

Overview of Textron Systems Supplier First Article Inspection (FAI) expectations

See your Supplier Quality
Engineer with questions

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 completed FAI . . .
 - Expectations are to flow FAI requirements to sub-tier suppliers as required per AS9102
 - Supplier can then receive FAI documentation from sub-tier suppliers.

TEXTRON SYSTEMS EXPECTATIONS

- First article inspection shall be performed on a representative of the first production lot of the latest production configuration in accordance with AS9102
 - AS9102 is available through SAE International
 - <http://standards.sae.org/as9102b/>
- All related process and test documentation should be included
- A detailed bill of material (BOM) should be included in the FAI report
- Include all Textron Systems drawing requirements in the FAI report
 - Ensure the current revision Textron Systems drawing is being used
- Textron Systems prefers to receive the report in electronic format
 - If proprietary concerns are applicable, discuss with your Supplier Quality Engineer
- All documents shall be under revision control in your document control system

TEXTRON SYSTEMS FORM EXPECTATIONS

- Sub-assemblies that require a separate FAI report 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 need to be recorded on Form 2
 - Modified COTS parts are considered sub-assemblies and should be included in form 1
- List the ATP document number and revision on Form 2 section 11 and include the document in the report
- List any special processes and the associated industry specifications on Form 2
- 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

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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 --	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 type="checkbox"/> Assembly FAI <input checked="" 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 assembly and include the FAI report number in column 18.

FORM 2 EXAMPLE

AS9102 FIRST ARTICLE INSPECTION

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

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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 Ref Des E1 MS25036- 152					
O-Strip, EMI Extrn 19- 04-22085-1298		18565			
Fuse, 3 Ampere Ref Des F1 257003		75915			
Rcptl, 9 Pin, EMI Ftrd, Ref Des J1 56-701-041		06XP3			
Switch, Thermal, Ref Des S1 575T045A057		0YFP0			
Gasket, Connector, EMI 57F11-D140-1275		06XP3			
Boot, Dust, Water, Seal MS423/01-02	MIL-B-5423/1B				
11. Functional Test Procedure Number	12. Acceptance report number, if applicable				

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.

FORM 3 EXAMPLE

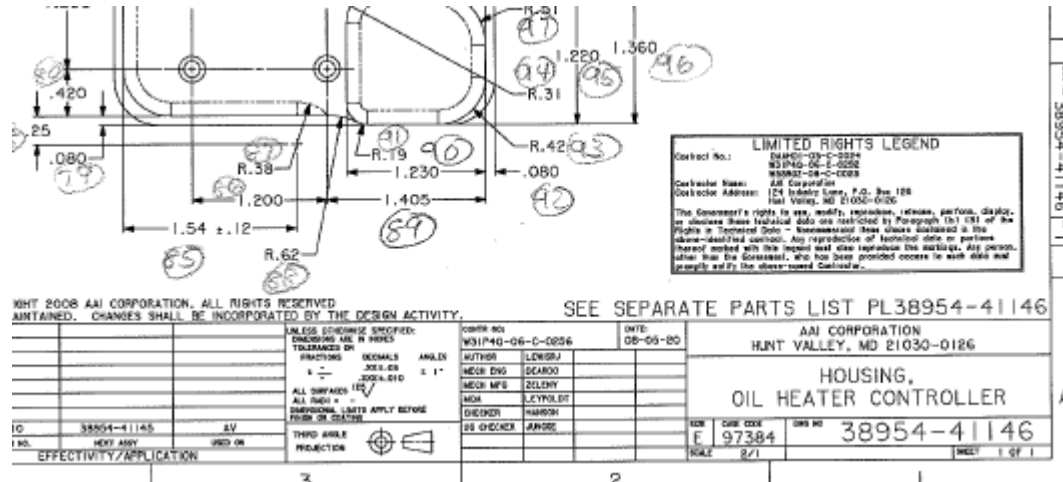
AS 9102 FIRST ARTICLE INSPECTION
Form 3: Characteristic Accountability, Verification and Compatibility Evaluation

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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	Complies				
<div style="border: 1px solid black; padding: 5px; color: red; font-weight: bold;"> 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. </div>								
016	Note 16		Identify, method optional, locate approximately where shown. Marking nomenclature shall be as follows: MFR 97384ASSY38954-41145-10 SN XXXXX	Complies	Visual			
<div style="border: 1px solid black; padding: 2px; color: red; font-weight: bold;"> Include tolerance with dimension. </div>					<div style="border: 1px solid black; padding: 2px; color: red; font-weight: bold;"> Record actual dimension data in column 9. Do not use "Pass" or "Complies" for dimensional data. </div>			
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			
<p>The signature indicates that all characteristics are accounted for; meet drawing requirements or are properly documented for disposition.</p>								
12. Prepared by							13. Date	

INCLUDED SECTIONS AND PAGES

- Bubbled Drawing



- BOM

AAI CORPORATION
HUNT VALLEY, MARYLAND 21030

DOCUMENT NUMBER PL38954-41146 HOUSING, OIL HTR CNTR SHEET 2 REV -
PART NUMBER 38954-41146-10
CAGE CODE 97384

FIND NO	QUANTITY PER ASSY	UOM	CAGC	PART NUMBER	SPECIFICATION	NOMENCLATURE	REMARKS
001	1.00	EA	97384	38954-41146-1		HOUSING, OIL HTR CNTR	
002	6.00	EA	1D1Q0	3585-04CNW168		INSERT, SCRTHD, HLCL	

INCLUDED SECTIONS AND PAGES (CONT)

- Certificates of Conformance (CoC)

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

Material Cert # 5218

002

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CERTIFICATE OF CONFORMANCE

A. Purchase Order/Contract Data		
1. PO No: 25413	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: N/A City: N/A State: N/A		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		

- Material Certificates

02/23/2009 11:50 8147793225

ATS

Finish Cert # 5143

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Assured Testing Services
224 River Road Ridgway, PA 16853 USA
Ph: (814) 773-3224 Fax (814) 773-3225
dawnfennin@assuredtestingservices.com

TEST REPORT -4641



CLIENT		CLIENT	
BILL TO: DTA001 Our Supplier ID [REDACTED]	SHIP TO: DTA001 Our Supplier ID [REDACTED]	USA Attn: [REDACTED]	Supplier Code Prt: [REDACTED]
Test Report#: 4641		Entry Date: Tuesday, February 24, 2009	
Test Remarks:		PO#: 26972	

Part Test Information			
PART NUMBER	LOT NUMBER	SP	SAMPLE DESCRIPTION
TEST SPECIFICATION NAME	TEST PROCEDURE NAME	HOURS	CYCLES
TEST RESULTS	INDATE / OUTDATE	TESTCNT	RETCNT
Anodized Cover Components	Type 1 Class 3	REQ	COMP
MIL-DTL-5941 Class 3	Class 3	REQ	HOURS COMP

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 FAI report number
- 1/5: Part revision from Textron Systems PO (may include Parts List Rev)
- 1/6: Textron Systems drawing number
- 1/7: Textron Systems drawing revision
- 1/8: Identify additional changes if applicable (else N/A)
- 1/9: Supplier Work Instruction # (or “build to print”)

DETAILS BY AS-9102 FIELD (CONT)

- 1/10: Supplier name
- 1/11: Cage code number (else Textron Systems Supplier number)
- 1/12: Textron Systems PO # to Supplier
- 1/13: Check “Detail FAI” if FAI is a detail part. Check “Assembly FAI” if FAI is an assembly.
- 1/14: Partial = Delta FAI, this should be used on ECN changes when a completed FAI has been performed
- 1/15-18: Sub-assemblies required to make the assemblies noted above
 - Supplier lower level FAIs or sub-tier FAIs required for assemblies
- 1/19-23: Signatures and approvals

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 FAI report number
- 2/5: Material or Process name of parts listed on the BOM that are not sub-assemblies listed on form 1
- 2/6-7: Identify and specification number and code. Example: Spec = IPC-610, Code = Class 3
- 2/8: Special process supplier code if required
- 2/9: Customer approval if required
- 2/10: Include C of Cs and any other certifications for the item listed column 1
- 2/11: List test procedure number if test is performed
- 2/12: List test report number if available
- 2/14-15: Signature and date

DETAILS BY AS-9102 FIELD (CONT)

- 3/1: Part number 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 FAI report number
- 3/5: Include bubbled drawing number
- 3/6: Drawing reference location
- 3/7: Characteristic type (if applicable)
- 3/8: Drawing dimension, must include tolerances (if applicable)
 - Reference dimensions not needed
- 3/9: Measured dimension, for non-dimensional items that require visual acceptance mark “visual”
- 3/10: Record special tool ID number and if tool is calibrated record due date in column 14
- 3/11 Record any non-conformance number if the characteristic is found to be non-conforming
- 3/12-13: Signature and Date
- 3/14: Any additional comments

QUESTIONS?

Contact your Textron Systems Supplier Quality Engineer with questions or concerns related to these directions.