



Title: First Article Inspection

Sponsoring Authority: Global Quality

Purpose: Provide instructions to suppliers and LORD personnel for the documentation and submittal of First Article Inspection reports when required by the purchase order or inspection procedure requirements.

Scope: The following procedure applies to all First Article Inspections unless alternate requirements are specifically invoked by the LORD or customer purchase order.

Definitions

Characteristic: A dimensional, visual, functional, mechanical, or material feature or property, which describes and constitutes the design of an article and can be measured, inspected, tested or verified to determine conformance to design requirements. This includes drawing requirements (including requirements in the drawing title block) and/or specification requirements determined from drawing notes. Note: Dimensions/features identified as "Reference" (i.e. noted as "REF" or are in parenthesis on the drawing) are exempt and are not required to be reported on the FAI report.

First Article Inspection (FAI): A complete verification that the article being inspected complies with the requirements identified in engineering drawings, specifications, and purchase order as well as any other applicable design requirement(s). The FAI package shall include the FAI form, annotated drawing, and all supporting documentation (i.e. certifications, test reports, etc.).
Note: The FAI may also be referred to as a First Article Inspection Report (FAIR) or an Initial Sample Inspection Report (ISIR). For the purpose of this document, all will be referred to as "FAI".

Partial First Article Inspection: A verification that the article being inspected complies with the changes made to the LORD drawing or LORD customer drawing. The Partial FAI records only those characteristics affected by the revision, provided an approved FAI is on file for the previous revision.

First Article Inspection Requirements:

A FAI is required whenever any of the following occur. Refer to the appendices for additional customer specific requirements:

1. General Requirements:
 - This is a first time manufacture.
 - There is a change in raw material used (use of an alternate material listed on the drawing).
 - There is a change in tooling (new, replacement, or major modification).
 - There is a change in the manufacturing process which may affect form, fit, or function of the part.
 - There is a change in the plant of manufacture (either due to a natural or man-made event).
2. Supplier FAI (in addition to the "General Requirements"):
 - There is a revision to the LORD Engineering Drawing. A partial FAI is permissible provided an approved FAI is on file to the previous revision.
 - There is a change in the Supplier's sub-tier special process provider (i.e. heat treat, shot peening, NDT, plating, chemical processor, weld, paint/coating, etc.).
 - There is a change in source of manufacture (applies to distributors/brokerage houses).
 - The part has not been manufactured in 2 years.
3. LORD Internal FAI (in addition to the "General Requirements"):
 - There is a customer requirement for an FAI.
 - There is a revision to the LORD CC drawing or LORD customer drawing. A partial FAI is permissible provided an approved FAI is on file to the previous revision.
 - The part has not been manufactured in 2 years (when governed by a customer requirement).

Process Flow

	Major Steps (Responsibility)	Activities
01	FAI Sample Selection (LORD Operator or LORD Supplier)	1. After all modifications to methods of manufacture have been made, a product sample from the first production lot shall be chosen for FAI. When the manufacturing method uses multiple sources of production, including cavities, spindles, dies, tools, process lines, machines, etc., a sample must be selected from each source.
02	Drawing Selection (LORD Quality/Operator or LORD Supplier)	<ol style="list-style-type: none"> 1. For LORD Suppliers: <ol style="list-style-type: none"> a. For individual part number: Use the LORD engineering drawing, per the specified revision level, as identified on the LORD purchase order. b. For assemblies: Use the LORD engineering drawings, per the specified revision levels, as identified on the LORD purchase order. An FAI is required for the assembly and each individually identified part number in the parts list, excluding commercial-off-the-shelf (COTS) items (i.e. standard hardware, etc.). 2. For LORD: <ol style="list-style-type: none"> a. Internal FAI: Use the LORD shop copy (SC) drawing when specified in the LORD Inspection Plan. If there is not an FAI sequence in the LORD inspection plan to complete a FAI, a FAI to the LORD SC drawing is not required. <ol style="list-style-type: none"> i. <u>NOTE:</u> It is not permissible to send or provide the LORD SC FAI to any customer/agency/supplier, unless written approval is received from the Director of Global Quality and the applicable Director of Product Development/Engineering. b. Customer FAI: Use the LORD customer print (CP), LORD customer copy (CC), or the LORD catalog drawing as specified in the LORD Inspection Procedure.

03	<p>Characteristic Identification (LORD Quality/Operator or LORD Supplier)</p>	<ol style="list-style-type: none"> 1. Determine the FAI Form to be used to complete the FAI. Refer to the appendices (as applicable) for customer specific requirements for completing the FAI. <ol style="list-style-type: none"> a. For LORD Suppliers: Unless otherwise specified, use LORD Form 1010-01, 1010-02, 473, AS9102 (for aerospace suppliers), or an equivalent form. <ol style="list-style-type: none"> i. If using the AS9102 Form or when invoked by Special Quality Clause 195 on the LORD purchase order, all three forms of the AS9102 are required to be completed and submitted to LORD. LORD AS9102 Form 3 must be used in lieu of the standard AS9102 Form 3. b. For LORD: Unless otherwise specified, use the appropriate 1010 forms or AS9102 (for aerospace product), or a specific customer form. <ol style="list-style-type: none"> i. When designated to use the AS9102 Form in the LORD Inspection Plan, use LORD AS9102 Form 3 in lieu of the standard AS9102 Form 3. All three forms of the AS9102 are required to be completed. 2. Obtain a hard copy of the engineering drawing and manually place consecutively numbered circles (balloons) adjacent to each characteristic (see definition) on the drawing. As an alternate, an automated program (i.e. VisualFair or equivalent program) may be used to identify the characteristics on the drawing. 3. When performing a partial FAI, it is recommended to utilize a fully ballooned print and only list the items being inspected on the FAI form. 4. Record each characteristic in the appropriate location on the FAI form corresponding to the numbered circle on the drawing. Example: The first circled characteristic on the drawing would be recorded in the row with Item No. 1 identified. Subsequent rows are added consecutively until all characteristics are identified. Reference characteristics may be omitted from the FAI. Note: For an FAI completed using the LORD AS9102 form, follow the requirements of the SAE AS9102 specification. <ol style="list-style-type: none"> a. LORD Internal FAI: Characteristics of an assembly that are “hidden” and cannot be verified by inspection of the FAI sample can be verified by inspection of a typical component removed from stock. This shall be noted in the comments section on the FAI form. b. Dimensions stating “TYP or multiple locations (i.e. 2X, 4x, etc.) should have an individual line for each feature (Example: 4X should have 4 lines on the FAI form to allow for reporting of each feature). c. All basic dimensions shall be ballooned (unless exclusion is approved by the LORD Quality Engineer). d. All threads (except STI threads for thread inserts) shall specify (as applicable) the pitch diameter, minor diameter, major diameter, root radius and form based on the type of thread (i.e. standard, metric, “J” thread, etc.). Thread gages may be specified when specifically approved by the LORD Quality Engineer. 5. For LORD Suppliers: Blank copies of the LORD 1010 Forms and LORD AS9102 Form are available on the LORD Supplier webpage (at http://lord.com/our-company/suppliers) or may be requested from LORD Quality. 6. For LORD: Blank copies of the FAI forms are available on the quality page of LORDweb or by contacting LORD Quality. Additionally, a blank FAI form (master copy for a part number) may be available in the respective part data folder.
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04	First Article Inspection (LORD Operator/Inspector or LORD Supplier)	<ol style="list-style-type: none"> 1. Unless otherwise approved by LORD Quality, all inspection methods must be in accordance with LORD specification TS-026 "Standard Measuring Methods" and stated for each characteristic on the form. Units of measure are those that are specified on the LORD engineering drawing. 2. All information must be either entered into the computer or written in ink. 3. Record the <u>variable measurement</u> of all characteristics in the "Actual Measure" block (or equivalent) of the row corresponding to the item number noted on the drawing. <ul style="list-style-type: none"> • All dimensional, hardness, and test requirements must be reported with a measurement value. Note: Standard go/no-go plug gages and ring gages are not to be used as feature acceptance. Diametrical features are to be measured with a variable measurement device regardless of the tolerance on the feature. • Dimensions stating "TYP" or multiple locations (i.e. 2X, 4X, etc.) must report measurement values for each feature. • All basic dimensions must be reported (unless exclusion is approved by LORD Quality). • Geometric Features (i.e. True Position) for multiple features, such as hole patterns, must report the condition for each feature. • For Geometric Feature (i.e. True Position, Profile, etc.) results that exceed the stated requirement but are acceptable with the allowable bonus tolerance, state the actual measured result and "ACCEPT WITH MMC" in the results column. • For Suppliers: The FAI must also include the following LORD standard quality clauses: E, K, L, U, and V. 4. For characteristics that are recorded on material and/or test report certifications, type "CONFORMS" in the "Actual Measure" block (or equivalent), reference the certification number in the "Comment" block (or equivalent), and include a copy of the certification(s) with the FAI submittal. 5. For characteristics that require visual inspection, type "CONFORMS" in the "Actual Measure" block (or equivalent) and state "VISUAL" in the "Inspection Method" block (or equivalent). 6. For characteristics that are inspected using a specialty (custom) designed functional gaging, type "CONFORMS" in the "Actual Measure" block (or equivalent) and state the gage number in the "Inspection Method" block (or equivalent). 7. For characteristics that cannot be inspected using variable measuring devices. If utilizing universal measuring equipment (e.g. thread gages), type "CONFORMS" in the "Actual Measure" block (or equivalent) and state the gage type and gage identification number in the "Inspection Method" block (or equivalent). 8. Indicate acceptance or rejection by typing "A" or "R" in the block provided if using forms 1010-01, 1010-02 or 473. 9. Sign and date the form in the appropriate boxes. Note: an electronic signature or typed signature is acceptable.
05	Identification of FAI Sample (LORD Operator/Inspector or LORD Supplier)	<ol style="list-style-type: none"> 1. For LORD Suppliers: <ol style="list-style-type: none"> a. The FAI sample(s) must be identified. Attach an identifying tag to the FAI sample(s) using string (do not use tape or wire). Identification shall include the supplier's name, LORD purchase order part number and drawing revision, and LORD purchase order number, as well as any identification (cavity number, serial number, etc.) that will link the sample to the source of manufacture. b. Attach an orange label to the top and one side of the shipping container. The label shall identify the shipment as containing the FAI parts. 2. For LORD: Attach an identifying tag to the FAI sample(s) using string (do not use tape or wire).

06	FAI Report and FAI Sample Submittal (LORD Operator/Inspector or LORD Supplier)	<ol style="list-style-type: none"> 1. For LORD Suppliers: <ol style="list-style-type: none"> a. For the first production shipment: The FAI form, annotated (ballooned) drawing, and applicable material/process certifications are to be included with the FAI sample. Suppliers are also required to electronically submit the FAI form in the original format, a copy of the ballooned drawing, and all material/process certifications to LORD using www://sft.lord.com. The recipient will be as shown in Table 1. The message subject must have the LORD part number at the beginning of the subject to permit sorting at LORD. Note: If possible (and preferred by LORD), the complete FAI paperwork package may be sent to LORD for review prior to the first shipment of parts. LORD will review the preliminary FAI paperwork package and provide any comments or required corrections to the supplier. The final FAI paperwork package shall be submitted as indicated above. b. For FAI re-submittal due to changes identified in "FAI Requirements" or a Partial FAI: The FAI/Partial FAI form, annotated (ballooned) drawing, and applicable material/process certifications are to be submitted as noted above when the first production lot to incorporate the changes is shipped. 2. LORD personnel are to complete the following: <ol style="list-style-type: none"> a. Scan and place the completed FAI form and ballooned drawing in the respective part data folder. b. Send the original completed FAI to the cognizant Quality Engineer. c. Notify the cognizant Quality Engineer the FAI is available for review.
07	Review & Approval of Supplier FAI (Receiving Inspection)	<ol style="list-style-type: none"> 1. Review and inspect the FAI package/sample in accordance with SOP 10-01. 2. Once the FAI is approved, scan the signed FAI form and file the entire FAI package (form, ballooned drawing, and all certifications) in the respective part data folder. 3. Notify the cognizant Quality Engineer (and if necessary, the cognizant Product Engineer) the FAI has been approved.
08	Review & Approval of Supplier FAI (Quality)	<ol style="list-style-type: none"> 1. Review the FAI package for completeness and approve (as necessary). If additional information or changes are needed, contact Receiving Inspection to resolve with the supplier. Note: Review any notifications for the receipt containing the FAI sample that would affect acceptance of the FAI (i.e. dimensional discrepancies, significant certifications issues, etc.). It is the responsibility of the Quality Engineer to determine acceptance of the FAI based on the significance of the noted notification discrepancies. 2. For an acceptable FAI and for parts with an unique inspection plan in the business system (QP02): <ol style="list-style-type: none"> a. Update the FAI status. b. For each characteristic in the inspection plan, verify the inspection method identifies the same inspection method the supplier used on the FAI. Note: the inspection method may differ if/when functional gaging has been implemented, when agreed upon with the supplier or at the discretion of the Quality Engineer (and documented in the inspection plan).

09	Review & Approval of LORD FAI (Quality)	<ol style="list-style-type: none"> 1. Review and approve the FAI. NOTE: It is not permissible to send or provide any proprietary information to and customer/agency/supplier unless written approval is received from the Director of Global Quality and the applicable Director of Product Development/Engineering. 2. If the FAI report has documented non-conformances, record the nonconformance on the FAI form per AS9102. The FAI can be signed; however, AS9102 Form 1, field 19 shall be noted as "FAI Not Complete". Once the corrective action has been implemented and parts manufactured, a partial FAI shall be performed to complete the FAI. 3. Scan and file the final approved FAI (with all applicable certifications) in the respective part data folder. It is recommended that the original hardcopy FAI is filed in the respective work order packet. 4. Update the FAI status in the LORD Inspection Plan (for parts with an FAI inspection sequence). 5. When required, coordinate submittal to the customer.
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Supplemental Discussion

Table 1: LORD Secure FTP Recipients

Product Ship-To Location	Secure FTP Recipient
LORD Bowling Green Facility: Bowling Green, Kentucky	DL-LBGRI@LORD.COM
LORD Cambridge Springs Facility: Cambridge Springs, PA	DL-LCSRI@LORD.COM
LORD Dayton Facility: Dayton, Ohio	DL-LDYRI@LORD.COM
LORD Erie Facility: Erie, Pennsylvania	DL-LERRI@LORD.COM

Applicability: GV Cary ETC LIT LMS BG CS DP EP

References/Attachments

LORD Forms: 1010-01, 1010-02, 473, AS9102 Form 3
 AS9102
 SOP 10-01
 TS-026
 Appendix A - Bell Helicopter
 Appendix B - United Technologies Corporation (UTC) – SAC
 Appendix C – UTS Aerospace Systems (UTAS)
 Appendix D – Honeywell
 Appendix E - GE

Key Words

First Article Inspection
 FAI
 FAIR
 VisualFAIR

Change Summary (describe what was revised and reason)

Revision E:

- Revised Section 2, Item 2 to clarify requirements for Internal FAI and added 2ai Note.
- Revised Section 2, Item 2b to clarify requirements for Customer FAI.
- Revised Section 4, Item 5 to clarify measurement with standard gaging and renumbered remaining items.
- Revised Section 4, Item 6 to clarify requirements for functional or specialty gaging.
- Appendix A, "Specific Requirements", revised Item 1 and added items 2 and 12 to agree with requirements from Bell Document QPS-200 (Revisions 2 thru 4). Added record retention reminder to 12. Renumbered remaining items.
- Appendix A, "Specific Requirements", Items 5 and 10 revised to clarify additional requirements for Bell Helicopter FAI and to incorporate changes per Bell Specification QPS-200, Revision 2.
- Appendix A, "Specific Requirements", Items 5 and 6 merged together and remaining items renumbered.
- Appendix A, "AS9102 Form Requirements" – Item 10 was "Enter the LORD Work Order or LORD Supplier Purchase Order Number.". Reformatted Item 14 and added 14b per request of Bell Receiving Inspection.
- Several minor editorial changes.

Revision F

- Replaced Delta FAI with Partial FAI throughout document. Replaced Director of Product Development with applicable Director of Product Development/Engineering.
- Revised Section 03, Added item 3 to clarify ballooning prints in VisualFAIR.
- Revised Section 03, Item 4 b c, d – added for clarification of requirements.
- Revised Section 03, Item 5 to change internet address.
- Revised Section 04, Item 3 added information to clarify True Position requirements.
- Revised Supplemental Discussion to replace the table with a new one for change in internet addresses.
- Revised Section 06, Item 1 to clarify requirements and changed internet address. Item 2a was clarified.
- Revised Section 09, Item 2 to add clarification on AS9102 rule on FAI with a nonconformance. Added proprietary note.
- Appendix A : updated for SQRM-001 requirements
- Appendix B, Specific Requirements, added note 2 to note requirements to submit utilizing customers on line systems.
- Appendix C, Added section for UTAS 'Hamilton Sundstrand' requirements.
- Appendix D, Added section for Honeywell.
- Appendix E, Added section for GE.

Approved by:	Name	Title
Document Owner:	Michele Neubert	Staff Engineer, Global Quality
Sponsoring Authority:	Patricia Snippert	Manager; Global Quality
Concurred in by:	Name	Title
	Scott Suprynowicz	Section Manager, Manufacturing Quality

Document approved electronically.

****This procedure must be approved internally and then submitted for review to the FAA MIDO office by Global Quality. Written approval from the FAA must be received prior to electronic release of document.**

4/23/2015 11:35 AM	Task Completed	■ Neubert, Michele L	(Neubert, Michele L)	Start Approval Process
5/29/2015 8:54 AM	Task Completed	■ Snippert, Patricia J	(Snippert, Patricia J)	Approve
7/23/2015 12:03 PM	Task Completed	■ Suprynowicz, Scott A	(Suprynowicz, Scott A)	Concur

Appendix A - Bell Helicopter

SCOPE

1. The requirements specified in this appendix are in addition to the requirements in the base document (SOP 10-10). In cases of conflict between the requirements of this appendix and the base document, the requirements of this appendix shall take precedence.
2. For LORD Corporation: This appendix shall apply to all FAI submittals to Bell Helicopter.
3. For LORD Suppliers: This appendix shall apply:
 - If the LORD purchase order is to a Bell part number (i.e. 12-digit Bell part number) and Special Quality Clause 195 is specified on the LORD purchase order. If the LORD supplier cannot complete certain fields of the FAI Form as indicated below, the supplier shall contact the LORD Buyer or LORD Quality Engineer for the applicable information or additional instructions
 - If the LORD purchase order is to a LORD part number (i.e. "Y" series part number) for Bell Helicopter and Special Quality Clause 195 is specified on the LORD purchase order, then the AS9102 Forms shall be completed per the general requirements of AS9102 using the LORD drawing. Form 2, Fields 5 through 10 shall be completed as defined below.
 - If the LORD purchase order is to a LORD part number (i.e. "Y" series part number) for Bell Helicopter and Special Quality Clause 195 is not specified on the LORD purchase order, then the FAI shall be completed per the general requirements of SOP 10-10 using the LORD drawing.

APPLICABLE DOCUMENTS

AS9102	Aerospace First Article Inspection Requirement
SQRM-001	Supplier Quality Requirements Manual
Supplier FAI Guidelines	Bell Helicopter Supplier FAI Guidelines for AS9102

SPECIFIC REQUIREMENTS

1. **Refer to Bell Helicopter Supplier FAI Guidelines for AS9102 for guidance completing the FAI Report. Verify release date in Tech Web agrees with release date of document in Sell2Bell.**
2. All Bell Helicopter part numbered items (i.e. any component or assembly with a 12-digit part number) shall have an FAI completed per the requirements of AS9102 (use of various form media, e.g. Excel, Lotus, FAI software, etc., is permissible). FAI records are required to be maintained for as long as product is being delivered plus the regular record maintenance period.
3. The FAI Report for a Bell purchase order line item assembly may contain sub-assembly and/or detail part items that are defined by the assembly. The resulting FAI Report must include all AS9102 required information, including detail model revision and parts list revision, for each detail item. The FAI Report must clearly identify which part number(s) are affected by each of the attributes and characteristics listed on AS9102 Form 2 and Form 3. The documentation provided with the FAI Report must identify which part numbers are associated with which documents.
4. Requirements for FAI do not include fasteners and standards manufactured per a military or industry controlled specification, purchased standard catalog hardware, Bell standards and do not include decals/labels.
5. The FAI part shall be identified by tag or other suitable method. Shipping documents and the shipping container shall state/identify that an FAI item is enclosed.
6. When a FAI provided to Bell is "not complete" (marked in field 19, Form 1 of AS9102) due to dispositioned nonconforming characteristic(s) or authorized deferment of an attribute being documented on the FAI, a partial FAI reflecting subsequent compliance of these characteristics shall be submitted to Bell with compliant product no later than the item's second shipment to Bell unless authorized in writing by Bell Quality.
7. FAI Reports for Bell part numbered assemblies shall include Bell part numbered sub-assemblies and detail items.
8. FAI Reports for supplier part numbered items shall be maintained by the Supplier and available for Bell review.

9. An FAI (full or partial) is required per the below Table:

Status	Full	Partial	Actions
Initial Production of Item	X		1,2
Process Change		X	4
Tooling Change (All affected characteristics listed)		X	4
ARIP		X	1,2
SMDAR	X	X	1,2
To Clear ARIP or SMDAR		X	1,2
Similarity (no ARIP or SMDAR)		X	1,2
Similarity (ARIP or SMDAR)		X	1,2
Lapse in Shipments (2 Years)	X		3
Lapse in Manufacturing (2 Years)	X		1,2
Event (Natural, Man-Made, Move)	X		1,2
Change to Configuration		X	1,2
Change to Form, Fit, or Function	X		1,2
Change to Program or Media (CNC)	X	X	4

Actions:

1. Sent to Bell helicopter
2. Internal Bell Action
3. Send copy of last completed FAI with shipment
4. LORD maintains a record of the FAI

AS9102 FORM REQUIREMENTS

1. Unless otherwise specified, all fields shall be completed per the requirements of Bell Helicopter Supplier FAI Guidelines for AS9102.
2. Form 1, Field 11: For LORD: Enter the Bell assigned source code for LORD Corporation - use 477230 for Erie, PA or 477231 for Dayton, OH. For LORD suppliers: Enter your Bell assigned source code or your federal cage code (Example "CAGE CODE - 12345").
3. Form 1, Field 18: Enter the FAI Report Number for the component.
 - a. If the FAI for this component had been completed previous to the QPS-200 requirement and is not in the AS9102 format, include "GRANDFATHERED" after the report name (Example: "Y-38800-24-1 FAI (GRANDFATHERED)").
 - b. If a component within the assembly has been supplied by Bell Helicopter (i.e. "customer furnished" component), indicate "BELL FURNISHED PART" in this field. The component part number, Bell facility address (that supplied the component), "YES" and "BELL FURNISHED PART" shall be entered on Form 2, Fields 5, 8, 9, and 10 respectively.
4. Form 2, Field 5: Enter the material or special process. Material shall include any raw material, adhesive, or paints/coatings as identified on the Bell drawing. Special Processes shall include any process identified in the Nadcap prime matrix and/or any process requiring Bell facility approval. All other processes (i.e. marking, packaging, etc.) shall be addressed on Form 3.
5. Form 2, Fields 11 and 12: If applicable, enter the LORD ATP Number for the bonded mount/bearing in Field 11 and the corresponding VTDE approval number in Field 12.
6. Form 3: Use the LORD AS9102, Form 3 in lieu of the standard AS9102, Form 3.
7. Form 3: Ensure the Bell Helicopter drawing title block requirements (i.e. break edges, surface finish, etc.) are included in the FAI.

FORMS

LORD AS9102 Form 3

**Appendix B - United Technologies Corporation (UTC)
(Pratt & Whitney and Sikorsky Aircraft Only)**

SCOPE

1. For LORD Corporation use only.
2. The requirements specified in this appendix are in addition to the requirements in the base document (SOP 10-10). In cases of conflict between the requirements of this appendix and the base document, the requirements of this appendix shall take precedence.
3. This appendix shall apply to all FAI submittals to UTC Member Companies Pratt & Whitney (PW), Pratt & Whitney Canada (PWC), and Sikorsky Aircraft (SAC). Refer to Appendix C for UTAS (formerly Hamilton Sundstrand).

APPLICABLE DOCUMENTS

AS9102	Aerospace First Article Inspection Requirement
ASQR-01	Supplier Quality System Requirements
SQOP-09-01	Delegated Quality Control Representative Program

SPECIFIC REQUIREMENTS

1. All UTC Member Company part numbers shall have an AS9102 FAI completed per the requirements of ASQR-01 and AS9102. All forms are required to be completed.
2. At any time, a Member Company may request a full FAI to be performed in lieu of a partial FAI.
3. A full or partial FAI shall be performed for affected characteristics when any of the following occur:
 - a. Change in Design
 - b. Change in Manufacturing source(s), process(s), inspection method(s), locations of manufacture, tooling or materials.
 - c. Change in numerical control program or translation to another media.
 - d. Natural or man-made event, which may adversely affect a manufacturing process.
 - e. Lapse in production for two years or as specified by the Member Company.
4. For P&WC, the FAI package is per AS9102 for production shipments (reference SQOP-09-01, Section 7.8.1). Development shipments require a Full Inspection Release (FIR) using AS9102 Form 3 only.
5. For Sikorsky Aircraft, the following requirements apply:
 - a. The FAI for each Sikorsky part number shall include the Sikorsky Drawing (all sheets) and Parts List. (The Application List is optional).
 - b. A FAI is not required for procured standard catalog hardware.
 - c. A FAI is not required for deliverable software.
 - d. Characteristics verified at the details level may be referenced in the assembly level FAI.
 - e. Form 3: Attribute Data (e.g. go/no-go): This shall be permitted if no inspection technique resulting in variable data is feasible, when the design characteristic does not specify numerical limits, or when qualified tooling is consistently used as a check feature and a go/no-go feature has been established for the specific characteristic.
 - f. Form 3 shall include a sequence for FOD Inspection.
 - g. Form 3: All inspection methods shall be per Sikorsky Specification QATI 3157.

AS9102 FORM REQUIREMENTS

1. Unless otherwise specified, all fields shall be completed per the requirements of AS9102. Any form with a "Required" field or "Conditionally Required" field (as required) must be completed. All remaining fields shall be completed as applicable. If the field is not applicable, then enter "N/A"
2. Forms 1 through 3, Field 1: Enter the UTC Member Company Part Number.
3. Forms 1 through 3, Field 2: Enter the Part Name - use the nomenclature from the UTC Member Company drawing title block.

4. Forms 1 through 3, Field 3: Enter the FAI part serial number or manufacturing lot number.
5. Forms 1 through 3, Field 4: Identify as "(LORD P/N) FAI" (Example: "J-23823-4 FAI").
6. Form 1, Field 11: Enter the UTC Member assigned supplier code for LORD Corporation.
 - a. For Sikorsky Aircraft: use 00279 for Erie, PA or 007252 for Dayton, OH.
7. Form 1, Field 12: Enter the UTC Member Purchase Order number.
8. Form 2, Field 5: Enter the material or special process. Material shall include any raw material, adhesive, paint or coating as identified on the UTC Member drawing. Special Processes shall be as identified in the Nadcap prime matrix and/or a process requiring UTC Member facility approval. All other processes (i.e. marking, packaging, etc.) shall be addressed on Form 3.
9. Form 2, Fields 11 and 12: If applicable, enter the LORD ATP Number for the bonded mount/bearing in Field 11 and the corresponding UTC Member approval number in Field 12.
10. Form 3, Field 14: Record FAI Inspection Measuring Equipment used as a media of inspection. Record FAI Inspector identification (e.g. signature, stamp, electronic authorization, etc.) used to signify the person that accomplished the inspection. **Use the LORD AS9102, Form 3 for UTC Product in lieu of the standard AS9102, Form 3 or AS9102, LORD Form 3.**
11. Form 3: Ensure the UTC Member drawing title block requirements (i.e. break edges, surface finish, etc.) are included in the FAI.
12. In addition to the AS9102 forms, a replication of the product part marking (via photograph or sample) that represents production marking must be included within the FAI report.

FORMS

LORD AS9102 Form 3 for UTC Product

Appendix C – United Technologies Aerospace Systems (UTAS)

SCOPE

1. For LORD Corporation use only.
2. The requirements specified in this appendix are in addition to the requirements in the base document (SOP 10-10). In cases of conflict between the requirements of this appendix and the base document, the requirements of this appendix shall take precedence.
3. This appendix shall apply to all FAI submittals to United Technologies Aerospace Systems (UTAS) (formerly Hamilton Sundstrand)

APPLICABLE DOCUMENTS

AS9102	Aerospace First Article Inspection Requirement
ASQR-01	Supplier Quality System Requirements
HSM17	Supplier Product Release Programs
HSM236	Hamilton Sundstrand Corporation FAI Requirements
HSER33531	Hamilton Sundstrand Corporation FAI Tutorial

SPECIFIC REQUIREMENTS

1. All UTAS part numbers shall have an AS9102 FAI completed to the UTAS drawing per the requirements of AS9102, ASQR-01, HSM17, and HSM236 (Section 2.3). All forms are required to be completed.
2. When specified by the customer, LORD shall utilize the customer's on line system to capture production process verification data and analysis.
3. The UTAS approved frozen planning must be included in the FAI submission package for all UTAS designated parts. A UTAS SQAR shall approve all Flight Safety FAIs and release of the parts.
4. If the FAI approval is completed on-site, the approved FAI shall be submitted to faimain@hs.utc.com for UTAS records or as specified on the customer purchase order. **NOTE:** The customer purchase order shall be reviewed prior to all FAI submittals to determine the submittal location and the type of approval required.
5. All forms, records, and certification documents are to be completed in English. Results are to be recorded in the units specified on the drawing.
6. AS9102, Form 2: Verify and document traceability cert to raw material origin and heat lot number. The PO number cannot be used.
7. Attribute data is acceptable when: (1) Non-numerical limits are specified on the drawing. (2) When UTAS approved tooling is used as a check feature and a go/no-go feature has been established. (3) When authorized in writing by customer or contract. Only "ACCEPT", shall be used for attribute data when it is found to be conforming.
8. When ballooning the drawing, each design characteristic shall have a unique identifier. The ballooned drawing shall have 100% accountability for all features. Multiple design characteristics within a note shall have a unique identifier assigned for each characteristic. Sub-balloons will be individually listed and accounted for on form 3. See specification HSM236, Section 2.7, for examples of acceptable numbering format.
9. Reference dimensions and reference notes must be accounted for on the ballooned drawing and listed on the FAI forms. On Form 3, blocks 9-14 can be "N/A".
10. For ITAR or EAR drawing statements, a single unique balloon is acceptable for identification. The complete ITAR/EAR drawing requirement must specified in Form 3, Field 8.
11. For drawings that contain multiple dash numbers for the same base number, only the design features and all drawing notes applicable to the specific dash number having the FAI performed to needs to be ballooned.
12. Flag notes shall be ballooned in the field of the drawing where they are assigned. Within Form 3, Field 8, the specified requirement for the design characteristic will be listed (i.e., the requirements as listed in the note). Notes must be listed in their entirety.
13. Refer to HSM17 for guidance on cancelled or superseded specifications specified on the drawing.

14. When ASQR-09.2 is specified on the customer purchase order, use the Approved or Interim Approval of ASQR-09.2 Form 1 as objective evidence of UPPAP compliance.
15. Refer to HSM236, Section 5.0 HS SUB COMPONENTS WITHIN ASSEMBLY for guidance on FAI requirements for assemblies utilized within an UTAS Assembly FAI.
16. Casting and forgings procured to a UTAS drawing are considered detail parts and should be listed as details on Form 1 and listed as "Make From" material on Form 2.
17. Per HSM17, UTAS must approve all castings and forging FAIs (refer to HSM236, Section 16 for FAI requirements).
18. Per HSM17 and HSM236, the QC 1700.00 Checklist is required with the FAI submission.

AS9102 FORM REQUIREMENTS

1. Refer to HSER33531 for guidance on completion of the AS9102 forms. If the field is not applicable, then enter "N/A".
2. Forms 1 through 3, Field 1: Enter the UTAS Part Number.
3. Forms 1 through 3, Field 2: Enter the Part Name - use the nomenclature from the UTAS drawing title block.
4. Forms 1 through 3, Field 3: Enter the FAI part serial number (if applicable).
5. Forms 1 through 3, Field 4: Identify as "(LORD P/N) FAI" (Example: "J-23823-4 FAI").
6. Form 1, Field 5: Part revision level (PCL – Part Configuration Letter).
7. Form 1, Field 8: Enter the Deviation Waiver (DEV) number (if applicable). This also would apply to any changes that are incorporated into the product but not reflected in the drawing (e.g., EC, CAD, DEV, etc.) as supplement or exclusion from mandatory drawing requirements.
8. Form 1, Field 11: Enter the UTAS assigned supplier code for LORD Corporation.
9. Form 1, Field 12: Enter the UTAS purchase order number, line item, and change order number as listed on the UTAS issued purchase order.
10. Form 1, Field 14, Base Part Number: For a partial FAI, provide the baseline part number (including revision level) to which a previous full or partial FAI was performed and UTAS approved (when UTAS approval is required per the purchase order). Include the reason for the partial FAI (e.g. CAD, DEV, EC, changes in process etc.).
11. Form 1, Fields 15-18: Enter the LORD part number referenced on the UTAS Source Control Drawing in field 15. Note: FAIs for UTAS Source Control Drawings shall be completed for all characteristics identified on the drawing. Enter the corresponding information in fields 16 through 18. Refer to HSM236, Section 9.0 for additional guidance on FAI completion for Source Control Drawings.
12. Form 2, Field 5: Enter the material or special process. Material shall include any raw material, adhesive, paint or coating as identified on the UTAS drawing. Special Processes shall be as identified in the Nadcap prime matrix and/or a process requiring UTAS approval. All other processes (i.e. marking, packaging, etc.) shall be addressed on Form 3.
13. Form 2, Field 11: Enter the LORD Acceptance Test Procedure (ATP) number (if applicable) and include a copy of the ATP in the FAI submittal package. Enter "N/A" if not applicable.
14. Form 2, Field 12: Enter the Test Report Certificate Number (if applicable). Enter "N/A" if not applicable.
15. **Use the LORD AS9102, Form 3 for UTC Product in lieu of the standard AS9102, Form 3 or AS9102, LORD Form 3.**
16. Form 3, Field 7: Enter characteristic classification, (e.g., key, flight safety, critical, major, minor, vital, etc.). Enter minor if not classified per ASQR-20.1.
17. Form 3, Field 10: Enter specifically designed tooling, including CNC programming or any other UTAS approved special tooling used as a means of inspection. If no special tooling is required, then enter "N/A".
18. Form 3, Field 14: Record FAI Inspection Measuring Equipment used as a media of inspection. Record FAI Inspector identification (e.g. signature, stamp, electronic authorization, etc.) used to signify the person that accomplished the inspection.
19. Form 3, Field 14: Enter the specification and specification number for drawing notes which list a specification and have no measureable characteristics. Enter "Information / Visual" for drawing notes specifying information and no measureable characteristics. Refer to HSER33531 for additional guidance.
20. Form 3: Ensure the UTAS drawing title block requirements (i.e. break edges, surface finish, etc.) are included in the FAI.
21. In addition to the AS9102 forms, a replication of the product part marking (via photograph or sample) that represents production marking must be included within the FAI report.

FORMS

LORD AS9102 Form 3 for UTC Product

Appendix D - Honeywell

SCOPE

1. For LORD Corporation use only.
2. The requirements specified in this appendix are in addition to the requirements in the base document (SOP 10-10). In cases of conflict between the requirements of this appendix and the base document, the requirements of this appendix shall take precedence.
3. This appendix shall apply to all FAI submittals to Honeywell.

APPLICABLE DOCUMENTS

AS9102 Aerospace First Article Inspection Requirement
SPOC Manual Supplemental Purchase Order Conditions (SPOC) Manual, Section 124

SPECIFIC REQUIREMENTS

1. The FAI requirement applies to each bill of material or parts list item with a Honeywell part number that is invoked in the product design, including lower level Honeywell detailed drawings identified on top level assembly drawings(s). This requirement applies to each cavity or tool serial number whose dimensions are controlled by the tool.
2. The following is exempt from the requirements of the SPOC Manual: Bar and sheet stock, unaltered material consigned by or purchased from Honeywell Aerospace or its authorized distributors.
3. FAI status shall be entered and maintained in the on-line First Article System (Net-Inspect). FAI status shall be updated regardless if it is a full, partial or conditionally approved report. Reference the On-Line First Article instructions located on the Supplier Portal.
4. When a FAI is required per Tables 1 or 2 of the SPOC Manual (see section 124.4), a Honeywell Field Quality Engineer (or a Honeywell-delegated authorized agent) is required to review FAIs prior to product release. LORD shall notify a Honeywell Field Quality Engineer at least two weeks prior to the anticipated completion of the FAI to schedule the FAI review at the supplier's facility.
5. The Yeovil facility may require a three year periodic Full FAI as a result of product compliance concerns. The requirement will be specified by purchase order when applicable. Yeovil FAIs must be submitted in advance of product delivery using the Net-Inspect system. FAI approval will be managed via Net-Inspect by Yeovil and not by Field Quality Engineering.
6. Unless otherwise specified by the procuring site, a Honeywell stamped FAI approval form (AF 0113 or equivalent) shall be retained with the FAI documentation. FAIs submitted using Net-Inspect meet this requirement. For FAIs that do not require customer review, the supplier approved AS9102 forms shall be retained on file at LORD.

AS9102 FORM REQUIREMENTS

1. FAIs shall be compliant with AS9102 and On-line First Article Instructions. For additional guidance, reference the AS9102 form posted on the Supplier Portal (located in SPOC Form section).
2. Form 1, Field 12: Enter the Honeywell purchase order number, line item, and change order number as listed on the Honeywell issued purchase order.
3. All material and process fields shall contain the applicable revision level, type, class, and/or grade designation.

FORMS

LORD AS9102 Form 3

Appendix E – General Electric (GE)

SCOPE

1. For LORD Corporation use only.
2. The requirements specified in this appendix are in addition to the requirements in the base document (SOP 10-10). In cases of conflict between the requirements of this appendix and the base document, the requirements of this appendix shall take precedence.
3. This appendix shall apply to all FAI submittals to General Electric (GE).

APPLICABLE DOCUMENTS

AS9102 Aerospace First Article Inspection Requirement
P1TF17 Source Substantiation Administrative Requirements

SPECIFIC REQUIREMENTS

1. All GE part numbers shall have an AS9102 FAI completed to the GE drawing per the requirements of AS9102. All forms are required to be completed.
2. As part of the FAI submittal package, a ballooned LORD Customer Copy (CC) drawing shall be submitted in addition to the ballooned copy of the customer print. The ballooned LORD CC drawing shall exactly match the features as specified on the customer print (i.e. same balloon numbers for the specified feature). Features on the LORD CC drawing not specified on the Customer Print do not need to be ballooned and included in the FAI report.
3. The FAI package shall be entered into the ECAV portal. A record of this submittal and approval (exported from the ECAV portal) shall be placed in the respective part data folder.
4. When the customer purchase order specifies P1TF17, Form GT7350 (Source Substantiation Plan) and a Supplier Substantiation List (SSL) form must be completed and submitted as part of the FAI package.
5. In addition to the AS9102 forms, a photograph of the part and product part marking shall be included within the FAI report.

AS9102 FORM REQUIREMENTS

1. No additional requirements.

FORMS

LORD AS9102 Form 3