COBHAM AS9102 FAI INSTRUCTIONS

Recording and Inputting Data Per the AS9102 Rev B Standard

For Technical Support email:
CMS.Davenport.FAI-Support@Cobham.com

Common mistakes that are cause for FAI rejection:

- Incorrect Format or Unapproved FAI Forms – Make sure FAI is documented using the Forms from AS9102 Rev B, Appendix B. Forms other than those depicted in Appendix B may be used; however, they shall contain all "Required" and "Conditionally Required" information and have the same field reference numbers. Please reference the last page of this document for an approved template.
- Typos - It is critical that the Part Number in block 1 matches the P.O. part number including and additional suffixes such as -8XXX or OSP.
- Ballooned Drawings:
  - Please make sure a ballooned drawing is sent in with the FAIR package and that it is legible.
  - Please make sure all engineering requirements have been bubbled including all general notes and applicable Flag Notes.
- Include ALL Objective Evidence
  - Please make sure to include all material and processing certifications. Also, make sure all data on these certifications are legible.

Common mistakes that are cause for FAI rejection (Cont'd):

- Include ALL Objective Evidence (Cont'd)
  - For assemblies, please include objective evidence for all COTS items, standard catalogue items, and consumable items. For COTS or standard catalog items the objective evidence can be a reference to a receipt, packing slip or a PO number which needs to be populated in block 18 of Form 1. For consumable items the objective evidence can be a reference to a receipt, packing slip or a PO number which needs to be populated in block 10 on Form 2.
- Form 1 Errors
  - Block 9: Manufacturing Process Reference left blank or incorrect. This field is required and should state the organizations Job number, router number, or other reference number that provides traceability to the manufacturing record of the FAI part.
  - Block 14: FAI checked Full or Partial correctly. If the FAI is a Full FAI then no information is required for the Baseline Part Number (including revision level) nor the Reason for Partial FAI. Please indicate these fields as "N/A" for Full FAI's. If the FAI is a Partial FAI then the above mentioned fields are required and data must be entered.
  - Block 19: FAI marked Complete or Not Complete. Please mark the FAI "Not Complete" when there is an NC associated with the FAI. This will drive the requirement for a Partial FAI to address the nonconformance on the next production run.

Common mistakes that are cause for FAI rejection (Cont'd):

- Form 2 Errors:
  - Block 5: Material or Process Name. Make sure to state the actual material or process that was used, even if it differs from the engineering drawing requirement. This material or process shall match the applicable certification. If the material or process listed does not match the engineering drawing requirement please state reason for conformity in the Comments Section on Form 2. This could be a non-conformance dispositioned "Use as Is" or an allowable substitute material specification.
  - Block 6: Specification Number. Make sure to state the actual specification that was used, even if it differs from the engineering drawing requirement. This specification shall match the applicable certification. If the specification listed does not match the engineering drawing requirement please state reason for conformity in the Comments Section on Form 2. This could be a non-conformance dispositioned "Use as Is" or an allowable substitute material specification.
- Form 3 Errors:
  - Block 8: Make sure the requirement reported matches the bubble print/engineering drawing exactly, including the tolerances
  - Block 9: Make sure the results are reported accurately. Any out of tolerance reporting must be documented on an NC and the NC number listed in field 11.
- Support: For technical support and other FAI questions, please send email to CMS.Davenport.FAI-Support@Cobham.com

Form 1 – Documentation Guide

- The following fields are REQUIRED and must have data entered:
  - Block 1, Part Number: Must be the part number as listed on the P.O. agreement, including any artificial suffix such as -2XXX, -3XXX, -8XXX, -9XXX or OSP.
  - Block 2, Part Name: Shall be the same name as shown in the title block of the engineering drawing.
  - Block 9, Manufacturing Process Reference: This field shall list a traceable number to the organizations manufacturing record of the FAI part (router number, job number, work order number, etc.).
  - Block 10, Organization Name: This filed should list the name of the organization performing the FAI activity.
  - Block 13, Shall be marked Detail or Assembly appropriately.
  - Block 14, Shall be marked Full FAI or Partial FAI Appropriately.
    - Note 1: Baseline Part Number (including revision level) only applies to Partial FAI's. This information should only be completed for Partial FAI's and should be marked N/A for Full FAI's
    - Note 2: When the FAI is marked "Partial FAI" an explanation of why the FAI is a partial has been accomplished is required in this field.
  - Block 19, The FAI MUST be signed by a representative of the manufacturing organization who created and validated the design characteristics. The FAI shall be marked "Complete" if all characteristics are conforming or "Not Complete" if nonconforming characteristics are documented on Form 3.
  - Block 20, Date the FAI documentation was approved and signed by the organization.

Form 1 – Documentation Guide (Cont'd)

- The following fields are CONDITIONALLY REQUIRED and must have data entered if applicable:
  - Block 3, The serial number of the detail component or sub-assy should be documented if applicable.
  - Block 4, The FAIR Number field should reference a number that identifies the FAIR.
  - Block 5, Indicate the latest revision that affects the FAI (will typically be the same as the engineering drawing revision for Cobham/Carleton products).
  - Block 6, State the drawing number or DPD data set associated with the FAI part.
  - Block 7, Indicate the revision level of the drawing or DPD data set associated with the FAIR. If the drawing has not been revised, please indicate so by using a dash (-) in this field.
  - Block 8, Please state where any additional changes or deviations from the engineering drawing requirements are to be found. This field is required for -2XXX, -3XXX, -8XXX, and -9XXX part numbers. The information could be found on the P.O. or other document that states to omit or add engineering requirements.
  - Blocks 15 – 18, These sections are only required when the FAI has been marked as an Assembly in field 13. These sections must include all detail components, sub-assy's and hardware or standard catalogue items that are included in the build of the assembly. Field 15 and 16 are required. Field 17 is required when the detail or sub-assembly listed is serialized. In field 18 the organization shall list the FAIR Number for the detail or assembly listed and the P.O. number for COTS and standard catalogue hardware items.

Form 1 – Documentation Guide (Cont'd)

- The following fields are OPTIONAL but are preferred when data can be entered if applicable.
  - Block 11, The supplier code should be the unique number given to the organization by Cobham. This number is found on Cobham's Approved Supplier List (ASL) and can be requested through your buyer or purchasing agent.
  - Block 12, It is preferred that the organization list the associated P.O. number and line item number in this field.
  - Block 21 and 22, These fields should be completed if an individual other than the approver as listen in field 19 reviewed the FAI for conformity.

Form 2 – Documentation Guide

- The following fields are REQUIRED and must have data entered:
  - Block 1, 2, 14, and 15 - These fields shall be completed the same as Form 1.
- The following fields are CONDITIONALLY REQUIRED and must have data entered if applicable (Cont'd):
  - Block 3, This field should list the appropriate Serial Number if applicable.
  - Block 4, This field should list the FAIR Number. (Same as Form 1).
  - Block 5, This field shall state the actual material or process that was used during the manufacturing process. For example, do not state "Material" or "Process", state 6061-T6511 Al Alloy or Chemical Conversion Coat, Class 3.
  - Block 6, This field shall list the actual Specification Number that was used during the manufacturing process, even if it differs from the engineering requirement.
    - Note: If standard catalogue items or COTS are modified, then list that standard hardware or COTS item in this field.
  - Block 8, Identify the supplier name and address when an actual code is not available.

Form 2 – Documentation Guide (Cont'd)

- The following fields are CONDITONALLY REQUIRED and must have data entered if applicable (Cont'd):
  - Block 9, Indicate if the supplier special processes or material sources are approved by the customer. Note: Usually "N/A" for Cobham statement of work.
  - Block 10, Please list the applicable certificate number (e.g., special process completion certification, raw material test report number, modified standard catalogue item P.O. number, traceability number).
  - Block 11, Please indicate the Functional Test Procedure Number if applicable.
  - Block 12, Please indicate the Functional Test Certification that the test requirements have met if applicable.
- The following fields are OPTIONAL but are preferred when data can be entered if applicable.
  - Block 7 and 13 are optional fields but supporting information is always welcome.

Form 3 – Documentation Guide

- The following fields are REQUIRED and must have data entered:
  - Blocks 1 and 2 - These fields should be completed the same as From 1 and Form 2.
  - Block 5, The character number is a unique assigned number for each design characteristic. This number should be the same as the bubble character on the ballooned drawing for each characteristic.
  - Block 8, The requirement shall be listed exactly as shown on the engineering drawing including the tolerances, drawing notes and specification requirements.
  - Block 9, The organization shall record the results obtained for the design characteristics.
  - Blocks 12 and 13 – The signature and date fields should be completed the same as From 1 and Form 2.
- The following fields are CONDITINALLY REQUIRED and must have data entered if applicable:
  - Blocks 3 and 4 – These fields should be completed the same as From 1 and Form 2.
  - Block 6, The location of the design characteristic should be stated when applicable.
  - Block 7, If applicable, record the characteristic type: e.g. Minor, Major, Critical, Key, Flight Safety, etc..

Form 3 – Documentation Guide (Cont'd)

- The following fields are CONDITIONALLY REQUIRED and must have data entered if applicable (Cont'd):
  - Block 10, Please list any Designed/Qualified Tooling used for attribute acceptance of the engineering characteristic. Note: This is product specific tooling such as check fixtures, drill jigs, and NC programming data (CMM or CMS program). Note: This field is not intended to list variable dimension tooling such as micrometers, calipers, protractors, scales, etc. but the FAI will not be rejected if this information is listed.
  - Block 11, If a non-conformance is found, please record the organizations NC number in this field. Note: Please make sure to include all NC documentation in the FAIR package.
- The following field is OPTIONAL but is preferred when data can be entered if applicable.
  - Block 14 is an optional field but supporting information is always welcome.

AS9102B—Form 1

1. Part Number (R) Number of the FAI part	**2. Part Name (R)** Name of the FAI part	***3. Serial Number (CR)*** Record SN if applicable, otherwise mark N/A	***4. FAIR Number: (CR)*** Reference number used by supplier (CR)
5. Part Revision Level: (CR) *Latest revision that affects the FAI part being inspected. If part has not been revised, indicate as such (e.g. N/C, No Change)*	***6. Drawing Number: (CR)*** Drawing number associated with the part	***7. Drawing Revision Level: (CR)*** *The revision level of the drawing. If there is no revision, indicate as such (e.g., N/C, No Change)*	***8. Additional Changes: (CR)*** *Provide reference numbers of any changes that are incorporated in the product but not reflected in the referenced drawing/part revision level (e.g. change in design,, engineering changes, manufacturing changes etc)*
9. Manufacturing Process Reference: (R) Reference number that provides traceability to the manufacturing record of the FAI Part (e.g. router number, Job Number, Manufacturing Plan Number etc)	**10. Organization Name: (R)** Name of the Organization performing the FAI	**11. Supplier Code: (O)** A unique number given to the supplier by the customer. Contact Cobham if you do not know your supplier code	**12. P.O. Number: (O)** Customer (Cobham) purchase order number
13. Detail Part: _____ **Assembly FAI: _____ (R)** Check as appropriate	**14. Full FAI: _____ Partial FAI: _____ (R) Check either Full FAI or Partial FAI** **Baseline Part Number (including revision level): (Required if Partial FAI is checked in field 14)** For a partial FAI, provide the baseline part number and revision level to which the partial FAI is being performed		
	Reason for Partial FAI: (Required if Partial FAI is checked in field 14) For a partial FAI, provide the previous FAI part number or approved configuration (including revision level) to which this partial FAI is performed. State the reason for the current FAI (e.g. change in design, process or manufacturing location)		

a) if above part number is a detail part only, go to Field 19
b) if above part number is an assembly, go to the "INDEX" section below.

AS9102B--Form 1 (continued)

a) if above part number is a detail part only, go to Field 19
b) if above part number is an assembly, go to the "INDEX" section below.

Data Fields 15,16,17 and 18 are required only if the part number identified in filed 1 is an assembly requiring lower level parts (i.e., detail parts) to be installed

INDEX of part numbers or sub-assembly numbers required to make the assembly noted above.

15. Part Number: (CR)	***16. Part Name: (CR)***	***17. Part Serial Number: (CR)***	***18. FAIR Number: (CR)***
Part number included in the assembly	**Name of the part installed in the**	**SN of the part installed in the assembly**	**Report number for the detail parts**
and items from the BOM included in the	**assembly**	**If not applicable, mark N/A**	
drawing. Typically these are part			**For industry standards (AN, AS, MS,NAS**
numbers, standard catalogue items,			**RCR, RNC etc) traceability to the OEM is**
Industry standards etc required to			**required. Documentation shall be**
complete the product noted in field 1			**included in the FAIR**
			For COTS items, traceability to the
			Supplier is required. Documentation shall
			be included in the FAIR
19.			
Printed name or unique identification, and		**19.**	
signature of the person approving the		**Check "FAI Complete" if all characteristics are**	
FAIR. This signature certifies the		**conforming. Check "FAI Not Complete", if**	
evaluation activities in AS9102 section 4.5		**nonconforming characteristics are documented**	
are complete and the FAIR is approved		**In accordance with AS9102 section 4.4**	

19. Signature: (R)

_____FAI Complete _____FAI Not Complete

20. Date (R)
Date when field 19 was signed

21. Reviewed By **(O)**
Printed name or unique identification, and signature of the person from the organization who approved the FAIR. Cobham requires a FAIR review and second approver. This person cannot be the same person from field 19.

22. Date **(O)**
Date when field 21 was signed

23. Customer Approval (**O**)
Not required by Cobham at this time. Mark N/A

24. Date **(O)**
Date when field 23 was signed . Mark N/A if customer approval was not required

AS9102B—Form 2

1. Part Number: (R) Same as Form 1	2 Part Name: (R) Same as Form 1		3. Serial Number: (CR) Same as Form 1		4. FAIR Number: (CR) Same as Form 1
5. Material or Process Name: (CR)	*6. Specification Number:* (CR)	7. Code: (O)	*8. Supplier:* (CR)	*9. Customer Approval Verification:* (CR)	*10. Certificate of Conformance number:* (CR)
Name of applicable materials or special processes. Examples of materials are: the raw material, paint, primer, adhesives etc. Examples of processes are: Cobham PDs, Aerospace, Military and Commercial specifications, BAC requirements etc	Provide the following: •Material specifications and material form (e.g., sheet, bar) for all materials incorporated into the FAI part (e.g.., weld or braze filler). •Special process specifications, including class, if applicable, and permitted substitutions. •If standard catalogue items (e.g., fasteners) or COTS are modified, then list the standard hardware or COTS item. Note: Non-modified standard catalogue items/COTS are listed on Form 1	Any required code form the customer. Not applicable for Cobham at this time. Mark N/A	Name of the Supplier performing the process or supplying the material	Cobham approval is not required at this time. Mark N/A	The applicable certificate number (e.g., special process completion certification, raw material test report number, modified standard catalogue compliance report number, traceability number etc) Must have supporting documentation in the FAIR package that the material or process conforms

AS9102B—Form 2 (continued)

11. Functional Test Procedure Number: ***(CR)*** ***Functional Test Procedure identified as a design characteristic. Examples would be ATPs, pressure tests, pull tests etc***	***12. Acceptance Report Number:*** **(CR)** **The functional test certification indicating that the test requirements have been met. Must have supporting documentation in the FAIR package**

13. Comments **(O)**

Provide supporting comments as applicable

14. Signature (R) **Printed name or unique identification, and signature of the person who prepared and approved this form. Signature indicates that all applicable materials, special processes, and functional testing are accounted for, meet requirements, are properly documented, and all associated non-conformances are documented on AS9102 form 3**	**15. Date (R)** **Date when field 14 was signed**

AS9102B—Form 3

1. Part Number (R) Same as Form 1

2. Part Name (R) Same as Form 1

3. Serial Number (CR)
Same as Form 1

4. FAIR Number (CR)
Same as Form 1

5. Unique number assigned to each design characteristic

7. If applicable, record characteristic type (e.g., key, flight Safety, major, critical etc)

Characteristic Accountability | **Inspection / Test Results**

5. Char No. (R)	*6. Ref Loc* (CR)	*7. Char Design* (CR)	8. Requirement (R)	9. Results (R)	*10. Designed / Qualified Tooling* (CR)	*11.Nonconformance Number (CR)*	14. Additional Data / Comments (O)
			Specified requirement for the design characteristic (e.g., drawing or DPD dimensional characteristic with associated nominal dimension and tolerances, drawing notes, specification requirements). Note: Reference and Basic dimensions are not listed.	The organization shall record the results in the units specified on the drawing, DPD, or specification unless otherwise approved by the customer. Results from inspection of design characteristics shall be expressed in quantitative terms (i.e., variable data) when a design characteristic is expressed by numerical limits. Exceptions are listed in AS9102 4.7.3.b. Attribute results (i.e., pass/fail) shall be used when the design characteristic does not specify numerical limits (e.g., break all sharp edges)	When design tooling or specifically designed tooling, including NC programming as a media of inspection, is used for attribute acceptance of the characteristic, record the tool identification number. When qualified tooling is used for attribute acceptance , record the gauge value or range (e.g., min/max).	If the characteristic is found to be nonconforming, record the NC document reference number. All NCs must be submitted to Cobham for approval	This area is reserved for optional fields. Add additional columns as required by the organization or customer

6. Location of the design characteristic [e.g., drawing zone (page number and section), DPD model location, specification callout]

9. Results: Additional Requirements
•For multiple characteristics list each characteristic as individual values or list once with the minimum and maximum values. If a characteristic is found to be nonconforming, then that characteristic shall be listed separately with the measured value noted
For CMM data, the characteristic numbers must be clearly linked to the attached report, traceable and directly comparable to the design characteristic. CMM reports shall be included in the FAIR package
Refer to Appendix B-9102 Forms and Supporting Form Instructions for all Results requirements

12. Signature (R)
Printed name or unique identification, and signature of the person who approved this form. Signature indicates that all applicable design characteristics are accounted for and meet requirements or are properly documented (reference AS9102 section 4.4)

13. Date (R)
Date when field 12 was signed

Additional Information

The International Aerospace Quality Group (IAQG) website is an excellent source of information for the FAI process. The following information is available in the Supply Chain Management Handbook (SCMH) located on the site

- AS9102 Standard
- AS9102 Forms
- AS9102 Checklist
- AS9102 FAQs
- AS9102 Training Tutorial