



First Article Inspection Process

(IAW AS9102 C)



First Article Inspection Process

SCOPE

This document describes the process for planning, coordinating and creating a First Article Inspection (FAI) package in accordance with the requirements of AS9102. This document also describes the process for customer submission and can be used by Jedco, Inc. suppliers for guidance.

PURPOSE

The primary purpose of FAI is to validate the production processes are capable of producing parts and assemblies that meet engineering and quality requirements. A well-planned and executed FAI will provide objective evidence the manufacturer's processes can produce compliant product and that associated requirements are incorporated and understood.

APPLICATION

This applies to Jedco and its suppliers who produce drawing and related quality characteristics consisting of the following:

- Assemblies
- Sub-assemblies
- Detail parts
 - Castings
 - Forgings
 - Sheet metal fabricated parts
- Service applications creating drawing and related quality characteristics (i.e. machining, coating, heat treating, etc.)



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REQUIREMENTS

- Full First Article Inspection (FAI)
 - A full FAI is to be performed on the first fully completed part representing the end item ordered by the customer. It shall contain all product and related quality characteristics defined by all customer contractual requirements. This includes all dimensional and processing characteristics flowed down via the customer drawing, quality and purchase order documents.
- Delta First Article Inspection (DFAI)
 - A DFAI is performed on only affected characteristics when the following occurs:
 - A design change is made affecting fit, form, or functions of the part.
 - A change in manufacturing source(s), process(es), inspection method(s), location of manufacture or tooling.
 - 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 years shall require an update for any characteristics that may be impacted by the inactivity. This lapse is from the completion of the last production operation to the actual restart of production.

DOCUMENTS

The following forms comprise a First Article Inspection Report (FAIR), full instructions in 9102 appendix A:

- 9102 C Form 1: Part Number Accountability, shall be used to identify the product that is having the First Article Inspection (FAI) conducted on (i.e., detail part, subassembly, assembly); referred to as "FAI Part".



First Article Inspection Process

DOCUMENTS (cont'd)

- 9102 C Form 2: Product Accountability – Materials, Special Processes, and Functional Testing, shall be used if any materials, special processes, or functional testing is defined as a design characteristic.
- 9102 C Form 3: Characteristic Accountability, Verification and Compatibility Evaluation, shall be used to record inspection results for the design characteristics and to document any applicable non-conformances.

Note

Use “N/A” or “Not Applicable” to address blank spaces on 3 Forms. This indicates that a blank space has been observed and addressed, rather than leaving open the question of whether the blank simply represents a “missed requirement”.



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DOCUMENTS (cont'd)

The First Article Inspection package must include legible copies of the following documents:

1. Initial Purchase Order/Supplier Agreement and all supplements (Ballooned requirements as applicable). PO and lines item dates must be valid and not expired.
2. Customer ballooned drawing or operation sheet, as applicable.
3. Requirements Control Card (RCC) and Quality Assurance Data sheet (QAD), for Pratt & Whitney Aircraft (PWA) end use product, or any customer specific quality related documents with ballooned requirements, as applicable.
4. Semi-finish F7627 forms if referenced on PO for PWA end use product.
5. As applicable, ballooned "Product Definition" specifications (engineering requirements for part are defined in the specification (i.e., 333, 339, 343, 372, etc.). The words "Product Definition" are in the title of the document.
6. Complete copy of form MCLM 416 for PWA end use product. One (1) form can be provided at PO item level FAI but must contain information for all levels of sub-tiers. If a detail has its own PO, then it must have its own MCLM 416 form.
7. Ballooned specifications with additional embedded requirements (i.e., design characteristics such as, rivet height, coating thickness, torque, welding dimensions, etc.).
8. For Airfoil suppliers, a copy of human readable (text format) UA and UT files as invoked by the customer drawing or 56D acceptance file (for PWA). Required submission when any of the following occurs:
 - a. Full FAI
 - b. Partial FAI where computer file has changed
 - c. Partial FAI for 56C inspections including new UT file



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DOCUMENTS (cont'd)

The First Article Inspection package must include legible copies of the following documents:

9. Copy of approved gage suitability package or KPC Management 10B form (for PWA) approving a plan to submit or have an approved gage suitability package when gage suitability (PW-QA-6090) is required per PWA 79345 and/or the QAD (for PWA).
10. Representative photos of the part, multiple views, as appropriate.
11. Copy of sub tier PO's showing requirements flow down. Pricing may be redacted. Applies to all levels. For raw material, include only the direct PO in addition to full supply chain traceability.
12. Material certifications. For PWA end us product, this is in accordance with PWA 300 form F3297 and 2nd tier certifications (LCS certification).
13. Special process certification, as applicable.
14. Frozen process approval documentation, as applicable.
15. Non-conformance documents (rework travelers, e-QNs, RMEAs, Deviations, NOPQEs), as applicable.
16. For PWA end use product, Form 56 layout inspection report per PW-QA-6076, as applicable.
17. CMM FAI inspection data.
18. For PWA, ASQR-07.5 validation/correlation report, as applicable.
19. Part marking photo/2D marking printout (include other acceptance or special markings) and approved marking Form F9236 (for PWA).
20. Customer packing slip or Certificate of Conformity for customer-provided hardware.
21. AS9102 Form 1 for previous FAI's when performing a partial (delta) FAI.



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DOCUMENTS (cont'd)

AS9102 C Form 1 – Part Number Accountability

Sheet ____ of ____

**First Article Inspection Report
Form 1: Part Number Accountability**

1. Part Number:	2. Part Name:	3. Serial Number:	4. FAIR Identifier:
5. Part Revision Level:	6. Drawing Number:	7. Drawing Revision Level:	8. Additional Changes:
9. Manufacturing Process Ref.:	10. Organization Name:	11. Supplier Code:	12. Purchase Order Number:
13. (Check One option):	14. (Check One Option): <input type="checkbox"/> Full FAI <input type="checkbox"/> Partial FAI		
Reason for Full / Partial FAI:			
a) if above part is a detail part only, go to Field 19			
b) if above part number is an assembly, go to the "INDEX" section below.			

Bold Font – MANDATORY information required

Bold Italic Font – CONDITIONALLY required. These fields must be completed when information is available

Standard Font – OPTIONAL information required when available



First Article Inspection Process

DOCUMENTS (cont'd)

AS9102 C Form 1 – Part Number Accountability (cont'd)

Sheet ____ of ____

**First Article Inspection Report
Form 1: Part Number Accountability**

1. Part Number:	2. Part Name:	3. Serial Number:	4. FAIR Identifier:
5. Part Revision Level:	6. Drawing Number:	7. Drawing Revision Level:	8. Additional Changes:
		11. Supplier Code:	12. Purchase Order Number:
13. (Check One option): <input type="checkbox"/> Detail	14. (Check One Option): <input type="checkbox"/> Full FAI <input type="checkbox"/> Partial FAI (including revision level): FAI:		
a) if above part is a detail part only, go to Field 19 b) if above part number is an assembly, go to the "INDEX" section below.			noted above.
15. Part Number:			8. FAIR Identifier:

Box 1. Part Number of the FAI part

Box 2. Name of the FAI part

Box 3. Serial number of the FAI part

Box 4. Reference number that identifies the First Article Inspection Report (FAIR)



First Article Inspection Process

DOCUMENTS (cont'd)

AS9102 C Form 1 – Part Number Accountability (cont'd)

Sheet ____ of ____

**First Article Inspection Report
Form 1: Part Number Accountability**

1. Part Number:	2. Part Name:	3. Serial Number:	4. FAIR Identifier:
5. Part Revision Level:	6. Drawing Number:	7. Drawing Revision Level:	8. Additional Changes:
<input type="checkbox"/> Assembly	Reason for Full / Partial FAI:		
<small>INDEX of part numbers or sub-assembly numbers required to make the assembly noted above</small>			

Box 5. Latest revision affecting the FAI part being inspected. If the part has not been revised, indicate as such (i.e., N/C or No Change). Note: the latest revision (Box 7) does not always affect all parts contained on a drawing.

Box 6. The drawing number of DPD data set associated with the FAI part

Box 7. The revision level of the drawing or DPD data set associated with the FAI part

Box 8. Provide reference numbers of any changes that are incorporated in the product, but not reflected in referenced drawing/part revision level



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DOCUMENTS (cont'd)

AS9102 C Form 1 – Part Number Accountability (cont'd)

Sheet ____ of ____

**First Article Inspection Report
Form 1: Part Number Accountability**

1. Part Number:	2. Part Name:	3. Serial Number:	4. FAIR Identifier:
5. Part Revision Level:	6. Drawing Number:	7. Drawing Revision Level:	8. Additional Changes:
9. Manufacturing Process Ref.:	10. Organization Name:	11. Supplier Code:	12. Purchase Order Number:

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

18. FAIR Identifier:

Box 9. Reference number that provides traceability to the manufacturing record of the FAI part

Box 10. Name of the organization performing the FAI

Box 11. A unique number given by customer to the organization

Box 12. Customer Purchase Order number



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DOCUMENTS (cont'd)

AS9102 C Form 1 – Part Number Accountability (cont'd)

Sheet ____ of ____

**First Article Inspection Report
Form 1: Part Number Accountability**

1. Part Number:	2. Part Name:	3. Serial Number:	4. FAIR Identifier:
5. Part Revision Level:	6. Drawing Number:	7. Drawing Revision Level:	8. Additional Changes:
9. Manufacturing Process Ref.:	10. Organization Name:	11. Supplier Code:	12. Purchase Order Number:
13. (Check One option): <input type="checkbox"/> Detail <input type="checkbox"/> Assembly	14. (Check One Option): <input type="checkbox"/> Full FAI <input type="checkbox"/> Partial FAI Baseline Part Number (including revision level): Reason for Full / Partial FAI:		
a) if above part is a detail part only, go to Field 19			
b) if above part number is an assembly, go to the INDEX section below.			
c) -assembly numbers required to make the assembly noted above.		17. Part Type	18. FAIR Identifier:

Box 13. Check as appropriate

Box 14. Check as appropriate. For a partial FAI, provide the previous part number, including the revision level to which this partial FAI is performed and the reason for the current FAI. For partial FAIs based on similar parts, provide the approved configuration FAI part number, including the revision level. For full FAIs provide the reason for the full FAI



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DOCUMENTS (cont'd)

AS9102 C Form 1 – Part Number Accountability (cont'd)

First Article Inspection Report Form 1: Part Number Accountability			
Sheet ____ of ____			
1. Part Number:	2. Part Name:	3. Serial Number:	4. FAIR Identifier:
Boxes 15, 16, 17, and 18 - This section is only required if the Part Number in Box 1. is an Assembly with lower-level parts			
9. Manufacturing Process Ref.:	10. Organization Name:	11. Supplier Code:	12. Purchase Order Number:
<input type="checkbox"/> Assembly			
a) if above part is a detail			
b) if above part number is an assembly, go to the "INDEX" section below.			
INDEX of part numbers or sub-assembly numbers required to make the assembly noted above.			
15. Part Number:	16. Part Name:	17. Part Type	18. FAIR Identifier:

Box 15. Part Number included in the assembly and items from the BOM included in the drawing, DPD, or next level assembly

Box 16. Name of the part installed in the assembly

Box 17. Part Type of the part installed in the assembly. Enter whether the part is a "Detail Part", "Sub-Assembly", "Software", "Standard Catalogue Item", or "COTS" (or equivalent) as described on the BOM.

Box 18. Report number for the detail parts and associated sub-assemblies



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DOCUMENTS (cont'd)

AS9102 C Form 1 – Part Number Accountability (cont'd)

Box 19. Check as appropriate

Box 20 & 21. Print name or unique identification, signature and date of person from the organization who prepared the FAIR. The same applies if Jedco sub-tier prepared the FAIR

Box 22 & 23. Print name or unique identification and signature of person from the organization who reviewed and approved the FAIR. Note 1) names in Boxes 20 and 21 cannot be the same person. Note 2) if sub tier of Jedco has prepared the FAIR, this Box to be used to record approval by Jedco representative

19. Does FAIR Contain a Documented Nonconformance(s)? <input type="checkbox"/> Yes <input type="checkbox"/> No			
20. FAIR Verified By:		21. Date:	
22. FAIR Reviewed/Approved By:		23. Date:	
24. Customer Approval:		25. Date:	
26. Comments			

Box 24 & 25. Used by customer to record approval and date, if required

Box 26. Used by customer if commentary is warranted



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DOCUMENTS (cont'd)

AS9102 C Form 2 – Product Accountability

Sheet ____ of ____

First Article Inspection Report
Form 2: Product Accountability - Raw Material, Specifications and Special Process(es) and Functional Testing

1. Part Number:		2. Part Name:		3. Serial Number:		4. FAIR Identifier:					
5. Material or Process Name:		6. Specification Number:		7. Code:		8. Supplier:		9. Customer Approval Verification:		10. Certification of Conformance Number:	
Box 1 – 4. Are repeated on all forms for convenience and traceability											



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DOCUMENTS (cont'd)

AS9102 C Form 2 – Product Accountability (cont'd)

Box 5. Name of applicable materials or special processes

Form 2: <i>Product Accountability</i>					
1. Part Number					
5. Material or Process Name:	6. Specification Number:	7. Code:	8. Supplier:	9. Customer Approval Verification:	10. Certification of Conformance Number:

Box 6. Material specifications and material form for all materials incorporated into the FAI part. Special process specifications; including class, if applicable, and permitted substitutions. If standard catalogue or COTS items are modified, then list that standard hardware or COTS item

Box 7. Any required code from the customer for material or process listing

Box 8. Identify supplier name, address, and code performing special processes or supplying material

Box 9. Indicate if the special processes or material sources are approved by the customer

Box 10. The applicable certificate number



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DOCUMENTS (cont'd)

AS9102 C Form 2 – Product Accountability (cont'd)

Box 11. Functional test procedure number identified as a design characteristic					
11. Functional Test Procedure Number:			12. Acceptance Report Number:		
Box 12. The functional test certification indicating that test requirements have been met					
13. Comments:					
Box 13. Record supporting comments, as applicable					



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DOCUMENTS (cont'd)

AS9102 C Form 3 – Characteristic Accountability, Verification and Compatibility Evaluation

First Article Inspection Report												Sheet ___ of ___	
Form 3: Characteristic Accountability, Verification and Compatibility Evaluation													
1. Part Number:			2. Part Name:			3. Serial Number			4. FAIR Identifier:				
Characteristic Accountability						Inspection / Test Results							
5. Char. Number	6. Reference	7. Characteristic	8. Requirement	9. Results	10. Designed /	11. Measured /	12. Additional Data / Comments						

Box 1 – 4. Are repeated on all forms for convenience and traceability



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DOCUMENTS (cont'd)

AS9102 C Form 3 – Characteristic Accountability, Verification and Compatibility Evaluation (cont'd)

First Article Inspection Report							Sheet ___ of ___
Form 3: Characteristic Accountability, Verification and Compatibility Evaluation							
1. Part Number:		2. Part Name:		3. Serial Number		4. FAIR Identifier:	
Characteristic Accountability				Inspection / Test Results			
5. Char. Number:	6. Reference Location:	7. Characteristic Designator:	8. Requirement:	9. Results:	10. Designed / Qualified Tooling	11. Nonconformance Number	12. Additional Data / Comments

Box 5. Unique assigned number for each design characteristic. Note – a single design callout that applies to multiple characteristics may be recorded as one characteristic number

Box 6. Drawing or document location of design characteristic

Box 7. If applicable, record characteristic type

Box 8. Specified requirement for the design characteristic



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DOCUMENTS (cont'd)

AS9102 C Form 3 – Characteristic Accountability, Verification and Compatibility Evaluation (cont'd)

First Article Inspection Report							Sheet ___ of ___
Form 3: Characteristic Accountability, Verification and Compatibility Evaluation							
1. Part Number:		2. Part Name:		3. Serial Number		4. FAIR Identifier:	
Characteristic Accountability				Inspection / Test Results			
5. Char. Number:	6. Reference Location:	7. Characteristic Designator:	8. Requirement:	9. Results:	10. Designed / Qualified Tooling	11. Nonconformance Number	12. Additional Data / Comments

Box 9. List measurement(s) obtained for the design characteristics.

- For multiple characteristics, list each characteristic as individual values or list once with the minimum and maximum of measured values attained. If a characteristic is found to be nonconforming, then that characteristic shall be listed separately with the measured value noted.
- When qualified tooling (i.e., radius gauges) is used as a go/no-go gauge, record the results as an attribute (i.e., pass/fail).
- When automated inspection tooling produces measurement results, those results may be referenced on 9102 Form 3, identified as pass/fail, and attached only when:
 - The characteristic numbers are clearly linked in the attached report
 - The results in the attached reports are clearly traceable to the characteristic numbers
 - The results are directly comparable to the design characteristics
- If a design requirement requires verification testing, record the actual results on the form. If a laboratory report or certificate of test is included in the FAIR, the results may be recorded as an attribute (i.e., pass/fail) and the test reference number recorded on the forms. The laboratory report or certificate of test shall show specific values for requirements and actual results.
- For characteristics with visual verification requirements that are rated against standard photographs, list the photo number of the closest comparison. A statement of conformance is acceptable; record the reference number on the forms.
- For processes that require verification per design characteristics, include a statement of conformance (i.e., certification of conformance, verification indicator – accept)
- For characteristics verified by attribute inspection include statement of conformance (i.e., accept)



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DOCUMENTS (cont'd)

AS9102 C Form 3 – Characteristic Accountability, Verification and Compatibility Evaluation (cont'd)

First Article Inspection Report							Sheet ___ of ___
Form 3: Characteristic Accountability, Verification and Compatibility Evaluation							
1. Part Number:		2. Part Name:		3. Serial Number		4. FAIR Identifier:	
Characteristic Accountability				Inspection / Test Results			
5. Char. Number:	6. Reference Location:	7. Characteristic Designator:	8. Requirement:	9. Results:	10. Designed / Qualified Tooling	11. Nonconformance Number	12. Additional Data / Comments

Box 10. 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, as applicable

Box 11. If the characteristic is found to be nonconforming, record a nonconformance document reference number

Box 12. This area is reserved for optional fields; add additional columns, as required, by the organization or customer



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DOCUMENTS (cont'd)

The First Article Inspection package must include legible copies of the following documents:

22. For PWA end use material substitution (Form 500). Ref: PWA 301 and MCL R Master, as applicable. For other customers, provide their respective material substitution documents, as applicable.
23. For PWA end use, DCS 176 correlation data, as applicable.
24. For PWA end use, DCS 184 approvals (Form F8251), as applicable.
25. Visual representation/manufacturing sheets indicating extracted dimensions/requirements per DCS 184.