduce FOD using NAS412 and/or AS9146 as a guideline.

The Seller's program shall utilize effective FOD prevention practices. The program shall be proportional to the sensitivity of the design of the product(s) to FOD, as well as, to the FOD generating potential of the manufacturing methods.

The written procedures or policies developed by the Seller shall be subject to review and audit by the MSOP and/or government representative and disapproval when the seller's procedures or policies do not accomplish their objectives.

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897 PREFERENCE FOR DOMESTIC PRODUCTS, COMPONENTS OR MATERIAL

DFAR 252.225-7002 – QUALIFYING COUNTRIES

DFAR 252.225-7012 – PREFERENCE FOR DOMESTIC COMMODITIES

Available at: [PO Terms - FARS.pdf \(eaton.com\)](#)

898 USE OF SPECIAL PROCESS SUBPROCESSORS: REFER TO QC 911A

899 EMPLOYMENT ELIGIBILITY VERIFICATION

The supplier is to conform with FAR 52.222-54 Employment Eligibility Verification System (E-Verify).

900 COUNTERFEIT PARTS

Seller shall only produce products or purchase components/hardware direct from the original component manufacturer (OCM) original equipment manufacturer (OEM), through an authorized (franchised) distributor or through a MSOP authorized broker. Work shall not be acquired from independent distributors or brokers without approval from the MSOP in writing. The seller will comply with the requirements in AS5553A and AS6174A standards.

MSOP must be notified immediately if the seller suspects they may have been supplied counterfeit parts. Work that is delivered that contains or includes counterfeit parts will be replaced, at the seller's expense, with certified genuine parts. Seller shall retain counterfeit material as evidence (refer to QC Clause 840).

Seller will flow down the above requirements to all suppliers/subcontractors to ensure they are buying hardware and electronic components from the OCM/OEM or an authorized distributor.

All brokers providing electronic components/hardware must be authorized by MSOP. An Authorized Broker must demonstrate documented tools and procedures are in place, and functioning accordingly, to screen, detect, and ensure that components are not misrepresented.

901 SUPPLIER DRAWING REVIEW

The supplier shall conduct a critical review of the drawing during the quotation process, prior to submitting a quote to MSOP.

Documentation of the review and feedback shall be provided to MSOP using QC Form 901.

QC Form 901 available at: [Aerospace \(eaton.com\)](#)

The completed form shall be returned with the quote package to MSOP Mission Systems Purchasing Department.

902 SPECIAL TOOLING REQUIREMENTS

The supplier shall maintain the identified Special Tooling so as to be compliant with MSOP process "Process for Controlling Customer Supplied Tooling" (doc 904), or instead, per other customer Special Tooling requirements when identified with this clause.

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903 Nadcap

All special processes must be performed by a Nadcap approved supplier.
Each shipment must be accompanied by one legible copy of process certification from the special processor and Q.C. Form 903 furnished by MSOP or supplier equivalent containing the following:

- Special Process
- Specifications, Class and Type

* Documentation required with shipment.

QC Form 903 available at: [Aerospace \(eaton.com\)](https://www.eaton.com/aerospace)

904 PMR REQUIREMENT Part of Supplier Development

A Program Management Review will be required at the outset of the agreement to procure a part or parts from the supplier and every 6 months thereafter. The reviews should alternate between the MSOP (Orchard Park, NY) facility and the supplier's location when possible. An appropriate team from each organization will meet to exchange knowledge of concerns, risks, lessons learned, performance expectations and quality issue resolution. The supplier shall also be prepared to support PMR(s) throughout the procurement period.

905 BLANKET CERTIFICATIONS: Deleted without substitution

906 CERTIFICATION OF CALIBRATION (B)

Each item shall be accompanied by a signed certification of calibration stating that the item(s) have been calibrated and are traceable to ANSI/ISO/IEC 17025, Z540.1, or Z540.3.

The certification shall reference the NIST test number and accuracy of the calibration standard(s) used, where applicable, including as-found and as-left data for the equipment being calibrated.

*Documentation required with shipment.

907 AMMO DATA CARD

Ammo Data Cards per MIL-STD-1168 to be supplied with each shipment. Initiator/Primer Lot Number format per MIL-STD-1168.

*Documentation required with shipment.

908 SINGLE LOT CONTROL/ LOT HOMOGENEITY

A lot, identified by a single Purchase Order, shall be manufactured from materials from a single heat, melt, or blow. A lot is defined as a quantity that has been blended, mixed, or fabricated during an uninterrupted manufacturing run by the same personnel.

Each batch or lot shall be properly identified with the assigned lot number and shall be included on the part label or on a tag attached to at least one part in the batch or lot. Traceability shall be maintained by the supplier of the hardware.

*Documentation required with shipment.

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909 NON-CONFORMING MATERIAL RECORDS SUBMITTAL

The Supplier shall forward to MSOP, all documents associated with any discrepancy, rejection, scrap, or any other form of non-conformance, whether incurred at receiving inspection, in-process or final acceptance, generated during the processing of the purchased parts or processes; this includes flowdown to all sub-contracts used on MSOP issued purchase orders. The Non-Conforming Material records are to be submitted with each shipment. If there were no non-conformances during the processing of the purchase order, the seller shall state explicitly on the Certificate of Conformance.

*Documentation required with shipment.

910 FAILURE NOTIFICATION

The Seller shall notify MSOP Quality and Procurement within 2 business days of a failure at LAT/IAT:

- A. All testing must stop immediately with the test equipment and LAT hardware quarantined. The Seller must submit failure analysis rational and determine if the event is due to testing, process, or product. The LAT testing process may continue and/or release the test equipment once MSOP provides concurrence.
- B. All testing must stop immediately with the test equipment and IAT/LAT hardware quarantined. The Seller must submit failure analysis rational and determine if the event is due to testing, process, or product. The IAT or LAT testing process may continue once MSOP provides concurrence. A Failure Review Board (FRB) containing members from the Seller, MSOP (and possibly MSOP's customer) may be established to investigate and determine the appropriate course of action.

911 APPROVED SPECIAL PROCESSOR

All special processes from suppliers and sub tiers must be approved by Customer listed below:

- A. Boeing
QC 911A Boeing Approved Processors Guide available at: [Aerospace \(eaton.com\)](https://www.eaton.com/aerospace)
* Documentation required with shipment:
 - A printed and dated screenshot of the supplier's Special Processor Boeing approval shall be delivered with the shipment
- B. Lockheed Martin (contact MSOP Quality Engineer for approved processors)
- C. Raytheon
- D. United Launch Alliance (ULA) <http://suppweb.ulalaunch.com/AppProcWeb/ApprovedProcessors.aspx>
- E. Pratt & Whitney
- F. JPL
- G. BAE
- H. MSOP
- I. Collins Aerospace
- J. Moog <https://www.moog.com/suppliers/supplier-quality-requirements/asps.html>

When QC 917 is imposed notification of changes in location and/or different Supplier or sub-tier for special processes must be submitted to MSOP Quality Engineering Group.

912 SPECIAL PROCESSES – RAYTHEON: REFER TO QC 911C

913 SPECIAL PROCESSES – JPL: REFER TO QC 911F

914 SPECIAL PROCESSES – PRATT & WHITNEY: REFER TO QC 911E

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915 SPECIAL PROCESSES – UNITED LAUNCH ALLIANCE (ULA): REFER TO QC 911D

916 PURE TIN COMPLIANCE

Provide certificate for the following: All products on this PO that require solder, platings, coatings, and claddings shall comply with the following:

- A. Material composition less than 97% tin by weight
- B. Tin alloy with composition of greater than 3% lead by weight

Contact MSOP Buyer immediately if either: (1) there is a conflict between the need for tin/lead and the manufacturer's part number stated on MSOP drawing, (2) the manufacturer's part number is not available (do not substitute without prior approval).

*Documentation required with shipment

917 PROCESS CHANGE CONTROL

The supplier shall not permit changes to the manufacturing/assembly processes, materials, and procedures (including changing sub-tier suppliers). Any changes require approval by MSOP Procurement and Quality prior to implementation. The approval process may require requalification of the hardware (at the supplier's cost) prior to implementation of the change. Such approval does not affect or waive applicable and/or acceptance requirements. Depending on MSOP's customer flowdown, a First Article may be required prior to the production and/or manufacturing of parts or processes.

QC Form 917 available at: [Aerospace \(eaton.com\)](https://www.eaton.com/aerospace)

918 DELEGATION OF PRODUCT VERIFICATION AS9015

Each delegated supplier is responsible for the following:

- Provide notification of change in ownership, management, or location of supplier's facilities
- Maintain quality system approval with the parameters of the organization's quality management system requirements
- Make available a current list of their delegated suppliers for customer and/or regulatory agency reviews.

919 SERIALIZATION REQUIREMENTS – MSOP SUPPLIES SN

Serial numbers are required to be assigned to the parts, assemblies and end items on this purchase order. A serial number control system shall be in place that prevents the same serial number from being used more than once. A list of all serial numbers shall be provided with each shipment of the product. Supplier shall identify the serial numbers of serialized subassemblies contained in deliverable end items. Records must be contained by the supplier.

Serial numbers are to be provided by MSOP and serialized parts must be shipped in sequential order – not mixed.

*Documentation required with shipment.

920 SPECIAL PROCESSES – BAE SYSTEMS: REFER TO QC 911G

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921 RISK MITIGATION

The documents in this Quality Clause need to be submitted and approved by MSOP Supplier Quality Engineer prior to the start of manufacture in order to be effective. These documents are related and support each other but may be selected separately by MSOP. Still the supplier is encouraged to complete these to reduce their own risk. These documents must be in alignment with each other. Such as the same operations will be listed in the same sequence across these documents.

NOTE: These are “living” documents that need to be in use and fully implemented in order to be beneficial. When the Supplier’s process changes or if there is a non-conformance, the appropriate documents need to be updated as appropriate.

“Supplier PPAP Workbook and Checklist” available at: [Aerospace \(eaton.com\)](https://eaton.com/aerospace)

- A. **COMPREHENSIVE PROCESS FLOW DIAGRAM (PFD):** Graphical representation of the steps and activities involved in a process.
- B. **PROCESS POTENTIAL FAILURE MODE AND EFFECTS ANALYSIS (PFMEA):** All process and production and verification points for all Key Characteristics will be accounted for on the PFMEA.
- C. **CONTROL PLAN:** Each process step must be addressed in the control plan. Elements shall include monitoring of process output, controls in place and what to do with non-conformances or unwanted conditions.
- D. **WORK INSTRUCTION:** This could be the shop router or traveler with proper level of detail for the Operator. It is acceptable to identify other reference documents within the Control Plan.
- E. **MEASUREMENT SYSTEM ANALYSIS (MSA) / GAGE R&R:** Measurement system analysis is an important tool in understanding accuracy of the Supplier’s measurement equipment. This activity will provide a numerical value to the accuracy, validity or trustworthiness of the measurement and needs to take place prior to production manufacturing for items specified on the purchase order. The Supplier shall submit the MSA for review and approval. The MSA report shall have a result as percentage (%) of repeatability and reproducibility of the gage with the following acceptance criteria. Supplier shall follow AIAG style of MSA. Contact MSOP SQE for guidance.
 - <10% is considered acceptable and preferred
 - 10% to 30% may be acceptable for some application
 - >30% not acceptable for determining good parts from out of specification
- F. **KEY CHARACTERISTICS and PROCESS CONTROL:** Once a Key Characteristic is identified on a drawing or by other means, compliance shall be IAW AS9103 and this Quality Clause. If Key Characteristics are not identified, contact MSOP Supplier Quality Engineering for clarification. Items identified from the Supplier’s PFMEA (high RPN) or other Critical to Quality (CTQ) features must be considered.

Prior to manufacturing, the Supplier shall submit for approval a Process Control detailing how Key Characteristics and/or Critical to Quality (CTQ) and the applicable processes will be controlled. MSOP approval of this plan is required. Process Capability Study / Statistical Process Control (SPC) artifacts shall be in accordance with AS9103, “Variation Management of Key Characteristics”. MSOP approval of the studies and/or artifacts is required. This (study or artifact) can be submitted during or after manufacturing or processing.

The use of “trial” parts may not be utilized for calculating capability without prior approval.

The applicable process is considered capable once a Cpk => 1.33 is achieved. Characteristics identified as “Safety Critical” shall meet Cpk => 1.67.

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100% inspection can be used in place of calculating Cpk. When Cpk is less than 1.33, or 1.67 for Safety Critical contact MSOP SQE for guidance.

Recalculation should occur using the following guidelines:

- Any change in the Key Characteristic as defined on the print
- There is greater than 6 months since last production run
- There is a MSOP NCR or SCAR issued for the applicable item number
- A significant process change(s) has occurred such as:
 - Different/alterd/repared machine
 - Different/alterd process
 - Different/alterd fixtures
 - Different/alterd controlling program (CNC or other)
 - Change in material (type)
 - Different measurement method
 - Change in the operator training/certification requirement.

*Documentation required with shipment.

- G. **PART SUBMISSION WARRANT (PSW):** Upon completion of identified items on Production Part Approval Process (PPAP) Checklist, the Supplier shall complete and submit for approval a Part Submission Warrant (PSW). A separate PSW shall be submitted for each item number and revision. When multi-cavity molds / dies / tools / manufacturing sites are used, the appropriate specifics shall be noted on the PSW. A copy of the approved PSW shall be submitted with delivery of the parts.

Note: PSW applies to production parts and does not apply to development parts, samples or trial parts.

922 INSPECTION ACTIVITY

The Supplier shall formulate and identify inspection activity during planning stages of manufacturing. Adequate artifacts shall be submitted for approval by MSOP Supplier Quality Engineering. Objective evidence must be maintained on file and available for review by MSOP.

- A. **INSPECTION BY SAMPLING:** The Supplier may substitute sampling inspection in lieu of 100% inspection if inspection is performed in accordance with ANSI Z 1.4. Other inspection sample plans may be used with MSOP Supplier Quality Engineering approval. A Supplier generated inspection and test plan is required for this part/assembly. As a minimum, the inspection plan will contain characteristics being verified, the acceptance criteria, the frequency, the method of verification and who (function) will perform the inspection. The Supplier must include all Key Characteristics that are determined to be of significant, such as from the PFMEA.
- B. **100% INSPECTION REQUIREMENT:** The Supplier must perform 100% inspection on all items and features identified on the purchase order.

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923 Digital Product Definition (DPD)

The Supplier shall be DPD approved by the Prime Contractor, noted below, and have Mission Systems Orchard Park (MSOP) DPD approval. The Prime Contractor DPD approval shall include the supporting Coordinate Measurement System used to inspect DPD features.

NOTE: if the Prime Contractor's DPD approval is revoked the Supplier shall notify MSOP within 30 Days

A. Boeing DPD approval to [D6-51991](#)

924 FIRST ARTICLE INSPECTION (AS/EN/SJC 9102) - (12) month period (Deviation from AS9102)

A FAI or a partial FAI in accordance with AS9102 for affected characteristics is required when any of the following events occurs:

- Initial Production.
- A change in engineering definition affecting design characteristics.
- A change in manufacturing source(s), process(es), inspection method(s), tooling, materials/alternate materials, or location of manufacture.
- A change in numerical control program or translation to another media.
- A natural or man-made event, which may adversely affect the manufacturing process.
- An implementation of corrective action required to complete a previous FAI
- A lapse in production for one (1) year for any characteristics that may be impacted. This lapse is from the completion of the last production operation to the actual restart of production.
- When multi- cavity molds/dies/tools are used, the First Article Inspection is required for each cavity.

Submit the first article report along with the shipment.

* Documentation required with shipment

NOTE: SPECIFICATIONS REFERENCED SHALL BE OF THE REVISION/ISSUE IN EFFECT AT CONTRACT AWARD UNLESS OTHERWISE SPECIFIED IN THE CONTRACT/PURCHASE ORDER.