



Norman Quality Tools

AS9102 First Article Inspection Kit

SAMPLE PREVIEW

Forms 1-3 workbook with auto pass/fail, ballooning guide, FAI procedure, partial/delta decision guide and rejection checklist — now with a worked example FAI package and an implementation guide.

What's inside
01 Forms 1-2-3 Workbook — FAI forms with auto checks and FAI index
02 Ballooning Guide — how to balloon a drawing
03 FAI Procedure — editable procedure
04 Partial/Delta Decision Guide — when a partial FAI is enough
05 Rejection Reasons Checklist — pre-submission check
Examples/ — filled-in worked example (fictional company)
Implementation Guide — order of steps, RACI, time estimates, 30/60/90 plan, audit-prep checklist, auditor findings, FAQ

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Pages that follow are excerpts. Example pages show fictional data.

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AS9102 First Article Inspection Kit: Implementation Guide

Step-by-step rollout for a small shop (about 10–50 people). Replaces the former Start Here README.

Doc no.	Rev	Date	Approved by
NQT-FAI-00	A	2026-10	_____

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Status note: Field layout follows AS9102 Rev C Forms 1–3. Confirm against your licensed copy and each customer's portal/requirements.

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1. What is in this kit

File	Use it for
01 Forms 1-2-3 Workbook	FAI forms with auto checks and FAI index
02 Ballooning Guide	how to balloon a drawing
03 FAI Procedure	editable procedure
04 Partial/Delta Decision Guide	when a partial FAI is enough
05 Rejection Reasons Checklist	pre-submission check

2. Order of steps

Step	What to do	Kit file	Clause / ref.	Est. time (small shop)
1	Adopt and edit the FAI procedure (triggers, roles, records)	03	AS9100D 8.5.1.3; AS9102 §4	3–4 h
2	Set up the FAI index and lapse period	01 FAI Index	AS9102 §4	1–2 h
3	Balloon the drawing and specs; number every characteristic	02	AS9102 §4	1–4 h/part
4	Complete Form 1 (part accountability)	01 Form 1	Form 1	0.5 h
5	Collect certs; complete Form 2 (materials, special processes, tests)	01 Form 2	Form 2	1–2 h
6	Measure and record Form 3 results; resolve fails via NCR	01 Form 3	Form 3	2–8 h
7	Run the rejection-reasons checklist; get approval and submit	05	—	0.5–1 h

8	Decide full vs partial on changes using the decision guide	04	AS9102 §4.6	0.5 h
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Total effort: About 20–30 hours to set up the process, then 4–16 hours per FAI depending on part complexity.

3. Who owns what (RACI)

R = Responsible, A = Accountable, C = Consulted, I = Informed. Rename roles to fit your org chart; one person often wears several hats.

Activity	Quality Mgr	Inspector	Mfg Engineer	Prod. Lead	Program/Customer Svc
FAI procedure & triggers	A/R	C	C	I	I
Ballooning	A	R	C	I	I
Form 1 & 2	A	R	C	I	C
Form 3 measurement	A	R	I	C	I
Nonconforming results	A	R	C	R	I
Submission to customer	A	C	I	I	R
FAI index & lapse review	A/R	C	I	I	I

EXAMPLEFAI Form 3 - Characteristic Accountability, Verification and Compatibility Evaluation

One line per ballooned characteristic. Grey columns (Nominal to Upper Limit, Gauge Resolution, Auto check, Tol:Res) are working aids; hide them before printing if your customer wants the plain form.

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Part identification (must match Form 1)										
Part Number	EPM-1042-A			Part Name	Bracket, Actuator (fictional)					Serial / Lot No.

Char. No. (balloon)	Reference Location (sheet / zone / view)	Characteristic Designator (key / critical, if any)	Requirement (exactly as on drawing / spec)	Nominal	Tol - (e.g. -0.005)	Tol + (e.g. 0.005)	Lower Limit	Upper Limit	Results (actual value or attribute result)	Designed / Qualified Tooling
1	Sh1 B3		Overall length 4.000 +/- .010	4.0000	-0.0100	0.0100	3.9900	4.0100	4.0030	
2	Sh1 C2		Width 1.500 +/- .005	1.5000	-0.0050	0.0050	1.4950	1.5050	1.4985	
3	Sh1 C4	Key	Hole dia .250 +.002/- .000 (2X) - 3.1	0.2500	0.0000	0.0020	0.2500	0.2520	0.2512	
3.2	Sh1 C2	Key	Hole dia .250 +.002/- .000 (2X) - 3.2	0.2500	0.0000	0.0020	0.2500	0.2520	0.2523	
4.1	Sh1 D3		Position dia .005 at MMC to A B C - hole 3.1					0.0050	0.0031	
4.2	Sh1 D3		Position dia .005 at MMC to A B C - hole 3.2					0.0050	0.0029	
5	Sh1 D1 Note 2		Note 2: Break sharp edges .005-.015	0.0050	0.0000	0.0100	0.0050	0.0150	Visual + radius gauge - conforms	
6	Title block		Unless otherwise specified: .XXX +/- .005						Verified via chars 1-5	
7	Sh1 C1 Note 4		Note 4: Part mark per spec, .12 high characters						Visual - conforms	
8	Sh1 D4 / title blk		Surface texture 63 max (all over unless noted)					63.0000	32.0000	
9	Sh1 D1 Note 1		Material: AL 6061-T651 plate per material spec						See Form 2 line 1	
10	Sh1 D1 Note 3		Chem film per finish spec, Type II, Class 3						See Form 2 line 2	

Characteristics with results:12

FAIL count (each must have an NCR number):1

FAIL lines missing an NCR number:0

Prepared by / date:

Guidance: record actual values, not 'OK' or a tick. Attribute results (visual, thread gauge, marking) should state the method and result, e.g. 'GO/NO-GO acc' or 'Visual - conforms'. Type REJ / Upper Limit (this overwrites the formula). Tol:Res below 10 turns amber: consider a finer gauge.



6.2 Planning

- Verify that the PO, drawing, model, specifications, and traveler carry the same part number and revision. Resolve any conflict with the customer before production.
- Assign an FAI report number in the format FAI-26-0042 and open an entry in the FAI index.
- Identify sub-assemblies and detail parts requiring their own FAI, and the materials, special processes, and functional tests to be accounted for on Form 2.

6.3 Ballooning

- The Priya Raman balloons the controlled drawing revision per Kit Document 02. Every design characteristic receives a unique number, including notes, flag notes, title-block requirements, and general tolerances.
- A second person checks the ballooned drawing before inspection begins. Optional: record the check on the drawing.

6.4 Manufacturing the FAI part

- Produce the FAI part using the production process, routing, tooling, NC program revision, and personnel intended for rate production. A prototype or development setup is not valid for FAI.
- Record the NC program number and revision and any tooling used on the traveler. Identify the FAI part with a tag / traveler marking / serial number.

6.5 Inspection and recording (Form 3)

- Inspect every ballooned characteristic. Record actual measured values for variable characteristics and the method and result for attribute characteristics.
- Use calibrated measuring equipment with resolution suitable for the tolerance for example 10:1 where practical. Record the equipment ID for each characteristic.
- FAI inspection is performed by [an inspector independent of the operator who made the part / define your independence rule].

6.6 Product accountability (Form 2)

- List every raw material, special process, and functional test required by the drawing and its specifications, with specification number and revision, supplier, and certificate number.
- Verify each certificate against the drawing call-out and specification revision. Where the customer requires approved special-process sources, verify the source was approved for that process on the process date.

6.7 Nonconformances

- Any characteristic that does not meet requirements is documented on an NCR per QP-8.7 and its NCR number is entered on Form 3.
- The FAI is recorded as 'not complete' until each nonconformance is corrected and re-verified, or dispositioned with customer approval where required. [Define whether a corrected part requires a new FAI part or a partial FAI on the affected characteristics.]

6.8 Review, approval, and submission

- The Priya Raman checks the package against the Common Rejection Reasons checklist (Kit Document 05).
- The Quality Manager or delegate reviews and signs Form 1. Submit the package in the format the customer requires. State whether parts may ship before customer FAI approval.