



Overview of AAI Supplier First Article Inspection (FAI) expectations

See your Supplier Quality Engineer with questions

AS9102 – Aerospace First Article Inspection Requirement

- AS9102A is available through SAE International
 - <http://standards.sae.org/as9102a/>
- International Aerospace Quality Group (IAQG) FAQs
 - <http://www.sae.org/iaqg/publications/faq9102.htm>
- Forms are available through Americas Aerospace Quality Group (AAQG)
 - <http://www.sae.org/aaqg/publications/as9102a-faq.htm>
 - Additionally on the same page is Rolls-Royce training

AS9102 Guidelines are available

Purpose

- Ensure the product being delivered meets Drawing requirements.
 - Including any material and test specifications identified.
- Provide expectations to allow proactive practices to support effective generation of a complete FAI including . . .
 - Submitting sub-tier FAI requirements to sub-tier suppliers.
 - Supplier can then receive FAI documentation from sub-tier upon sub-item receipt.
 - Ensuring supplier drawings and specifications support an FAI.

Do what you say and say what you do . . .

AAI Expectations

- The item that is the subject of the FAI report shall be selected from the first production lot
- All related process and test documentation shall be under revision control in your document control system
- A detailed bill of material (BOM) should be included
- Include all AAI drawing requirements in FAI
- Ensure the current revision AAI drawing is being used

- AAI prefers to receive the report in electronic format.
 - If proprietary concerns are applicable, discuss with your Supplier Quality Engineer

Identify FAI requirements in your PO negotiations

AAI Form Expectations

- Sub-assemblies are to be listed on Form 1 section 15
 - complete separate FAI reports & attach to top assembly report
- Identify COTS (Commercial Off-The-Shelf) parts on the BOM
 - COTS parts only need to be recorded on Form 3 if a BOM is not provided.
- Modified COTS parts are non-COTS parts
 - Non-COTS parts must be listed on Form 3 or made part of the sub-assembly list of Form 1 section 15 and provide details of the modification in the report.
- List the ATP document number and revision on Form 2 section 11 and included in report.
 - Also list any special processes and the associated industry specifications on Form 2

AAI Form Expectations (continued)

- Include tolerance information in Form 3, column 8 and record actual dimension in column 9.
 - Do not use “Pass” or “Complies” for dimensional data.
 - No need to include reference dimensions on form 3

Form 1 Example

AS9102 FIRST ARTICLE INSPECTION
Form 1: Part Number Accountability

Red or italics indicates required field

Page 1 of 1

FAI REPORT

1. Part Number 38594-41145-10	2. Part Name Oil Line Heater Controller Assy.	3. Serial Number 0001	4. FAI Report Number 9841-7
5. Part Revision Level PO 002 / Parts List A	6. Drawing Number 38954-41145	7. Drawing Revision Level --	8. Additional Changes
9. Manufacturing Process Reference (W/O No.) WO52741	10. Organization Name ACME Inc	11. Supplier Code	12. P.O. Number 1037171
13. Detail FAI <input checked="" type="checkbox"/> Assembly FAI <input type="checkbox"/>	14. Full FAI <input checked="" type="checkbox"/> Partial FAI <input type="checkbox"/> Reason for Partial FAI:	Baseline Part Number including revision level 38954-41145 Rev --	
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.			
INDEX of part numbers or sub-assembly numbers required to make the assembly noted above.			
15. Part Number	16. Part Name	17. Part Serial Number	18. FAI Report Number
38954-41146-10	Housing, Oil Line Heater Controller	N/A	25413
38954-41147-1	Cover, Oil Line Heater Controller	N/A	25525
38954-47145-10	CCA, Oil Heater Controller	A1258	26821

List the sub-assemblies that are part of the FAI assy. These may have their own FAI reports. If so, reference them in Col. 18.



Form 2 Example

AS9102 FIRST ARTICLE INSPECTION
Form 2: Product Accountability – Raw Material, Specifications and Special Process(es), Functional Testing

Page 1 of 2

1. Part Number 38594-41145-10	2. Part Name Oil Line Heater Controller Assy.		3. Serial Number 0001		4. FAI Report # 9841-7
5. Material or Process Name	6. Specification Number	7. Code	8. Special Process Supplier Code	9. Customer Approval Verification (Yes/No/NA)	10. Certificate of Conformance number
Label 50301-90026	50301-90026	97384			
Screw-lock Assy. M24308/26-1F	MIL-C-24308/26				
Washer, Flat-Met, Rnd MS15795-803					
Nut, Self-Locking MS21042L04					
Screw, Mach, Flat, Cskh MS24693-C3					
Screw, Mach, Flat, Cskh MS24693-C4					
Screw, Mach, Flat, Cskh MS24693-C6					
Terminal, Lug, R Tng					
MS3367-4-9					
Solder, Tin-Lead Aly, SN60 285 50 .025		NOCIN			#56277
Wire Electrical, M22759/11-22-9	MIL-W-22759/11				#45966
Wire Electrical, M22759/11-24-9	MIL-W-22759/11				#45966
Compound, Thermal 340		71984			DP58247
Adhesive, Silicone, M46146TYPE3CLR	MIL-A-46146				#2774
Fuse Stop 38954-41148-		97384			

List the parts that are on the BOM that are not sub-assys listed on Form 1. Items that require Certs should have them recorded in item 10. Here is where material, finish, solder and other process materials are listed.

List the parts that are on the BOM that are not sub-assemblies listed on Form 1. Record the C of C document # for parts that require them in column 10.



Form 3 Example

AS 9102 FIRST ARTICLE INSPECTION
Form 3: Characteristic Accountability, Verification and Compatibility Evaluation

1. Part Number 38594-41145-10				2. Part Name Oil Line Heater Controller Assy.			3. Serial Number 0001	4. FAI Report # 9841-1
Characteristic Accountability				Inspection / Test Results				
5. Char No.	6. Reference Location	7. Characteristic Designator (if Applicable)	8. Requirement	9. Results	10. Designed Tooling	11. Non-Conformance Number	14. Comments	
001	Note 1		Interpret dimensions and tolerances IAW ASME Y14.5M-1994.	Complies				
002	Note 2		Prepare mating surface of housing, FN1 and Saddle, FN19 for bonding. Bond saddle to housing using adhesive, FN 20.	Complies				
003	Note 3		Prepare mating surface of housing, FN2 for bonding. Prepare and bond switch stop, FN 28 to housing against face as shown and to dimension using adhesive, FN 20.	Complies				
004	Note 4		Prepare mating surface of cover, FN 2 for bonding. Prepare and bond fuse stop, FN 27 to cover to dimensions shown using adhesive, FN 20.	Complies				

All notes and dimensions are to be included in Form 3. Be sure to attach drawing with each item marked with ballooned Char. #. Ref. dimensions do not need to be recorded.

016	Note 16		Identify, method optional, locate approximately where shown. Marking nomenclature shall be as follows: MFR 97384ASSY38954-41145-10 SN XXXXX	Complies	Visual		
017	D1 Sect. C-C		0.12 +/- 0.12	0.15	Calliper #35158		
018	D1 Sect. C-C		.70 +/- .12	0.69	Calliper #35158		
019	D2		.50 +/- .06	0.47	Calliper #35158		

Include tolerance with dimension.

Record actual dimension data in column 9. Do not use "Pass" or "Complies" for dimensional data.

The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.

12. Prepared by

13. Date



Included Sections and pages (cont)

12/02/2008 10:27 FAX 972 276 9844

Material Cert # 5218

@002 Pg 1 of 3

CERTIFICATE OF CONFORMANCE

A. Purchase Order/Contract Data		
1. PO No: 2543	2. PO Rev No.	3. PO Line Item:
4. SOE No. 305286	5. Contract Amendment No.	
B. Supplier/Source Information		
6. Supplier: Seno Mfg		7. Supplier Address (Street/City/State): [REDACTED]
8. Source of Origin: Street: NJA City: NJA State: NJA		CAUTION: The suppliers shall take all necessary actions and precautions to assure that this Certificate of Conformance (C of C) is accurate, complete, and true, regardless of the actual source origin.
C. Applicable Requirements		
9. Code/Standard No:		Revisions/Editions/Addendum:
10. Specification No:		Revisions/Editions:

02/23/2009 11:58 0147733225

ATS

Finish Cert # 5143

PAGE 02/02

Assured Testing Services
224 River Road Ridgely, PA 19883 USA
Ph: (614) 773-3224 Fax (614) 773-3225
dawnfanning@assuredtestingservices.com

TEST REPORT -4641

Radcap
Industrial Testing Laboratory

ACCREDITED
TESTING CERT# 2012.01
ISO 17025 Certified

CLIENT

BILL TO: DTA001 OurSupplier ID [REDACTED] USA Supplier Code [REDACTED]	SHIP TO: DTA001 OurSupplier ID [REDACTED] USA Supplier Code [REDACTED]
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Test Report#: 4641 Entry Date: Tuesday, February 24, 2009 Contact: Gary Lawless PO#: 26972
Test Remarks:

PART NUMBER		LOT NUMBER		SAMPLE DESCRIPTION	
TEST SPECIFICATION NAME		TEST PROCEDURE NAME		HOURS	
TEST RESULTS		INDATE / OUTDATE		CYCLES	
Anodized Cover Components		Type 1 Class 3		REQ HOURS/COMP	
ML-DTL-5541 Class 3		ML-DTL-5541 8.1.2.1		Class 3	

- Certificates of Conformance (CoC) to required specifications

- Material Certificates to required specifications

COTS reference

- COTS PO and Identification it meets specification

DOCUMENT NUMBER
PART NUMBER
CAGE CODE 97384

AAI CORPORATION
HUNT VALLEY, MARYLAND 21030
PL38954-47145
38954-47145-10
CCA, OIL FTR CNTRLR SHEET 2 REV -

FIND NO	QUANTITY PER ASSY	UOM	CAGEC	PART NUMBER	SPECIFICATION	NOMENCLATURE	REMARKS
001	1.00	EA	97384	38954-48145-1		PCB,OIL HEATER CONTR	
002	3.00	EA	04222	12105C104KAT2A		CAPACITOR REF. DES. C1, C4-C5	
003	1.00	EA	04222	TPSB106K020R1000	COTS	CAPACITOR REF. DES. C2	
004	2.00	EA	04222	0805YC104KAT2A	COTS	CAPACITOR REF. DES. C3, C6	
005	1.00	EA	04222	12105C105KAT2A	COTS	CAPACITOR REF. DES. C7 CAPACITOR, ELCTLT REF. DES. C8 TERMINAL, SOLDER RRP DRS R1-R11	



Heli-Coil®

Qty:

Quantity Break Pricing:

1 - 99	\$.81 ea
100 - 499	\$.82 ea
500 - 999	\$.73 ea
1000 +	\$.64 ea

In stock: 541
Mfr: Heli-Coil
Mfr #: 3085-04CHW108

MSC #: 03101821

Description: Dry Film Lubricant Screw Locking Insert Thread Size: 4-40 Insert Length: 0.160 In. Type: Screw Locking Material: Stainless Steel Finish/Coating: Dry Film Lubricant

Thread Size: 4-40

Insert Length (Decimal Inch): .1600"

Type: Screw Locking

Material: Stainless Steel

Finish/Coating: Dry Film Lubricant

Maximum Locking Torque: 40 oz-in

Minimum Break Away Torque: 10 oz-in

Big Book Page #: 409

MSDS Sheet: Get MSDS for this item

SALE

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Typical COTS Part
Verified by Receiving Record

Details by AS-9102 Field

- Form #/ Field # (e.g., 2/1 = form 2 / field 1)
- 1/1: part # from PO
- 1/2: part name from PO (abbreviated name)
- 1/3: S/N of FAI part (N/A if not applicable)
- 1/4: Supplier generated number (consider lower level FAIs)
- 1/5: from AAI PO (may include Parts List Rev)
- 1/6: AAI drawing number
- 1/7: AAI drawing revision
- 1/8: Identify if applicable (else N/A)
- 1/9: Supplier Work Instruction # (or “build to print”)

Details by AS-9102 Field (cont)

- 1/10: Complete name
- 1/11: Cage code number (else AAI Supplier number)
- 1/12: AAI PO # to Supplier
- 1/13: Detail if "flat BOM"/ Assembly if "top level"
- 1/14: Partial = Delta FAI (due to changes)
- Area with out field number: if initial FAI state: "initial FAI"
- 1/15-18: Top Level assemblies of BOM
 - Supplier lower level FAIs or sub-tier FAIs required for assemblies.
- 1/21-22: Strongly suggested!

Details by AS-9102 Field (cont)

- 2/1: part # from PO
- 2/2: part name from PO (abbreviated name)
- 2/3: S/N of FAI part (N/A if not applicable)
- 2/4: Supplier generated number (consider lower level FAIs)
- 2/5: May include find # from BOM or AAI Parts list, or Bubbled drawing #, or WI section (each should be cross-referenced)
- 2/6-7: Identified on drawing or WI. Example:
Spec = IPC-610, Code = Class 3
- Remaining fields self explained in AS-9102

Details by AS-9102 Field (cont)

- 3/1: part # from PO
- 3/2: part name from PO (abbreviated name)
- 3/3: S/N of FAI part (N/A if not applicable)
- 3/4: Supplier generated number (consider lower level FAIs)
- 3/5: May include Bubbled drawing #, or WI section (Notes must be included in “bubbles”)
 - Drawings with specifications must use section #'s
- 3/8: Must include tolerances (if applicable)
 - Reference dimensions not needed.
- 3/9: For non-specification oriented visual acceptance mark “visual”.

Details by AS-9102 Field (cont)

- 3/10: Record special tool ID #.
 - Desirable: Calibration asset # and due date
- Remaining fields self explained in AS-9102
- Contact your AAI Supplier Quality Engineer with questions or concerns related to these directions.