

AESQ First Article Inspection (FAI) RM 13102 Webinar

Welcome! We will start the webinar shortly.



The banner features the AESQ logo at the top left. The main text reads: **FIRST ARTICLE INSPECTION**, **AESQ RM13102**, **WEBINAR**. Below this, the date and time are listed: **Wednesday 13 April 2022**, **10am EDT New York (-4 GMT)**, and **(4pm Paris / +1 GMT)**. On the right side, there is a smaller image of the RM13102 manual cover, which includes the AESQ logo, the title **RM13102 First Article Inspection**, a photograph of a turbine engine component, and the text **An AESQ Reference Manual Supporting SAE A131300™ Standard** and **Issued March 21, 2017**.

AESQ First Article Inspection (FAI) RM 13102 Webinar



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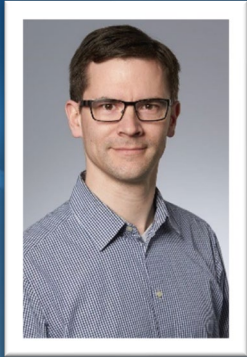


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MTU Aero Engines

AGENDA

	Topic	Presenter	Duration
1	Introduction to Event	Carrie Sharkey	5
2	AS13100 Requirements specific to FAIR (8.5.1.6)	Carrie Sharkey	10
3	FAIR Reference Manual RM 13102	Carrie Sharkey Michele Althoff	20
4	SMIG Purpose and Accountabilities	Michele Althoff	10
5	CoP LinkedIn page	Gary Maret	5
6	FAIR Challenges	Jason Sink	10
7	Future Plans for SMIG	Carrie Sharkey	5
8	Q&A-post in chat	Klaus Dietershagen	25

QUESTIONS AND ANSWERS



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Question from Webinar Chat



by: Ganiga, Subrahmanya

Is RM13102 a mandatory requirement for supplier or is it just a reference guide?

Answer: Per below cut out from AS13100, the reference manuals provide guidance; however it also depends on how the customer has flowed down the requirements.

AS13100 is supported by a series of Reference Manuals that provide additional detail on certain subjects to describe the intent of the standard and to provide guidance on deployment. For an index of these Reference Manuals, see 2.2 - AESQ Publications.

Question from Webinar Chat



by: Andrea Goddard

When will AS9102C be released?

Answer: AS9102 Rev C is out on ballot.

Question from Webinar Chat



by: Andy McLean

Does AS9102 rev C incorporate all supplemental AS13100 requirements?

Answer: No, AS13100 is supplemental to AS9100. AS13100 is also supplemental to AS9102 for the FAIR section.

RM13102 is supplemental to AS13100 section 8.5.1.6.

Question from Webinar Chat

by: Suzanne Hill

Very specific question about a clause in RM13102 pg 2 covers the differences between FAI and PPAP. The second bullet point says:

- PPAP confirms the performance of the process against a quality target. By Lot 3 the performance is not achieving target of 75%, even though the FAIR is approved 'Complete' which is independent of PPAP approval.

Where does the target 75% come from? Why 75%? We should be targeting zero defects!

Answer: The target of 75% listed in RM13102 is simply an example to explain the difference between FAI and PPAP.

Question from Webinar Chat



by: Palanisamy, Manikandan, FACC

Does the measuring instruments which is used in the production check has to undergo MSA study and also the Bias study during the FAIR execution?

Is it mandatory to perform Bias study for the instruments along with the MSA study?

Answer: The below is a cut out from AS13100 section 8.5.1.6. Section 7.1.5.1.1 explains further detail on MSA and Bias. The reference manual for this section is RM13003. AS13003 could also be used until the end of 2022.

- Ensuring Inspection equipment is:
 - Traceably calibrated, within its valid calibration period, and measurement systems to be assessed are in accordance with 7.1.5.1.1 and Table 3.

Question from Webinar Chat



by: John Kingston

Is GE considering moving from eCAV into NetInspect? (CAQ for FAI and parts approval)

Answer: No

Question from Webinar Chat



by: Renukesh B

Is AS13100 applicable to all the products and assemblies which are into aero engine supply chain (e.g. wire harness)?

Answer: Below is a cut out from AS13100 explaining the scope of the document.

This standard establishes supplemental requirements for 9100 and 9145 and applies to any organization receiving it as part of a Purchase Order or other contractual document from a customer.

Question from Webinar Chat

by: K.J. Manglos

An earlier webinar from the AESQ in 2020 said that AS13100 being released because that the OEMs were getting their requirements aligned. Is this still the intent?

There are now 3 standards concerning FAI that must be incorporated in the QMS. AS9102, SAE13102, and customer specific requirements like S1002, RR Sabre etc.

Answer: Yes the intent was to align as many requirements as possible across OEMs; however not all requirements are aligned so we will continue to align over time. The initial release of AS13100 aligned over 50% of requirements.

Question from Webinar Chat



by: Palanisamy, Manikandan, FACC

If the current guidelines allows to use the production check instruments during the FAIR, up on the successful completion of MSA/bias study, do we have frequency in conducting the studies of the measuring instruments?

Answer: For more information on MSAs, you can refer to RM13003. Also feel free to join the below CoP on LinkedIn and ask this question.

AESQ Measurement Systems Analysis (MSA) (RM13003) Community of Practice

<https://www.linkedin.com/groups/9096447/>

Question from Webinar Chat



by: Chandru Kasinathan

If an organization modifies the process, it will submit a partial FAI to its customer and obtain the approval for the partial FAI Form 1 from the customer.

Can the organization be allowed to go back to the previous process without submitting a partial FAI again?

Answer: The answer depends on what it takes to change back to the previous process. This would require working directly with the customer and their requirements.

Question from Webinar Chat

by: Sherat Göz

RM13102 figure 10 shows that if there is no change on lot 2, FAI is not applicable but is there any plan to limit these "number of no change lots"?

Answer: This would depend on the non-conformance process and/or your customer requirements. AS9102 states that a FAI must be done after implementation of corrective actions (cut out from AS9102 below).

- c. The organization shall implement corrective action(s) and perform a partial FAI for all affected characteristics on the next production run, after implementation of the associated corrective action(s). If the partial FAI does not clear all identified nonconformances, the FAI is still “not complete” and the requirement to complete the FAI is still in effect.

Question from Webinar Chat



by: Steven Allison

Does SMIG recommend or prefer suppliers using any FAIR or PPAP software such as Q-Pulse Product Management (Visual FAIR/PPAP) or InspectionXpert?

Answer: No the SMIG team does not make any recommendations for software.

Question from Webinar Chat

by: Ozgur Kara, TEI



If the part has a non-conformance, FAIR becomes “incomplete”. Do we need to submit a FAIR until part is MRB free?

If we have a MRB management system, can we follow MRBs on that system instead of FAIR?

Can we get a customer approval for an MRB part?

Answer: This would depend on the non-conformance process and/or your customer requirements. AS9102 states that a FAI must be done after implementation of corrective actions (cut out from AS9102 below). Typically, a partial FAIR on characteristics that were impacted by the corrective action.

- c. The organization shall implement corrective action(s) and perform a partial FAI for all affected characteristics on the next production run, after implementation of the associated corrective action(s). If the partial FAI does not clear all identified nonconformances, the FAI is still “not complete” and the requirement to complete the FAI is still in effect.

Question from Webinar Chat

by: Jeffrey Wenzel



The accountable characteristics within specifications is a common FAIR challenge. In the RM13102 Section 5.0 regarding FAI planning, it only says dimensional characteristics are required to be recorded in the form 3.

How about other non-dimensional design characteristics? e.g. machine burn/discolorations which is not on engineering drawing but in process specifications.

If the RM is a mandate requirement for suppliers, would SMIG suggest this to be more clear? Form 3 not for dimensional characteristics only and can really utilize the FAI forms for a proper engineering requirement consumption?

Answer: Section 5.0 states to determine the design characteristics required for product realization. RM13102 also has the below question from section 7.0 which implies all characteristics. Section 5.0 is simply giving more information around dimensional characteristics. Not implying that only dimensional characteristics are listed on Form 3.

5.0 Plan First Article Inspection

FAI planning should include:

- a) Determination of design characteristics required for product realisation and assigning of a unique identifier.

Cut out from Section 7.0

- All characteristic unique identifiers are accounted for in Form 3 and the Product Definition requirement correctly stated?

Question from Webinar Chat

by: Mark Green



Regarding PPAP elements, originally, OEM's tried to use the Automotive 18 elements then we have customer specifics followed by AS9145, 11 mandatory elements. Looking at AS13100, why is there no fixed elements covering all OEM's?

AS9145 has 11 mandatory elements yet AS13100 refers to as many as 23, why don't all Aerospace OEM's have the same amount and indeed, the same content.

Answer: It would be best to post this question to the APQP/PPAP CoP on LinkedIn. See below for link.

[\(20\) AESQ APQP & PPAP \(RM13145\) Community of Practice | Groups | LinkedIn](#)

Question from Webinar Chat



by: William Ireland

Is the FAIR measurement independence require a correlation to Production line MSA?

Answer: Below is a cut out from AS13100 section 8.5.1.6 explaining how the measurement system is to be assessed.

- Ensuring Inspection equipment is:
 - Traceably calibrated, within its valid calibration period, and measurement systems to be assessed are in accordance with 7.1.5.1.1 and Table 3.

Question from Webinar Chat

by: Terrell Dando



In many circumstances purchasing two CMMs in order to achieve independence for the FAI (when a single CMM is used in production) would be costly.

Would you still push for independence? Or use an alternate gauge which introduces risk or cost?

Answer: Below is a cut out from AS13100 section 8.5.1.6. This explains when it is okay to use production inspection. If independence is still needed, RM13003 gives some ideas for this.

- **Independent of production inspection equipment. Except when the production inspection process is automated and cannot be influenced by Production Staff, or FAI results are obtained by personnel that only carry out product verification, e.g., Inspectors. Where independent inspection measurement is not practicable, then the use of production inspection equipment may be acceptable if approved by the customer.**

Question from Webinar Chat

by: Sasikiran



If specification is called out in drawing, acknowledgement of the spec is sufficient or need to capture the requirements (applicable clauses) inside the specification as well in the form 3?

Answer: Below is a cut out from RM13102 to record dimensional results defined in specifications. Acknowledgement of specification is not enough; an understanding of the requirements, customer requirements, flowdown requirements, etc. is required.

- Dimensional geometry defined in specifications identified in the Product Definition e.g. drill point angles, weld geometry, installation depth of Heli coils or Thin Wall Inserts, coating thickness etc. (These would be recorded as attributes on Form 3.)

Question from Webinar Chat



by: Dave Massey

Considering the validation of a thread. Do we have to go to the expense and time measuring the screw thread - or can we use a go/no-go gauge to validate the thread?

Answer: This will depend on the specific customer requirements.

Question from Webinar Chat

by: Scott Austin

Regarding FAI Complete status, if the non-conformance is the result of the tool and the OEM accepts along the life of the tool a MRB and the product definition is never updated, can we truly close out the FAI?

Answer: Below is a cut out from RM13102. According to this, the FAIR can be dispositioned as Complete.

Note: When a non-conformance is approved against a 'Life of Type' or 'Life of Tool' Deviation Permit, or an equivalent document issued by the design authority, the FAIR may be dispositioned as 'Complete'.

Question from Webinar Chat



by: Palanisamy, Manikandan

RR Sabre says that the "production system that has passed the AS13003 study and included a test of bias is deemed to be independent". So the current system implies to use the production instrument which has passed the MSA along with the bias study are capable to use in the FAIR .

Is this common to all aero engine suppliers from different customers?

Answer: This will depend on the specific customer requirements.

Question from Webinar Chat



by: William Ireland

CFCs are not true variables backed data but more like attribute. We would want detail sampling of validity of attribute CFCs. Are CFCs treated as acceptance by document or is there a need to support it with data in the FAIR?

Answer: Please define CFC and reach back out to the team through the CoP LinkedIn Page.

[\(37\) AESQ First Article Inspection \(FAI\) \(RM13102\) Community of Practice | Groups | LinkedIn](#)