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/](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
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**

<table>
<thead>
<tr>
<th>1. Part Number</th>
<th>2. Part Name</th>
<th>3. Serial Number</th>
<th>4. FAI Report #</th>
</tr>
</thead>
<tbody>
<tr>
<td>38594-41145-10</td>
<td>Oil Line Heater Controller Assy.</td>
<td>0001</td>
<td>3941-7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Label 50301-00026</td>
<td>50301-00026</td>
<td>97384</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screw-lock Assy. M24398/26-1F</td>
<td>MIL-C-24398/26</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Washer, Flat-Met, Rnd MS15795-803</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Nut, Self-Locking MS21042L04</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screw, Mach, Flat, Cskh MS24693-C3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screw, Mach, Flat, Cskh MS24693-C4</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Screw, Mach, Flat, Cskh MS24693-C6</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Terminal, Lug, R Tng Ref Des E1 MS25036-152</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>C-Strip, EMI Extrn 19-04-22988-1208</td>
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<td></td>
</tr>
<tr>
<td>Fuse, 3 Ampere Ref Des F1 257003</td>
<td></td>
<td>75915</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recti, 9 Pin, EMI Frd, Ref Des J1 56-701-041</td>
<td></td>
<td>06XP3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Switch, Thermal, Ref Des S1 575T045A057</td>
<td></td>
<td>0YFP0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gasket, Connector, EMI S7P11-D140-1275</td>
<td></td>
<td>06XP3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boot, Dust, Water, Seal MS423/01-02</td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

**List the parts that are on the BOM that are not sub-assy’s 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.**

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### FORM 3 EXAMPLE

#### AS 9102 FIRST ARTICLE INSPECTION

**Form 3: Characteristic Accountability, Verification and Compatibility Evaluation**

<table>
<thead>
<tr>
<th>1. Part Number</th>
<th>2. Part Name</th>
<th>3. Serial Number</th>
<th>4. FAI Report #</th>
</tr>
</thead>
<tbody>
<tr>
<td>38954-41145-10</td>
<td>Oil Line Heater Controller Assy.</td>
<td>0001</td>
<td>9841-1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Characteristic Accountability</th>
<th>Inspection / Test Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>001</td>
<td>Note 1</td>
</tr>
<tr>
<td>002</td>
<td>Note 2</td>
</tr>
<tr>
<td>003</td>
<td>Note 3</td>
</tr>
<tr>
<td>004</td>
<td>Note 4</td>
</tr>
</tbody>
</table>

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

| 16. Note 16 | Include tolerance with dimension. |
| 17. D1 Sect. C-C | Identify, method optional, locate approximately where shown. Marking nomenclature shall be as follows: MFR 97384ASSY38954-41145-10 SN XXXX | Complies | Visual |
| 18. D1 Sect. C-C | 0.12 +/- 0.12 | 0.15 | Calliper #35158 |
| 19. D2 | 0.70 +/- 0.12 | 0.69 | Calliper #35158 |
|  | 0.50 +/- 0.06 | 0.47 | Calliper #35158 |

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

12. Prepared by 13. Date
• Bubbled Drawing

• BOM
• Certificates of Conformance (CoC)

• Material Certificates
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.