



UTC Aerospace Systems

**UTAS Corporation
2727 E. Imperial Hwy.
Brea, Ca. 92821**

DATE: 04/15/2015

REVISION: W

PAGE: 1 OF 24

APPROVED by: Quality Manager

SUPPLIER QUALITY REQUIREMENTS

No. 7.4.2.4

**UTAS CORPORATION
SIS-CA**

2727 E. Imperial Hwy. Brea, CA 92821



CHANGE RECORD

REV	REASON FOR CHANGE	DATE
N/C	First Release	Jan.10 1995
A	Change QCR #5 to match previous QCR document change materials manager.	April 19 1995
B	Name change: Lucas Aerospace Cargo Systems Brea.	May 19, 1995
C	Supplier Quality Requirements manual; Electronically Scanned and added QCR 36A, 36B and 36C	October 21, 1997
D	Added QCR 11, 36, and 37. Added first Article Requirements to Records Retention.	Nov. 13, 1998
E	Added QCR 34 (E) requirements for test samples	Nov. 19 1998
F	<ul style="list-style-type: none"> • Added QCR 11 sub para. A&B all documents shall be held by the certified Supplier, and be made available to the customer for review. • Added QCR 34 (F). Requirements for Raw Material Certifications. Edited the Manual and Made Corrections. • Revised QCR 10 to read. Perishable products controlled by batch number or cure date and products controlled by heat # will have applicable controlling # on the individual certificate. Removed reference to Linked and ECT. • Added note for supplier agreement to General Requirements. • Added revised sampling plan to D1-9000A • Edited Manual and made corrections 	May 7, 1999
G	<ul style="list-style-type: none"> • Removed Materials Manager from approval page • Added drop ship criteria to QCR 10 • Added S/N and physical testing requirements to QCR 7 • Added Gear Data clarification for analytical inspection QCR 63 • Added QCR 38 spline data • Name change: UTAS • Added ESD to the General Requirements section for Marking, Packaging and Handling 	October 15, 1999



CHANGE RECORD

REV	REASON FOR CHANGE	DATE
H	<ul style="list-style-type: none"> • Added to QCR 10: #8. Processes performed, required by blue print, specification or purchase order, to include: Process Specification, Process Certification Number and TRW Aeronautical Systems Approved Supplier used for processing (when applicable). • Added to QCR 10: #9. Sub-Assembly Part Number(s) with latest revision (when applicable). • Added to QCR 10: #10. Sub-Assembly process, Specification, Certification Number and TRW Aeronautical Systems Approved Supplier used (when applicable). • Added to QCR 10: #11. Lot serialization (when applicable). • Added to QCR 10: #12. Indication that products were manufactured from materials on which the seller has records of material conformance when QCR 12A applies. • Added to QCR 10: #13 Indications that product were manufactured from TRW Aeronautical Systems Supplied material when QCR 12B applies. • QCR 11: Combined paragraphs A and B for certified status. • Added to general notes: First production article report requirements. • Added to general notes: Catalog items are excluded from first article requirements. • Added to QCR 37: Serial number example. • QCR 11: Changed Certified Supplier Program to Product Assured Supplier Program. • QCR 11: Change from: 24 to 48 hours to 24 hours. • ADD TO GENERAL NOTES: FOR FIRST PRODUCTION ARTICLE REPORT. 	January 11,2000
J	<ul style="list-style-type: none"> • Name change: UTAS Corporation 	July 16, 2003
K	<ul style="list-style-type: none"> • Added to QCR 2: Supplier shall maintain a quality system that complies with SAE AS 9100. • Added to QCR 7: SAE AS 9102 First Article Inspection requirement. 	Aug. 5/2006
M	<ul style="list-style-type: none"> • The serialization spec reference in QCR 37 was change <u>from</u>: S-353 To: S-369. • Added place holder for QCR's 45-49. • Added QCR 50. • On page 6 added the validation approval process • On page 7, at the Vendor Variation Request added notes 1 thru 4. 	Dec 7, 2007



CHANGE RECORD

REV	REASON FOR CHANGE	DATE
N	<p>SECTION 1)</p> <ul style="list-style-type: none"> • Title Change From Supplier Quality Requirements Manual, Rev. M, to Supplier Quality Requirements, Rev. N. • Revised the Introduction to include provision for 740A.1. • Removed Sub-Tier Control. • Removed Facility Access. • Removed Process Validation. • Removed Material Verification. • Removed Reworked / Replaced Material. • Removed First Article Inspection Report. • Removed VVR Request. • Removed Non Conforming Material Supplier Corrective Action Request. • Removed Repair. • Removed Corrosion Protection. • Removed Certification Form and Content. • Removed Record Retention. • Removed Drawing Specification and Quality Requirements. • Removed Marking Packaging and Handling. • Removed Domestic Material. • Removed Inspection Sampling In Accordance With D1-8007. • Removed Statistical Sampling Plan. <p>SECTION 2)</p> <ul style="list-style-type: none"> • Removed QCR 1. • Removed QCR 2 A AND C. Renamed 2B to 2. • Removed QCR 5. • Removed QCR 7. • Removed QCR 10. • Removed QCR 11. • Removed QCR 12. • Removed from QCR 15 “Unless otherwise specified, material shall be procured from a domestic source. • Reworded QCR 20. • Removed QCR 26. • Removed QCR 32. • Removed QCR 33. • Changed QCR 34, F, from “...minimum, the latest revision of the Specification, is being certified to”, to “...the latest revision of the required specification”. The last sentence “...We certify the listed material was used to fulfill the requirements of UTAS Purchase Order...” has been deleted. • Removed QCR 35B. Renamed 35A to 35. • Removed QCR 38. 	11/18/08



CHANGE RECORD		
REV	REASON FOR CHANGE	DATE
O	<ul style="list-style-type: none"> QCR 2, Change FAR 52.246 to FAR 52.246-11 QCR 13, Supplier Cert. Package Retention was added QCR 51, Critical Parts Requirement 	9/29/09
P	<ul style="list-style-type: none"> QCR 16, Was added to include Bearing lubrication requirements QCR 30, Added the AS9102 form. 	12/16/09
Q	<ul style="list-style-type: none"> QCR 4, was added to include the requirements for the Suppliers of Calibration services. 	3/8/10
R	<ul style="list-style-type: none"> QCR's 7A, B and 9B, added to add test bars requirement. QCR 8B, to clarify test bar requirements. QCR 50, Deleted. 	5/24/10
S	<ul style="list-style-type: none"> QCR 24 revised to add case depth on heat treat cert. 	1/2/2013
T	<ul style="list-style-type: none"> Added QCR 52 and 52A, revised introduction to specify AS9100C 	9/30/2013
U	<ul style="list-style-type: none"> Add QCR 45, Validation of Critical Parts not covered by other specific 40 series. Replace SIS MSD 740A.1 with SIS MSD 601 	4/22/2014
V	<ul style="list-style-type: none"> Added General Note: Packaging requirement QCR 30, Revised to include critical part requirements QCR 40, Revised to include sub-tier supplier requirement, supplier traveler requirement, source inspection requirement. QCR 41, Revised to include sub-tier supplier requirement, supplier traveler requirement, source inspection requirement. QCR 42, Revised to include sub-tier supplier requirement, supplier traveler requirement, source inspection requirement. QCR 43, Revised to include sub-tier supplier requirement, supplier traveler requirement, source inspection requirement. QCR 44, Revised to include sub-tier supplier requirement, supplier traveler requirement, source inspection requirement. QCR 45, Revised to include sub-tier supplier requirement, supplier traveler requirement, source inspection requirement. QCR 51, Revised to include critical part requirements and training Changed Goodrich to UTAS, through entire document Added QCR 46: Frozen Process 	6/25/2014
W	<ul style="list-style-type: none"> Removed QCR 3 	4/15/2015





INTRODUCTION

UTAS Corporation (herein referred to as UTAS) is responsible for assuring the quality of the products we deliver to our customers. The Quality Assurance System at UTAS is based on **SAE AS9100C**, which requires that we establish procedures for selecting suppliers and for the periodic review and assessment of the effectiveness of the control of purchased materials. It is therefore of extreme importance that we use suppliers who can consistently deliver high quality products and services.

This document is a supplement to Document **SIS MSD 601 “Quality Requirements for Suppliers”**. These documents contain the contractual Quality Assurance Requirements that appear on the SIS-CA Purchase Orders. The Quality Assurance Requirements in both documents apply to all purchase orders.

The Quality Control Requirements as they appear in this supplement apply when referenced by code on the applicable purchase order. Questions and comments regarding these requirements should be directed to the cognizant UTAS purchasing representative.



PURCHASE ORDER QUALITY CONTROL REQUIREMENTS

The general quality requirements herein are applicable to all UTAS SIS-CA purchase orders. Specific or unique Quality Control Requirements are described in this document.

GENERAL PACKAGING REQUIREMENT

Note: Each Purchase Order line item (lot) must be boxed separate from other Purchase Order line items (lots) to be delivered to UTAS.

SPECIFIC QUALITY CONTROL REQUIREMENTS

1. (DELETED)

2. FAR INSPECTION REQUIREMENTS

Supplier shall comply with "Standard Inspection Requirements" FAR 52.246-11, the latest Revision.

! 3. (DELETED)

4. SUPPLIERS OF CALIBRATION SERVICES

Suppliers of calibration services shall meet, or comply with laboratory requirements to ISO 9001, and laboratory operations shall meet or comply with requirements to ANSI/NCS1 Z540-L. Calibration Capability shall meet or comply with ISO/IEC 17025. Certifications of Calibration received from the calibration supplier shall contain the calibration procedure used, including details of equipment type, gage/asset number, location and the interval of calibration. also, included is information on the certified equipment used for the procedure, and the traceability to the national institute of Standards & Technology.

5. (DELETED)

6. METALLURGICAL FIRST ARTICLE

The supplier shall furnish evidence that all material qualification tests and inspections have been performed and results meet the applicable material specifications and drawings. Sample amounts for grain flow intergranular attack, case depth; etc. shall be included in the shipment when applicable.

7. STEEL TEST BARS

A. The supplier shall furnish two test bars representative of each heat treat lot, smelted from the



same smelt as the parts supplied. Test bars shall be permanently identified with the suppliers name or trademark, smelt, heat treat lot number, and alloy type.

- B. The supplier shall comply with (7A) above except that the foundry shall retain the test bars, for a period of not less than (10) year, and made available to UTAS upon request. Test bars stored at the foundry’s facility shall not be destroyed without prior written approval from UTAS purchasing.

8. CAST TEST BARS

- A. The supplier shall furnish two test bars representative of each heat treat lot, poured from the same melt as the castings supplied. Test bars shall be permanently identified with the supplier’s name or trademark, melt, heat treat lot number, and alloy type.
- B. The supplier shall comply with (8A) above except that the foundry shall retain the test bars, for a period of not less than (10) year, and be made available to UTAS upon request. Test bars stored at the foundry’s facility shall not be destroyed without prior written approval from UTAS purchasing.

9. FORGING TEST BARS

- A. The supplier shall furnish with each shipment of forging: two test bars produced from the same heat of material as the forging supplied. Test bars must have the same percentage of reduction as parts supplied, and shall be permanently identified with the supplier's name or trademark, material heat number, heat treat lot number and alloy identification.
- B. The supplier shall comply with (9A) above except that the test bars shall be retained by the foundry facility and be made available to UTAS upon request. Test bars stored at the foundry’s facility shall not be destroyed without prior written approval from UTAS purchasing.

10. (DELETED)

11. (DELETED)

12. (DELETED)

13. SUPPLIER CERTIFICATION PACKAGE RETENTION

Supplier is required to provide UTAS a completed, legible and signed Certificate of Conformance (C of C), with each shipment. The C of C will conform to the requirements of QCR #10. Supplier is required to maintain a complete “Certification Package”.

A “Certification Package” is a set of all certifications that represent the product delivered to UTAS. The Certification Package will be linked by a unique identifier to each manufactured lot and must be traceable to UTAS purchase order for all



shipments.

Certification package must contain the following where applicable as a minimum:
All raw material certifications - Including physical, chemical test certification.
All hardware certifications, - in the case of assemblies where standard hardware is used.

All special process certifications – i.e. chem film, plating, paint application, anodize, non-destructive testing, heat treat, welding.

All other applicable records and/or data relating to the build of product:
i.e. paints, chemicals, coatings, solvents, etc.

Certification Package must be established and maintained at the suppliers' facility to provide evidence of conformity to the requirements of UTAS purchase order, drawing requirements, and/or Supplier Quality Requirements Manual, and remain legible, readily identifiable, retrievable and deliverable to UTAS, within twenty four (24) hours of request.

Certification Package must be retained by Supplier for a period of not less than ten (10) years after purchase order closure.

14. (INTENTIONALLY LEFT BLANK)

15. PHYSICAL AND CHEMICAL TEST REPORTS

Each shipment must be accompanied by a physical/chemical test report as required by the applicable material specification. The report must contain the signature and title of the authorized representative of the facility performing the tests and shall assure specification conformance.

16. BEARINGS

All lubricating bearings shall be identified with the lubrication type, the date that they were lubricated and the date when the bearing need to be re-lubricated.

17. (INTENTIONALLY LEFT BLANK)

18. FUNCTIONAL TEST CERTIFICATIONS

Each shipment must be accompanied by a legible and reproducible copy of the Suppliers Certification Identifiable with submitted material for which test reports are on file and available for examination. This certificate must contain the signature of the authorized representative and assure conformance to specified requirements.

- A - Actual tests results required.
- B - Test Certificate of Conformance Required.

NOTE:

Test certificate of conformance of actual tests are defined as operational inspection, e.g., Mechanical, Electrical, or Hydraulic.



19. PRESSURE OR LEAK TEST

Each shipment shall be accompanied by a legible and reproducible copy of reports of test results, identifiable with test parameters and products submitted. These reports must contain the signature of the authorized representative of the agency performing the test and must assure conformance to specified requirements.

20. STATISTICAL PROCESS CONTROL (CONTROL OF KC/KP CHARACTERISTICS)

Both SAE AS9103 “Management of the Variation of Key Characteristics” and UTAS Specification S-372 “Requirements for Implementing Process Controls” apply to this order. Documentation and data shall be managed via the Supplier’s Live Link account.

21. PROCESS CERTIFICATION

Each shipment must be accompanied by legible and reproducible copy of a certificate containing the signature of an authorized representative for all processes used, such as heat treating, welding, surface preparation and treatment, etc. The certificate shall include the process used, the specification to which it conforms and the name of the sub-tier that performed them if other than the supplier. When parts are serialized, serial number must appear on the certification.

- A. Critical Parts: All critical parts listed in UTAS S-370 Critical Parts Specification are required to be serialized when processed. Each special process certification must list all serial numbers in the submitted lot. Certification must also have traceability to the supplier job number and the job / lot certificate of conformance.

22. NON-DESTRUCTIVE TEST REPORTS

Each shipment shall be accompanied by a legible and reproducible copy of actual Non-destructive Results identifiable with acceptance requirements and material submitted. These reports must contain the signature and title of the authorized representative of the agency performing the inspection and must assure conformance to specified requirements Fluorescent Penetrant~ Magnetic Particle, Radiographic and other non-destructive evaluation processes as referenced on drawings and / or specifications shall be accomplished by Inspection personnel certified in accordance with MIL-STD-410 or applicable standard.

Parts that have been accepted using FPI or Mag particle inspection shall be marked per the applicable non-destructive test specification.

23. RADIOGRAPHIC INSPECTION

Radiographic inspection results shall be reported on a certification that includes the film reader’s name and qualification level (MIL-STD-410). Certifications shall include serial numbers (when applicable and the signature and title of an authorized representative. Unless otherwise specified, radiographic inspection of castings shall be performed after all heat- treat operations. Radiographic techniques shall be submitted to UTAS with the first article sample. Subsequent radiographic technique changes shall be approved by UTAS.



- A. Radiographic films to be submitted with shipment.
- B. Radiographic films to be retained by the supplier and made available to UTAS's request.

Note: Film shall not be destroyed without prior written approval from UTAS purchasing.

24. HEAT TREAT REPORT

Each shipment shall be accompanied by a legible and reproducible copy of the detailed heat treatment cycle used. Details to include date, time, temperature, actual Case Depth Recording on the Heat Treat Certificate, quench method and using sampling plan that meets D1-8007 to achieve NDT Hardness check, if thermal treatment is to achieve final drawing requirements. Unless otherwise specified all parts hardened to Rc 40 and above must be Nital Etch inspected after grinding. Nital/Temper Etch Inspection reports must accompany the heat treat report. The report must contain the signature and title of the authorized representative of the agency performing the tests and inspections.

25. (INTENTIONALLY LEFT BLANK)

26. (DELETED)

27. PROPRIETARY PRODUCTS

Unless otherwise specified by contract, supplier shall notify the buyer in writing of any class I change proposed in product design, performance specification, materials or material processes of the proprietary products as ordered there under, and shall obtain buyer's approval prior to effecting any such proposed changes. (REF.: DOD-STD-480, MIL-STD-481).

Non-Conforming Material -Supplier Design Components (Proprietary Products)

The supplier shall have a documented and implemented non-conforming material control System Suppliers providing products of their own design may perform material review in accordance with the current issue of MIL-STD-1520 for that non-conformance's that are defined as Type II.

Type I Non-conformance is defined herein as: Those goods and services which depart from contract requirements and affect one or more of the following major areas; performance, durability, inter-changeability, use or operations, weight, appearance (where a factor), health or safety.

Type I non-conformance shall be submitted on the Supplier Variation Request Form. Non-conforming material shall not be presented to UTAS for acceptance without prior written approval.

Type II Non-conformance is defined herein as: Those goods and services that depart from contract requirements and are minor in that they do not affect any of the criteria specified in

Type I. Under no circumstances shall the supplier or his sub-tiers perform any repair operations without prior written approval from UTAS. The supplier shall ensure that the



responsibilities for non-conforming materials extend to sub-tiers. Type II non-conformances shall be submitted to UTAS for concurrence.

28. (INTENTIONALLY LEFT BLANK)

29. (INTENTIONALLY LEFT BLANK)

30. SUPPLIER INSPECTION REPORT

The supplier shall provide with each shipment a detailed written inspection report. Each characteristic (including drawing notes) inspected or tested shall be listed as a single line entry and shall indicate the acceptability of that characteristic, including all actions taken in connection with an identified discrepancy. Inspection and testing records shall, as a minimum, indicate the nature of the observations together with the number of observations made and the number and type of deficiencies found. Inspection/testing records shall, as a minimum include the following information:

- 1. Suppliers name
- 2. PO number
- 3. Drawing or plan Revision
- 4. Quantity Inspected
- 5. Quantity Accepted (list serial numbers when applicable)
- 6. Quantity Rejected (list serial numbers when applicable)
- 7. Characteristics Inspected

Every new lot of parts manufactured shall have a new first article per AS9102 and a copy shall be shipped with the parts.

! When this QCR is applied to a critical part, the critical characteristics defined on its drawing will require 100% inspection and recording of their actual results on *ALL* the parts in the entire lot. When variable data is obtained, the high and the low measured dimensions must be recorded and the tool used to measure must be identified. When attribute data (go no-go) is used, the report will still be required identifying the person and gage used in the inspection process and the results. . All of the manufacturing personnel affected by this QCR must be trained on its interpretation and objective evidence of the training created.

31. (INTENTIONALLY LEFT BLANK)

32. (DELETED)

33. (DELETED)

34. RAW MATERIAL REQUIREMENTS – IDENTIFICATION



A SHEET OR PLATE STOCK - METALLIC OR NON METALLIC

Each sheet or plate furnished on this order shall be identified by continuous stenciling, of sufficient size to be readily legible, applied by permanent ink or dye of contrasting color, non-injurious to material surfaces and not soluble in cutting and coolant oils. Stencil markings shall occur 12-inch spacing between rows of stenciling. Information must include material type and designation, material, heat number and size.

B ROD, BAR OR TUBE - 1/4 INCH CROSS SECTION OR LARGER

Each length of rod bar or tube furnished on this order shall be identified by continuous stenciling, of sufficient size to be readily legible, applied by permanent ink or dye of contrasting color, groups of stencil characters shall not exceed ~ 2 inches. Information shall include material type or designation, material specification and heat number.

C ROD, BAR OR TUBE - LESS THAN 1/4 INCH CROSS SECTION

Rod, bar or tube furnished on this order shall be identified as specified below: Bars shall be securely bundled together, each bundle containing bars from a single heat of material and an adhesive label or marking tape shall be securely affixed to each end of each bar. This labeler tape shall be permanently marked to indicate material type or designation, material specification and heat number. The label or tape shall be wrapped around or otherwise tightly fastened to avoid projection, and shall be coated to provide protection from weather and normal handling.

D CASTINGS MARKING

Each Casting furnished on this order shall be marked in such a manner as to display part Number, "melt" number, heat treat lot (if applicable) and serial number (if applicable).

E TEST SAMPLES

The seller shall furnish for the buyer verification testing one (1) additional product or suitable test sample of the same original material lot and processed simultaneously with the lot of product (s) supplied on this Purchase Order. Both the test sample and seller shipping documents shall identify the sample, part number, process and both or lot number.

F RAW MATERIAL CERTIFICATION

Each shipment shall be accompanied with legible copies of the material certification as furnished by the raw material supplier or an independent test laboratory. Material certifications must agree in all respects with the raw material requirements of their applicable specifications. Unless otherwise specified, all certifications shall state as a minimum, the latest revision of the required specification.

35. MILL HEAT CONTROL/MILL CERTIFICATION

Assigned serial numbers must be consecutive within a mill heat. Actual mill Certifications required.



36. GEAR DATA

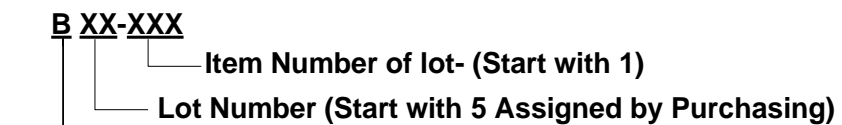
A legible gear chart with increment designations shall accompany each shipment of gears. Part number and serial number, which applied to the following UTAS Specification S-355 (Gear Inspection Guideline), Table I, II, III requirements (if applicable).

- A. Table I - Timing Gears: Sample inspection by composite action
- B. Table II - Inspected 100% by composite action and sample inspected analytically for lead error.
- C. Table III - Inspected 100% by composite action and 100% analytically for lead error.

NOTE: Composite action can be inspected by using the (4) elements for analytical Inspection: Lead, Profile, Tooth to Tooth and Pitch.

37. LOT SERIALIZATION REQUIRED

- A. Each part on this order shall be marked with a unique lot serial number provided by purchasing. All parts manufactured and/or processed, as a group in the same time frame shall constitute a lot. If more parts are made than the quantity on the P.O., the supplier shall request additional serial numbers from UTAS purchasing. Marking shall be in accordance with UTAS's Standard Specification S-369.
- B. MSL (Matched Set Lot) Serialization. Parts that are processed as a set must be identified with a unique MSL (Matched Set Lot) number provided by Purchasing. Both parts of the set must be marked with the same number. Marking shall be in accordance with UTAS's Standard Specification S-369.



Example:
B5-1 First Part of Lot # 5

38. (DELETED)

39. (INTENTIONALLY LEFT BLANK)

40. VALIDATION OF WIRING HARNESSSES (A.K.A ELECTRICAL CABLES)

The Supplier's manufacturing method must be validated to meet drawing requirements PRIOR to delivery of production items.

The Supplier shall provide the following PRIOR to start of production:

- 1) A copy of the proposed shop traveler with all in process inspection points for UTAS approval.
- 2) The in-process inspection will be performed by UTAS source inspection.



- 3) Source inspection request will be by email, 1-2 days prior completion of the operation for source to be scheduled. This is required for all inspection operations and FAI review.

The Supplier shall provide the following PRIOR to delivery of production harnesses:

- 1) A First Article Inspection Report (FAIR) in accordance with the requirements of SIS MSD 601, Appendix C. FAI will be reviewed and accepted by UTAS source inspector. Ref. AS9102 Form 1, Block 23 (Inspector name & stamp).
- 2) The first article specimen (the part from which the actual FAIR recorded values are derived),
- 3) A copy of the Supplier's manufacturing instructions (router, traveler, etc.),
- 4) Acceptance test data sheet per drawing or specification (if acceptance testing is required by PO), and
- 5) Tooling drawing or specification (if the PO includes tooling).

The FAIR cannot be approved until all items described above are received by UTAS.

The specimen (see 2 above) must be identified with a tag to include the following information:

- a) The Supplier name,
- b) The part number,
- c) The revision letter,
- d) The FAIR date, and
- e) The phrase "First Article".

The shipping documents must clearly state the delivered item is a "First Article" and reference the PO line that specifies first article (if applicable).

The above items shall be reviewed by UTAS to validate the product of the Supplier's manufacturing process meets requirements. UTAS Procurement shall notify the Supplier of the results. If the results are positive, the UTAS Buyer shall notify the Supplier that production material may be delivered. If the results are negative, the Buyer shall notify the Supplier of the reason for disapproval.

NO PRODUCTION MATERIAL MAY BE DELIVERED WITHOUT APPROVAL BY UTAS.

Once the process validation is accomplished, the Supplier's manufacturing instructions (see 3 above) are "frozen". When the Supplier plans a change to the manufacturing process that affects the fit, form (including any changes of material), or function of the product, including sub-tier suppliers used for manufacturing or special processing, the Supplier shall submit the proposed change to UTAS for approval. UTAS reserves the right to reject process changes based on the effect of the changes on the final product.



- A THE ITEM MAY BE UTILIZED FOR PRODUCTION.
- B THE ITEM MAY NOT BE UTILIZED FOR PRODUCTION; THE ITEM MAY BE EITHER SECTIONED OR DISASSEMBLED FOR EVALUATION.

41. VALIDATION OF PRINTED CIRCUIT BOARD ASSEMBLIES (PCBA)

The Supplier’s manufacturing method must be validated to meet drawing requirements PRIOR to delivery of production items.

The Supplier shall provide the following PRIOR to start of production:

- 1) A copy of the proposed shop traveler with all in process inspection points for UTAS approval.
- 2) The in process inspection will be performed by UTAS source inspection.
- 3) Source inspection request will be by email, 1-2 days prior completion of the operation for source to be scheduled. This is required for all inspection operations and FAI review.

The Supplier shall provide the following PRIOR to delivery of production PCBA’s:

A First Article Inspection Report (FAIR) in accordance with the requirements of SIS MSD 601, Appendix C.

- 1) The first article specimen (the part from which the actual FAIR recorded values are derived), FAI will be reviewed and accepted by UTAS source inspector. Ref. AS9102 Form 1, Block 23 (Inspector name & stamp).
- 2) A copy of the Supplier’s manufacturing instructions (router, traveler, etc.),
- 3) Acceptance test data sheet per drawing or specification (if acceptance testing is required by PO),
- 4) Tooling and/or test equipment drawing or specification (if the PO includes tooling), and
- 5) Bare board coupon, if QCR 41B (see below) applies.

The FAIR cannot be approved until all items described above are received by UTAS.

The specimen (see 2 above) must be identified with a tag to include the following information:

- a) The Supplier name,
- b) The part number,
- c) The revision letter,
- d) The FAIR date, and
- e) The phrase “First Article”.

The shipping documents must clearly state the delivered item is a “First Article” and reference the PO line that specifies first article (if applicable).

The above items shall be reviewed by UTAS to validate the product of the Supplier’s manufacturing process meets requirements. UTAS Procurement shall notify the Supplier of the results. If the results are positive, the UTAS Buyer shall notify the Supplier that production



material may be delivered. If the results are negative, the Buyer shall notify the Supplier of the reason for disapproval.

NO PRODUCTION MATERIAL MAY BE DELIVERED WITHOUT APPROVAL BY UTAS.

Once the process validation is accomplished, the Supplier's manufacturing instructions (see 3 above) are "frozen". When the Supplier plans a change to the manufacturing process that affects the fit, form (including any changes of material), or function of the product, including sub-tier suppliers used for manufacturing or special processing, the Supplier shall submit the proposed change to UTAS for approval. UTAS reserves the right to reject process changes based on the effect of the changes on the final product.

A PRINTED WIRING BOARD COUPON NOT REQUIRED.

B PRINTED WIRING BOARD TEST COUPON REQUIRED. TEST COUPONS ARE TO MEET THE REQUIREMENTS OF MIL-PRF-55110G.

42. VALIDATION OF MACHINED PARTS

The Supplier's manufacturing method must be validated to meet drawing requirements PRIOR to delivery of production items.

The Supplier shall provide the following PRIOR to start of production:

- 1) A copy of the proposed shop traveler with all in process inspection points for UTAS approval.
- 2) The in process inspection will be performed by UTAS source inspection.
- 3) Source inspection request will be by email, 1-2 days prior completion of the operation for source to be scheduled. This is required for all inspection operations and FAI review.

The Supplier shall provide the following PRIOR to delivery of production parts:

- 1) A First Article Inspection Report (FAIR) in accordance with the requirements of SIS MSD 601, Appendix C. FAI will be reviewed and accepted by UTAS source inspector. Ref. AS9102 Form 1, Block 23 (Inspector name & stamp).
- 2) The first article specimen (the part from which the actual FAIR recorded values are derived),
- 3) A copy of the Supplier's manufacturing instructions (router, traveler, etc.),
- 4) A copy of the Supplier's inspection plan¹, and
- 5) Tooling drawing or specification (if the PO includes tooling).

NOTE 1:

The inspection plan is to describe at what stage(s) of manufacture inspection will be performed and how it will be accomplished. If the inspection plan includes a Coordinate Measuring Machine (CMM) program, a printout of the program shall be provided. If the plan includes dedicated tooling (for set-up), a diagram or photo of the tooling and/or set up shall be provided.



NOTE 2:

If the tooling has been manufactured by the Supplier, and procured by UTAS, then the Supplier shall provide a copy of the tooling drawing or specification.

The FAIR cannot be approved until all items described above are received by UTAS.

The specimen (see 2 above) must be identified with a tag to include the following information:

- a) The Supplier name,
- b) The part number,
- c) The revision letter,
- d) The FAIR date, and
- e) The phrase “First Article”.

The shipping documents must clearly state the delivered item is a “First Article” and reference the PO line that specifies first article (if applicable).

The above items shall be reviewed by UTAS to validate the product of the Supplier’s manufacturing process meets requirements. UTAS Procurement shall notify the Supplier of the results. If the results are positive, the UTAS Buyer shall notify the Supplier that production material may be delivered. If the results are negative, the Buyer shall notify the Supplier of the reason for disapproval.

NO PRODUCTION MATERIAL MAY BE DELIVERED WITHOUT APPROVAL BY UTAS.

Once the process validation is accomplished, the Supplier’s manufacturing instructions (see 3 above) are “frozen”. When the Supplier plans a change to the manufacturing process that affects the fit, form (including any changes of material), or function of the product, including sub-tier suppliers used for manufacturing or special processing, the Supplier shall submit the proposed change to UTAS for approval. UTAS reserves the right to reject process changes based on the effect of the changes on the final product.

43. VALIDATION OF ASSEMBLIES (MECHANICAL, ELECTRO- MECHANICAL AND HYDRAULIC)

The Supplier’s manufacturing method must be validated to meet drawing requirements PRIOR to delivery of production items.

The Supplier shall provide the following PRIOR to start of production:

- 1) A copy of the proposed shop traveler with all in process inspection points for UTAS approval.
- 2) The in process inspection will be performed by UTAS source inspection.
- 3) Source inspection request will be by email, 1-2 days prior completion of the operation for source to be scheduled. This is required for all inspection operations and FAI review.

The Supplier shall provide the following PRIOR to delivery of production parts:

- 1) A First Article Inspection Report (FAIR) in accordance with the requirements of SIS MSD 601, Appendix C. FAI will be reviewed and accepted by UTAS source inspector. Ref. AS9102 Form 1, Block 23 (Inspector name & stamp).



- 2) The first article specimen (the part from which the actual FAIR recorded values are derived),
- 3) A copy of the Supplier's manufacturing instructions (router, traveler, etc.),
- 4) Acceptance test data sheet per drawing or specification (if acceptance testing is required by PO),
- 5) Inspection plan*, and
- 6) Tooling and/or test equipment drawing or specification (if the PO includes tooling).

***NOTE:**

The inspection plan is to describe at what stage(s) of manufacture inspection will be performed and how it will be accomplished.

The FAIR cannot be approved until all items described above are received by UTAS.

The specimen (see 2 above) must be identified with a tag to include the following information:

- a) The Supplier name,
- b) The part number,
- c) The revision letter,
- d) The FAIR date, and
- e) The phrase "First Article".

The shipping documents must clearly state the delivered item is a "First Article" and reference the PO line that specifies first article (if applicable).

The above items shall be reviewed by UTAS to validate the product of the Supplier's manufacturing process meets requirements. UTAS Procurement shall notify the Supplier of the results. If the results are positive, the UTAS Buyer shall notify the Supplier that production material may be delivered. If the results are negative, the Buyer shall notify the Supplier of the reason for disapproval.

NO PRODUCTION MATERIAL MAY BE DELIVERED WITHOUT APPROVAL BY UTAS.

Once the process validation is accomplished, the Supplier's manufacturing instructions (see 3 above) are "frozen". When the Supplier plans a change to the manufacturing process that affects the fit, form (including any change of material), or function of the product, including sub-tier suppliers used for manufacturing or special processing, the Supplier shall submit the proposed change to UTAS for approval. UTAS reserves the right to reject process changes based on the effect of the changes on the final product.

44. VALIDATION OF CASTINGS AND FORGINGS

The Supplier's manufacturing method must be validated to meet drawing requirements PRIOR to delivery of production items.



The Supplier shall provide the following PRIOR to start of production:

- 1) A copy of the proposed shop traveler with all in process inspection points for UTAS approval.
- 2) The in process inspection will be performed by UTAS source inspection.
- 3) Source inspection request will be by email, 1-2 days prior completion of the operation for source to be scheduled. This is required for all inspection operations and FAI review.

The Supplier shall provide the following PRIOR to delivery of production parts:

- 1) A First Article Inspection Report (FAIR) in accordance with the requirements of SIS MSD 601, Appendix C. FAI will be reviewed and accepted by UTAS source inspector. Ref. AS9102 Form 1, Block 23 (Inspector name & stamp).
- 2) The first article specimen (the part from which the actual FAIR recorded values are derived),
- 3) Tooling ² drawing or specification (if the PO includes tooling), and
- 4) Test coupon if 44B (see below, and either QCR 8A or 9A as appropriate) applies.

NOTE 1:

The inspection plan is to describe at what stage(s) of manufacture inspection will be performed and how it will be accomplished. If the inspection plan includes a Coordinate Measuring Machine (CMM) program, a printout of the program shall be provided. If the plan includes dedicated tooling (for set-up), a diagram or photo of the tooling and/or set up shall be provided.

NOTE 2:

If the tooling has been manufactured by the Supplier, and procured by UTAS, then the Supplier shall provide a copy of the tooling drawing or specification.

The FAIR cannot be approved until all items described above are received by UTAS.

The specimen (see 2 above) must be identified with a tag to include the following information:

- a) The Supplier name,
- b) The part number,
- c) The revision letter,
- d) The FAIR date, and
- e) The phrase "First Article".

The shipping documents must clearly state the delivered item is a "First Article" and reference the PO line that specifies first article (if applicable).

The above items shall be reviewed by UTAS to validate the product of the Supplier's manufacturing process meets requirements. UTAS Procurement shall notify the Supplier of the results. If the results are positive, the UTAS Buyer shall notify the Supplier that production material may be delivered. If the results are negative, the Buyer shall notify the Supplier of the reason for disapproval.

Once the process validation is accomplished, the Supplier's manufacturing instructions (see 3 above) are "frozen". When the Supplier plans a change to the manufacturing process that affects the fit, form (including any change of material), or function of the product, including sub-tier suppliers used



for manufacturing or special processing, the Supplier shall submit the proposed change to UTAS for approval. UTAS reserves the right to reject process changes based on the effect of the changes on the final product.

NO PRODUCTION MATERIAL MAY BE DELIVERED WITHOUT APPROVAL BY UTAS.

A TEST COUPONS ARE NOT REQUIRED.

B TEST COUPONS OR BARS ARE REQUIRED.

45. VALIDATION OF CRITICAL PARTS NOT COVERED BY OTHER SPECIFIC 40 SERIES

The Supplier's manufacturing method must be validated to meet drawing requirements PRIOR to delivery of production items.

The Supplier shall provide the following PRIOR to start of production:

- 1) A copy of the proposed shop traveler with all in process inspection points for UTAS approval.
- 2) The in process inspection will be performed by UTAS source inspection.
- 3) Source inspection request will be by email, 1-2 days prior completion of the operation for source to be scheduled. This is required for all inspection operations and FAI review.

The Supplier shall provide the following PRIOR to delivery of production parts:

- 1) A First Article Inspection Report (FAIR) in accordance with the requirements of SIS MSD 601, Appendix C. FAI will be reviewed and accepted by UTAS source inspector. Ref. AS9102 Form 1, Block 23 (Inspector name & stamp).
- 2) The first article specimen (the part from which the actual FAIR recorded values are derived),
- 3) A copy of the Supplier's manufacturing instructions (router, traveler, etc.),
- 4) A copy of the Supplier's inspection plan¹, and
- 5) Tooling drawing or specification (if the PO includes tooling).

NOTE 1:

The inspection plan is to describe at what stage(s) of manufacture inspection will be performed and how it will be accomplished. If the inspection plan includes a Coordinate Measuring Machine (CMM) program, a printout of the program shall be provided. If the plan includes dedicated tooling (for set-up), a diagram or photo of the tooling and/or set up shall be provided.

NOTE 2:

If the tooling has been manufactured by the Supplier, and procured by UTAS, then the Supplier shall provide a copy of the tooling drawing or specification.

The FAIR cannot be approved until all items described above are received by UTAS.

The specimen (see 2 above) must be identified with a tag to include the following information:



- f) The Supplier name,
- g) The part number,
- h) The revision letter,
- i) The FAIR date, and
- j) The phrase “First Article”.

The shipping documents must clearly state the delivered item is a “First Article” and reference the PO line that specifies first article (if applicable).

The above items shall be reviewed by UTAS to validate the product of the Supplier’s manufacturing process meets requirements. UTAS Procurement shall notify the Supplier of the results. If the results are positive, the UTAS Buyer shall notify the Supplier that production material may be delivered. If the results are negative, the Buyer shall notify the Supplier of the reason for disapproval.

NO PRODUCTION MATERIAL MAY BE DELIVERED WITHOUT APPROVAL BY UTAS.

Once the process validation is accomplished, the Supplier’s manufacturing instructions (see 3 above) are “frozen”. When the Supplier plans a change to the manufacturing process that affects the fit, form (including any changes of material), or function of the product, including sub-tier suppliers used for manufacturing or special processing, the Supplier shall submit the proposed change to UTAS for approval. UTAS reserves the right to reject process changes based on the effect of the changes on the final product.

46. FROZEN PROCESS

Once the process validation is accomplished, the Supplier’s manufacturing instructions are “frozen”. When the Supplier plans a change to the manufacturing process that affects the fit, form (including any changes of material), or function of the product, including sub-tier suppliers used for manufacturing or special processing, the Supplier shall submit the proposed change to UTAS for approval. UTAS reserves the right to reject process changes based on the effect of the changes on the final product.

47. RESERVED

48. RESERVED

49. RESERVED

51. CRITICAL PARTS REQUIREMENTS

- a) UTAS Standard S-370 identifies Critical Parts and specific manufacturing procedures for processing and handling of the parts.
- b) All Supplier manufacturing documents: Drawings, Work Sheets, Routers, Inspection Plan, Control Plans shall be clearly identified with “Critical Part” to bring attention to personal Involved in manufacturing and inspections,



- c) In addition, a statement will added to the documentation “Frozen Process no changes to this process shall be made without UTAS approval”
- d) Provision for UTAS approval shall to be added to supplier planning or router document master.

All of the manufacturing personnel must be trained on the interpretation of “Critical Part” and objective evidence of the training created for all personnel working with the parts this QCR applies to.

52. REQUIREMENTS FOR REPAIR STATION SUPPLIERS

Suppliers performing work or services for UTAS Brea repair station products must comply with FAA Regulation - Drug & Alcohol Testing CFR Part 120 by:

- a) Maintaining a current FAA Repair Station Part 145 Certificate or,
- b) Register with the FAA at:
[http://www.faa.gov/about/office org/headquarters offices/avs/offices/aam/drug_alcohol/contacts/](http://www.faa.gov/about/office_org/headquarters_offices/avs/offices/aam/drug_alcohol/contacts/) How to start a drug testing program.
- c) Initiate and maintain a testing program that meets CFR 120 requirements,
- d) Provide evidence of compliance of CFR. Part 120 to UTAS prior to acceptance of work.

52A. GOVERNMENT PROPERTY MANAGEMENT THAT APPLIES TO REPAIR STATION SUPPLIERS:

For products submitted to repair station suppliers that are government property, the Supplier has the following obligations for controlling property and will:

- a) Maintain records, secure, protect, and maintain property
- b) Ensure property is used only where authorized by the assigned contract, including purchase order and sub-contractors
- c) Ensure proper disposition of property as required

Government Furnished Property (GFP) FAR 52.245-1(a) - Property in the possession of, or directly acquired by, the Government and subsequently furnished to the Contractor for performance of a contract. Government-furnished property includes, but is not limited to, spares and property furnished for repair, maintenance, overhaul, or modification. Government-furnished property also includes contractor-acquired property if the contractor-acquired property is a deliverable under a cost contract when accepted by the Government for continued use under the contract.



Government Property (GP) All property owned or leased by the Government and includes Government Furnished Property (GFP) and Customer Acquired Property (CAP). GP also includes material, equipment, special tooling (ST), special test equipment (STE) and real property.