

# First Article Inspection Standard Work to be used with Net-Inspect V5

"FAI by Numbers"

Rev. F April 2021

### P&W PROPRIETARY

Disclaimer: information, readings, and measurements added to this presentation are fabricated for illustration purposes only and are not associated with any Pratt & Whitney hardware, process, or requirement.

### NATURE OF CHANGE

#### Rev F

- Form 1 Block 5 Clarification, part marking revision may not match the casting revision on Form 1 Block 5
- Form 2 Block 6 Clarification, what information needs to be entered into Form 2 Block 6
- Form 3 Block 8 and 9 Advise reviewing Appendix A for casting specific drawing notes and basic dimensions on Form 3 Block 8 and 9.
- Form 3 Block 9 Addition, if no feasible inspection technique for a feature on Form 3 Block 9 exists then contact your SQAR or submit eSRI for clarification.
- Add guidance on how to enter Interchangeable parts in the Special Instructions.
- Renamed Delta to Partial.

FAI Standard Work

# MINIMUM REQUIRED DOCUMENTS (MRD)

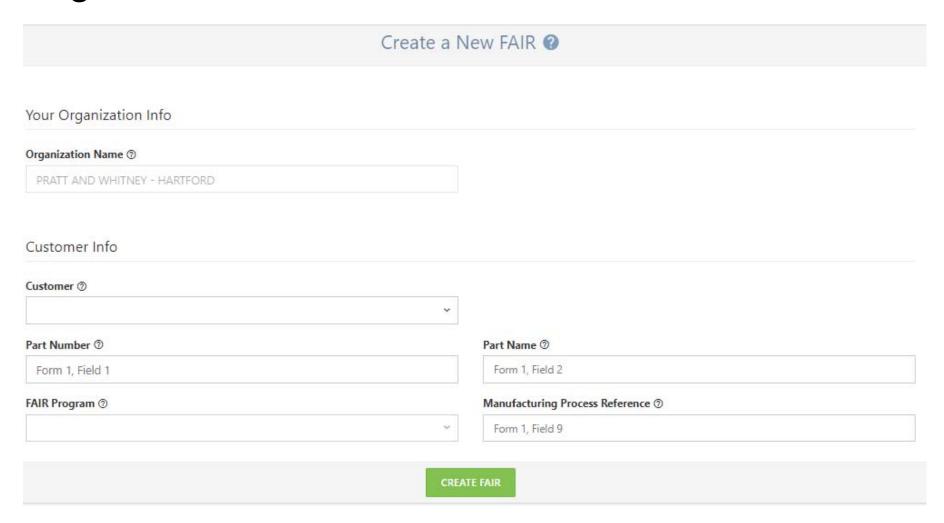
Before the First Article Inspection Report (FAIR) review process can begin, the package **must** include legible copies of the minimum required documents (MRD).

The First Article will be rejected immediately by 3<sup>rd</sup> party if any of the applicable minimum required documents are not included.

This document can be found on the Supplier Portal.

A full review by 3<sup>rd</sup> party will not occur until all MRDs are provided. Once all MRDs are attached, a full review by 3<sup>rd</sup> party will be conducted.

# Organization Information

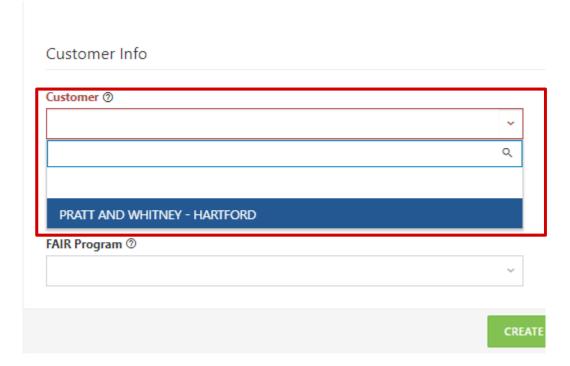


### Form 1 Overview

Form 1	Form 2	Form 3	Document	0					
Form 1: Part Number Accountability 😉									
1. Part Number ① 55H144-01 Customer Pert Number ②		2. Part Name © BOSS- INSTRUMENTATION, ASSY OF		2. Serial Number (i) N/A		4. FAIR Number 1995 Internal IAIR Number EV018-0406 Customer IAIR Number			
5. Part Revision Level ③						7. Drawing Revision Level ① 8		8. Additional Changes (2)	
Manufacturing Process Refe     123723-01	3. Manufacturing Process Reference ③ 123723-01			16. Organization Name () EVIGATIO INC - 34054		11. Supplier Code @ S4054		12. P.O. Number @	
13. Detail/Assembly ①  Assembly FAI Detail Par	13. Detail/Assembly ©  Assembly (A) Detail Part		14. Full / Partial ©  Partial (A) S   Let (A)  Baseline Part Number (Including Revision Level)		Reason for Partial ⊕		ADG   FAA Approved		
Subcreasamble of   NOUR of part numbers or sub-assembly numbers required to make the assembly noted above.									
15. Part Number (3)	15. Part Number © 16. Part Name © 17. Part Serial Number ©				Supplier		18. FAIR Number ⊕		
	FAW #1395 Contours No Subessemblies								
K < 0 > 3 10	v items per page								No items to display
Customer © PRAIT AND WHITNEY - HARTOND FAIR COMMENTS			Program NLR						
19. Signature ①  O lat Complete O lat not Complete ①					☑ Paus ☐ fail ②	Date			
21. Reviewed By ●				22. Date					
23. Customer Approval ®				34. Date					
User Comments									

### **Customer Information**

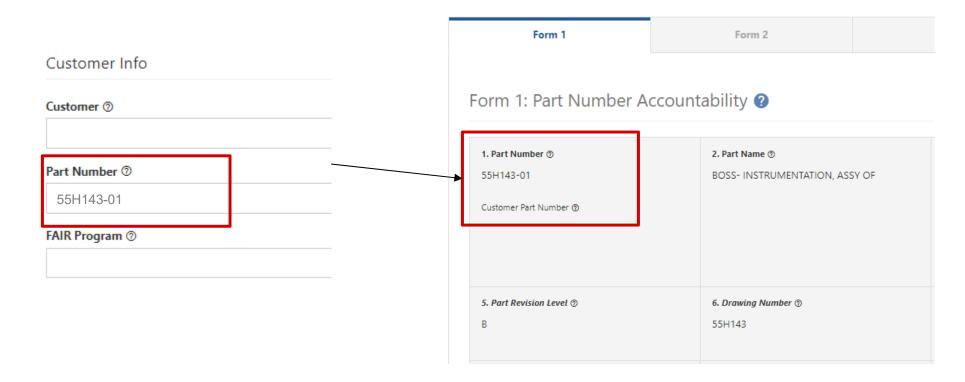
The customer of the FAI. Select "PRATT AND WHITNEY – HARTFORD"



### **Block 1: Part Number**

Part number as shown on the Purchase Order

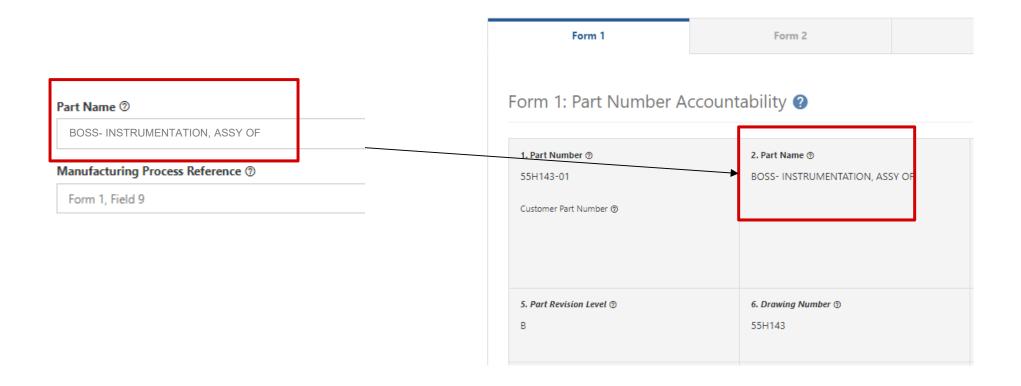
A part number with the prefix, "M1K" denotes a Kit. Requirements for the Kit will be driven by the RCC, not a blueprint. A blueprint will not be provided.



### **Block 2: Part Name**

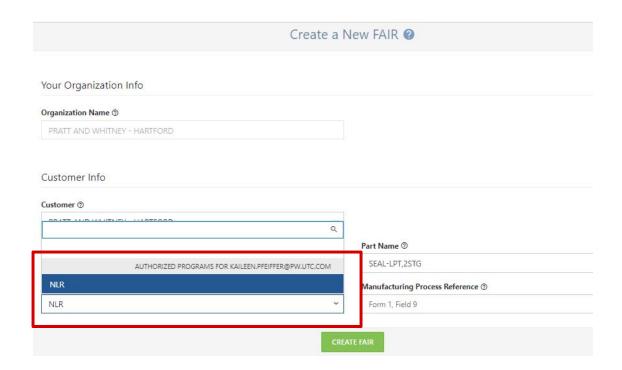
Name of the part as shown on the drawing.

Abbreviated part names are acceptable, as long as they are relevant to the part name on the drawing.



# FAIR Program

The Program the user is authorized to access. Ex: NLR, License Required

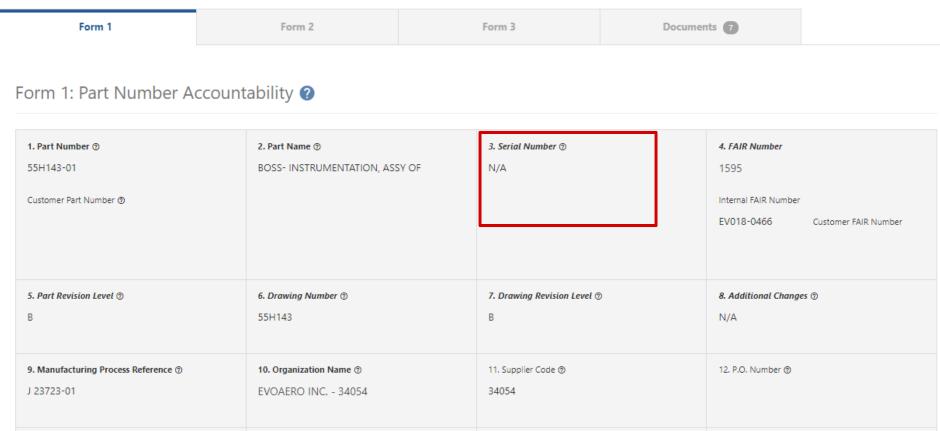


### Block 3: Serial Number

#### Conditional

Serial number (SN) of the part. SN is a unique identifier assigned to a detail part, sub-assembly, or assembly by the organization or customer. Supplier assigned serial/lot /traceability number is also optional.

Enter N/A if serial number is not applicable.



### Block 4: FAIR Number

**FAIR Number:** Auto populated unique number that identifies the FAI. **Internal FAIR Number:** Conditional. Unique number to the supplier that identifies the FAI. This may be an internal report number. Enter N/A if not applicable.

Form 1 Form 2 Form 3 Documents 7 Form 1: Part Number Accountability ? 1. Part Number @ 2. Part Name ② 3. Serial Number @ 4. FAIR Number 55H143-01 BOSS- INSTRUMENTATION, ASSY OF N/A 1595 Customer Part Number @ Internal FAIR Number EV018-0466 Customer FAIR Number 5. Part Revision Level @ 6. Drawing Number 3 7. Drawing Revision Level 3 8. Additional Changes 3 55H143 N/A 9. Manufacturing Process Reference ② 10. Organization Name 3 11. Supplier Code @ 12. P.O. Number @ J 23723-01 EVOAERO INC. - 34054 34054

### **Block 5: Part Revision Level**

#### Conditional

Latest revision that affects the part being inspected.

Castings may have a cast revision letter. In block 5, enter the casting revision. If there is not a casting revision, enter the drawing revision.

Old FAIs will not be held accountable (prior to 3/21/17). Part marking revision may not match casting revision in this field.

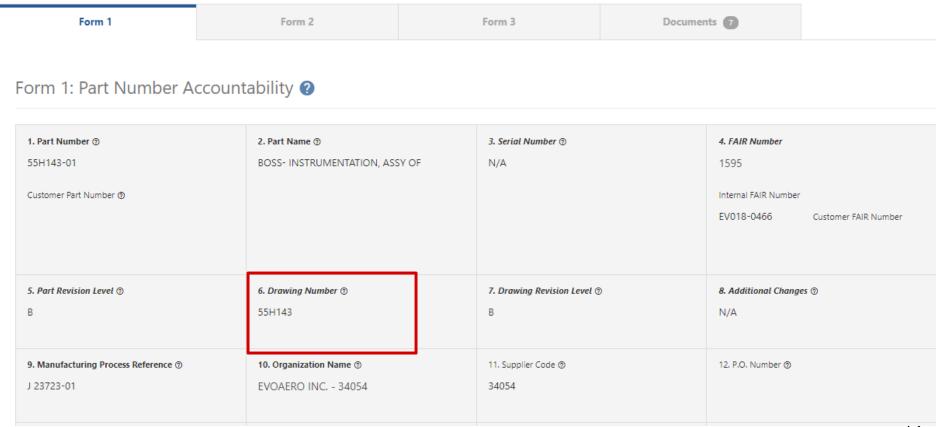
If the part has not been revised, enter No Change or N/C.

Form 1 Form 2 Form 3 Documents 7 Form 1: Part Number Accountability 2 1. Part Number @ 2. Part Name ® 3. Serial Number @ 4. FAIR Number 55H143-01 BOSS- INSTRUMENTATION, ASSY OF N/A 1595 Customer Part Number ② Internal FAIR Number EV018-0466 Customer FAIR Number 5. Part Revision Level 3 6. Drawing Number 3 7. Drawing Revision Level 3 8. Additional Changes 3 55H143 В N/A 9. Manufacturing Process Reference ② 10. Organization Name ® 11. Supplier Code (ഉ 12, P.O. Number (?) J 23723-01 EVOAERO INC. - 34054 34054 FAI Standard Work - This document does not contain any export regulated technical data

# **Block 6: Drawing Number**

#### Conditional

Drawing number or DPD data set associated with the FAI part. Drawing may be from customer, internal system, or design definition. The drawing number is not always the same as Part Number.



# **Block 7: Drawing Revision Level**

#### Conditional

Revision level of the drawing or DPD data set associated with the part. If the drawing has not been revised, enter No Change or N/C.

Form 1	Form 2	Form 3	Documents 7				
Form 1: Part Number Accountability ②							
1. Part Number ® 55H143-01  Customer Part Number ®	2. Part Name ① BOSS- INSTRUMENTATION, ASS	3. Serial Number <sup>®</sup> SY OF N/A	4. FAIR Number 1595 Internal FAIR Number EV018-0466	Customer FAIR Number			
5. Part Revision Level ①	6. Drawing Number ① 55H143	7. Drawing Revision Level G	8. Additional Change N/A	es ⑦			
9. Manufacturing Process Reference ①  J 23723-01	10. Organization Name ① EVOAERO INC 34054	11. Supplier Code ⊚ 34054	12. P.O. Number ⑨				

# **Block 8: Additional Changes**

#### Conditional

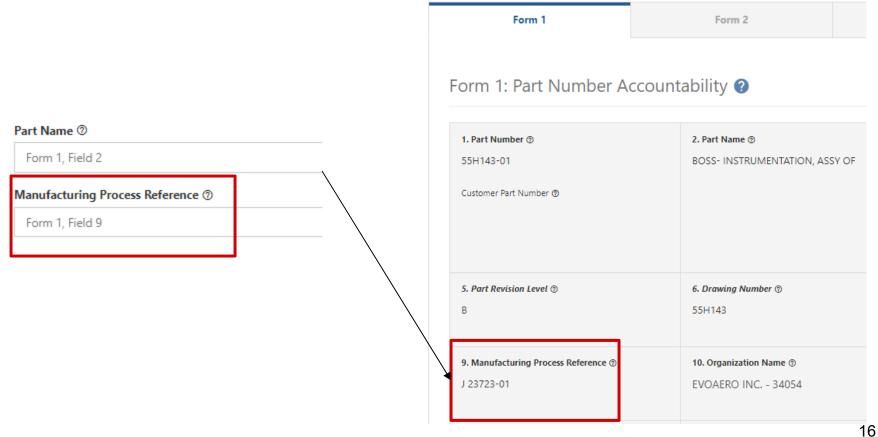
Reference numbers of any changes that are incorporated in the product, but not reflected in the referenced drawing/ part revision level. Only enter Deviation QNs. not waiver QNs.

Enter N/A if not applicable.

Form 1 Form 2 Form 3 Documents 7 Form 1: Part Number Accountability ② 1. Part Number ② 2. Part Name ② 3. Serial Number @ 4. FAIR Number 55H143-01 BOSS- INSTRUMENTATION, ASSY OF N/A 1595 Customer Part Number @ Internal FAIR Number EV018-0466 Customer FAIR Number 5. Part Revision Level 3 6. Drawing Number 3 7. Drawing Revision Level 3 8. Additional Changes ① В 55H143 N/A 12. P.O. Number @ 9. Manufacturing Process Reference ② 10. Organization Name 3 11. Supplier Code @ J 23723-01 EVOAERO INC. - 34054 34054

# Block 9: Manufacturing Process Reference

Reference number that provides traceability to the manufacturing record of the part. (e.g Shop Traveler, Job Number, Routing Sheet, Manufacturing Process, etc). Additional information such as lot number, batch number, date code, or line number may be included, as needed, to provide traceability to the specific manufacturing lot.



# Block 10: Organization Name

Name of the Supplier holding the PWA PO. Supplier should enter their supplier name. Below's example portrays Evoaero as the supplier.

Form 1	Form 2	Form 3	Documents 7			
Form 1: Part Number Accountability ②						
1. Part Number ③	2. Part Name ③	3. Serial Number 🗇	4. FAIR Number			
55H143-01	BOSS- INSTRUMENTATION, ASS	Y OF N/A	1595			
Customer Part Number ③			Internal FAIR Number			
			EV018-0466	Customer FAIR Number		
5. Part Revision Level ③	6. Drawing Number ③	7. Drawing Revision Leve	el 🗇 8. Additional Chang	es ⑦		
В	55H143	В	N/A			
9. Manufacturing Process Reference ®	10. Organization Name 🗇	11. Supplier Code ⊚	12. P.O. Number ⑦			
J 23723-01	EVOAERO INC 34054	34054				

# Block 11: Supplier Code

Supplier Code is a unique number assigned by Customer to the Organization holding the PWA PO Also referred to as Vendor Code, Vendor Identification Number, or Supplier Number.

Form 1	Form 2	Form 3	Documents 7	
Form 1: Part Number Ad				
1. Part Number ⑦ 55H143-01 Customer Part Number ⑦	2. Part Name ① BOSS- INSTRUMENTATION, ASS	3. Serial Number <sup>③</sup> SY OF N/A	4. FAIR Number 1595 Internal FAIR Number EV018-0466	r Customer FAIR Number
5. Part Revision Level ⑦ B	6. Drawing Number ① 55H143	7. Drawing Revision Level	8. Additional Change     N/A	nes ⑦
9. Manufacturing Process Reference ③ J 23723-01	10. Organization Name ① EVOAERO INC 34054	11. Supplier Code ⊚ 34054	12. P.O. Number 🗑	

# Block 12: Purchase Order (P.O.) Number

Purchase Order number, as listed on the Purchase Order.

This is a required field for FAIs that have a direct PO/SA from PWA.

This is a required field for Partial FAIs

Revision and line item number are optional.

If the PO invokes ISQR-01, the FAI should be reviewed by the SQAR and does not require 3<sup>rd</sup> party review.

#### No direct PO/SA from PWA (such as Details or Sub-Assemblies):

If the supplier used IX/NI for their own convenience, leave the field blank or enter "No PO".

If there is an approved eSRI or Purchase Order requests PWA Source coverage per bulletin 545 and/or 545A, enter: "PWASQA". It is not a requirement to use IX/NI for this part level.

Form 1 Form 2 Form 3 Documents 7 Form 1: Part Number Accountability 2 1. Part Number ② 2. Part Name ② 3. Serial Number @ A FAIR Number 55H143-01 BOSS- INSTRUMENTATION, ASSY OF N/A 1595 Customer Part Number @ Internal FAIR Number EV018-0466 Customer FAIR Number 5. Part Revision Level ® 6. Drawina Number ® 7. Drawing Revision Level ® 8. Additional Changes ® 55H143 9. Manufacturing Process Reference @ 10. Organization Name 3 11, Supplier Code ® 12. P.O. Number @ EVOAFRO INC. - 34054 J 23723-01 34054 FAI Standard Work - This document does not contain any export regulated technical data

# Block 13: Assembly/Detail

Assembly: Is any part that has details listed on the drawing, the parts list, or embedded within the drawing.

**Detail:** Is an individual item

Select as appropriate to indicate the level of the FAI.

5. Part Revision Level ③	6. Drawing Number ③	7. Drawing Revision Level 🗇	8. Additional Changes 🗇
В	55H143	В	N/A
9. Manufacturing Process Reference ① J 23723-01	10. Organization Name ® EVOAERO INC 34054	11. Supplier Code ⊚ 34054	12. P.O. Number ③
13. Detail/Assembly   Assembly FAI Detail Part	14. Full / Partial ⑦  Partial FAI  Full FAI  Baseline Part Number (Including Revision Level)	Reason for Partial <sup>®</sup>	☐ AOG ☐ FAA Approved

### Block 14: Full/Partial

Full FAI: Select as appropriate.

Partial FAI (sometimes referred to as Delta FAI): Select as appropriate. Add reason for Partial FAI (e.g. QN, DEV, EC, changes in process, changes in manufacturing, manufacturing location changes, P.O. change control, etc.). Include Baseline Part Number including revision level to which a previous Partial, or full FAI was performed and signed, when approval is required per the PO.

Form 1 is always required for a Partial FAI. Forms 2, 3 and supporting documentation are subject to change depending on the reason for the Partial FAI. If there are multiple Partial FAIs that were previously completed, attach the most recently approved P&W Form 1 (Full or Partial). The baseline revision should match the most recently approved Form 1 Revision. There must be a signature on Form 1.

5. Part Revision Level ®	6. Drawing Number ®	7. Drawing Revision Level ①	8. Additional Changes ®
В	55H143	В	N/A
9. Manufacturing Process Reference ① J 23723-01	10. Organization Name ® EVOAERO INC 34054	11. Supplier Code ⊚ 34054	12. P.O. Number ®
13. Detail/Assembly ②	14. Full / Partial ③  Partial FAI  Full FAI  Baseline Part Number (Including Revision Level)	Reason for Partial ③	☐ AOG ☐ FAA Approved

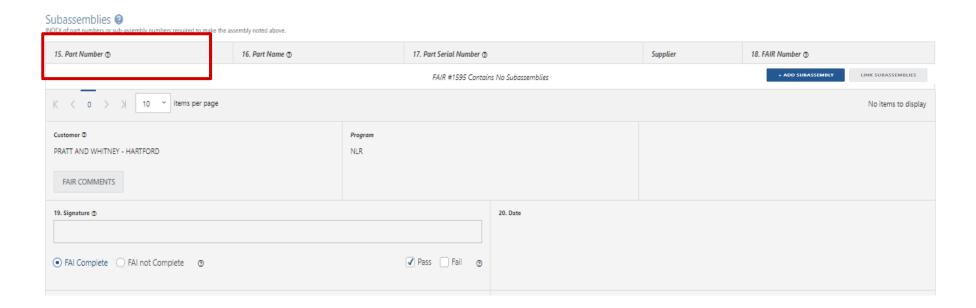
### Block 15: Part Number - Subassemblies

Part Number included in the assembly and items from the BOM included in the drawing, DPD, or next level assembly (this can be multiple subtiers down). Typically these are the part numbers, standard catalogue items, or sub-assembly numbers required to complete the product noted in field 1.

Standard, off-shelf, industry controlled detail components, e.g., MS, NAS, JAN, etc., need to be listed, but a FAI as a detail component is not required.

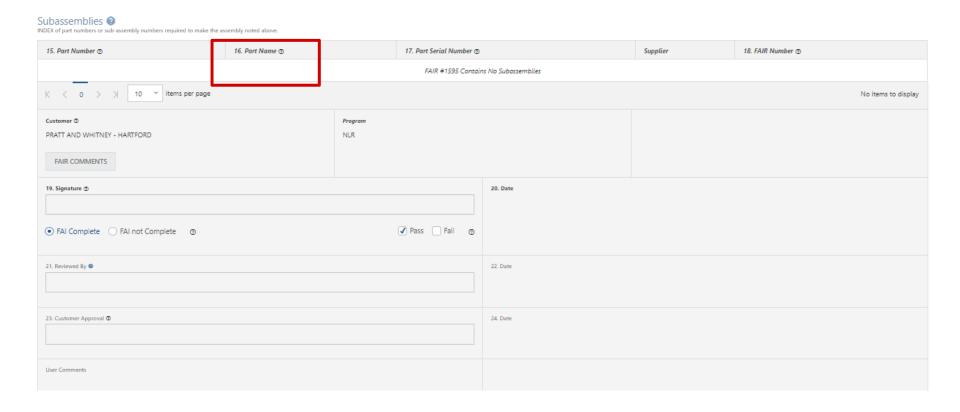
For a distributor FAI, if the manufacturer completed the FAI to the drawing and part number.

IC parts see special instructions at the end of this document.



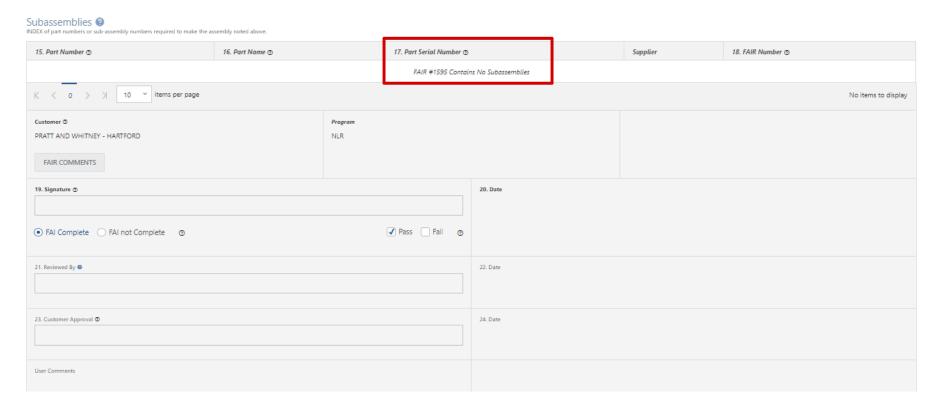
### Block 16: Part Name – Subassemblies

Name of the part as shown on the drawing, the parts list, or embedded within the drawing. Abbreviation is acceptable If the FAI does not have any detail level components listed on the drawing enter N/A.



### Block 17: Part Serial Number - Subassemblies

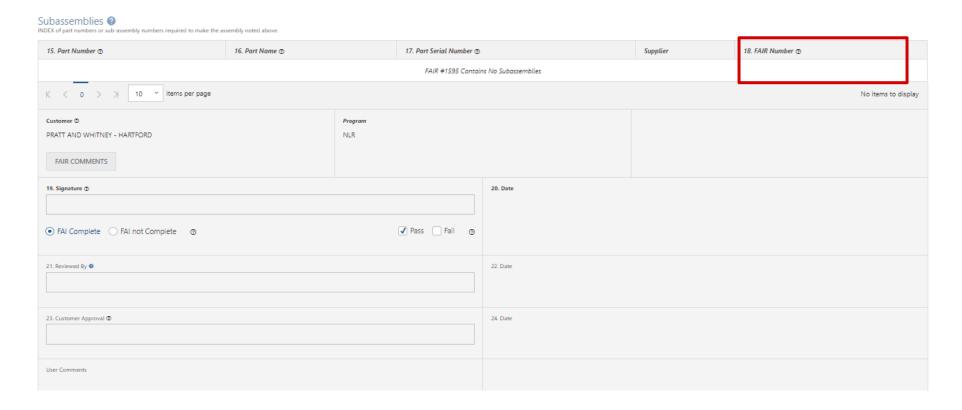
Serial Number of the part that is installed in the assembly If SN is not applicable enter N/A



### Block 18: FAIR Number - Subassemblies

Unique number that identifies the FAI (Detail P/N), Traceability number (COTS Type parts), COC, Shipping Authorization/Document or Customer Invoice. For subcomponent FAIs that are not performed from the source, a CoC or PO from the source is required.

\*For standard hardware enter CoC number.



# Block 19: Signature

Signature is required. In Net-Inspect, the email address of the individual approving the FAI is an acceptable e-signature.

Select "Sign All Forms" when the FAI is complete. The Submit button becomes available after a Signature is provided on From 1 Block 19. Subassemblies @ 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 ® Supplier 18. FAIR Number @ Submitting a FAIR 🔼 FAIR #1595 Contains No Subassemblies No items to display ■ MICHAEL ∨ PRATT AND WHITNEY - HARTFORD FAIR COMMENTS ← RETURN TO LIST 19. Signature 🗇 20. Date Submit FAIR to Customer 21. Reviewed By @ 22. Date User Name Password 23. Customer Approval @ 24 Date Comments... Comments User Comments ОК CANCEL

### Non-Conformances

FAI Complete: All characteristics are conforming.

FAI not Complete: Nonconforming characteristics are documented in accordance with AS9102, 4.4.

The FAI is not complete until the Organization closes all non-conformances affecting the part and implements corrective actions. The Organization shall do a Partial "Partial" FAI for those affected characteristics and shall record the results.

#### Partials:

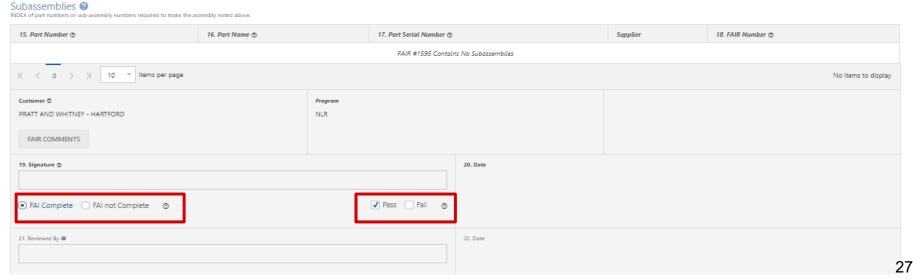
Mark the Partial as "incomplete" if there is an open eQN on the top-level assembly. The Partial will be marked as "incomplete" even if the Partial does not directly relate to the eQN.

The Partial that resolves and closes the eQN will be marked as "complete". Enter a comment that states there is an open eQN on the top-level assembly.

#### Optional

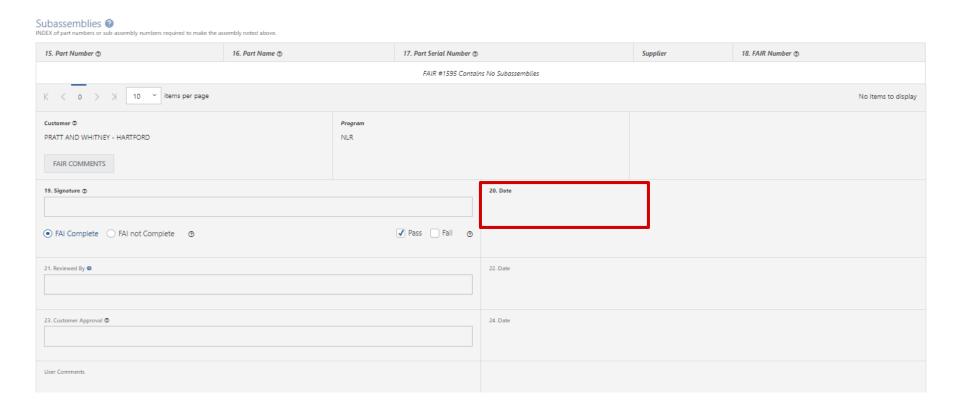
Pass: All FAIR characteristics are conforming.

Fail: One or more nonconforming characteristics have been documented.



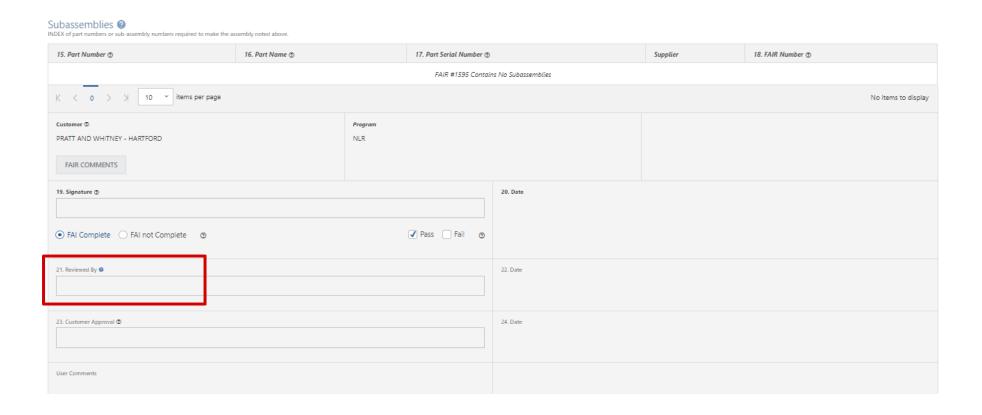
### Block 20: Date

Auto populated date of when FAI forms and documentation package were completed. Date will populate once the Form has been signed.



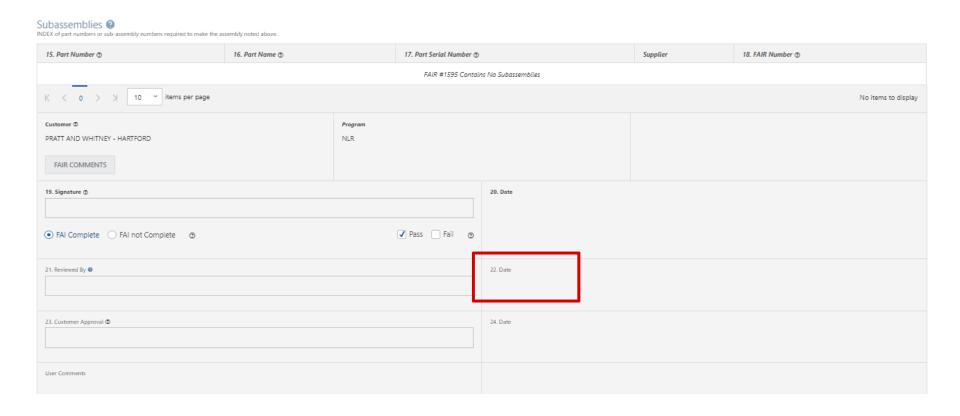
# Block 21: Reviewed By

Name and signature of the DQR or the Supplier's Quality Representative who is approved by the Supplier to review and approve the completed FAI documentation package. This signature submits the FAIR to the Customer indicated on the FAI.



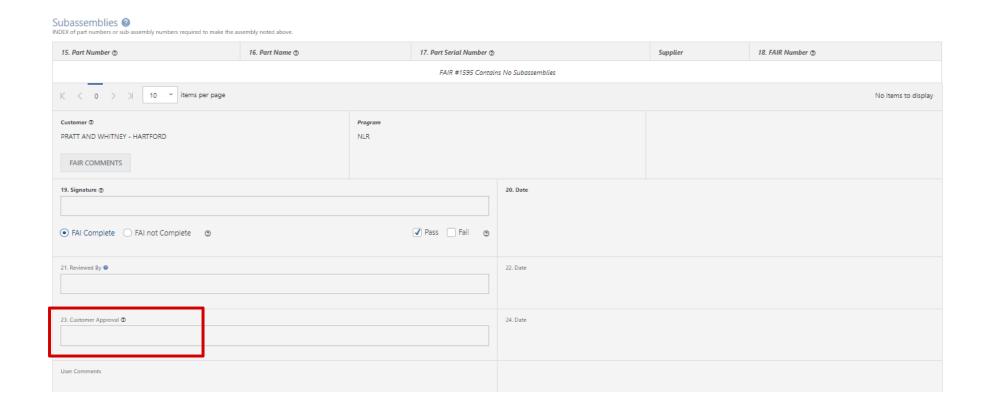
### Block 22: Date

Auto populated date of when FAI forms and documentation package were approved. Date will populate once the Form has been signed.



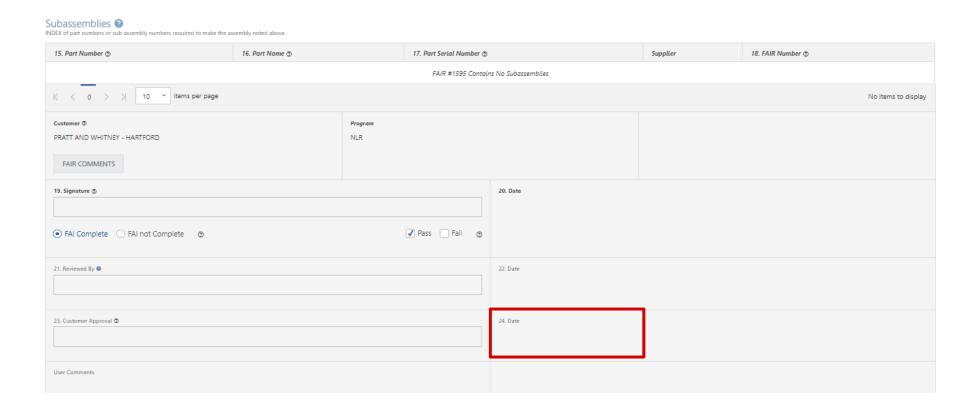
# Block 23: Customer Approval

Used by customer to record approval, if required.



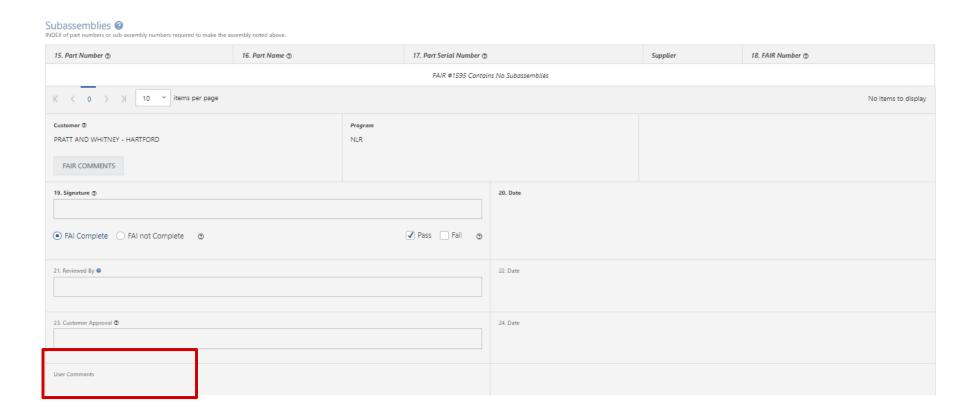
### Block 24: Date

Auto populated date of when FAI forms and documentation package were reviewed and approved by the supplier's representative. Date will populate once the Form has been signed.



### **User Comments**

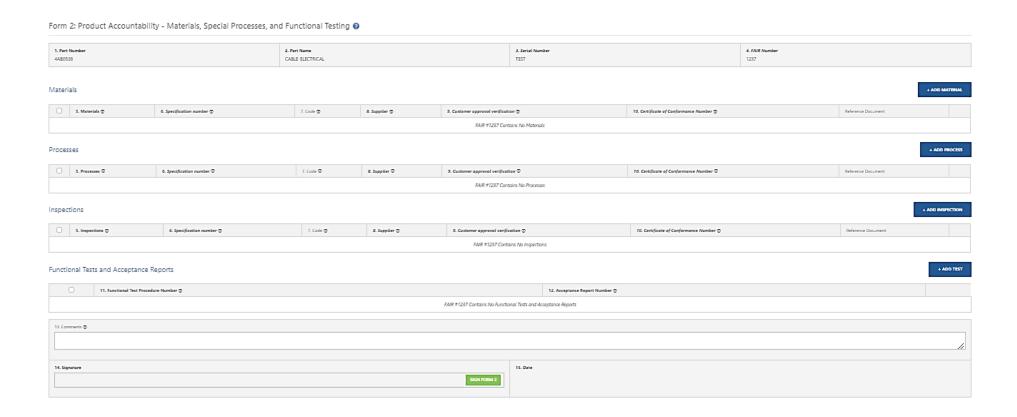
Optional field for user to enter comments



### Overview Q & A

- Where is the part number entered in block 1 found? *Purchase order*
- What are the additional changes not reflected on the drawing entered in block 8? Deviation QN (Engineering Change)
- What appears in block 10? Supplier/Manufacturer name listed on the purchase order
- When is the FAI checked incomplete? When there is a nonconformance. The FAI is marked as incomplete if there is an open eQN on the top level. The Partial FAI that resolves/closes the eQN will be marked complete.
- What are the FAI requirements of block 14 when checked as a Partial FAI? Baseline part number including revision letter to which a previous FAI was performed and the reason for the Partial.
- When block 13 is checked as an assembly what is entered into blocks 15 through 18? *In block 15 details listed on the parts list, details embedded within the drawing, standard off the shelf parts, and casting numbers; block 16 part name, block 17 serial numbers as applicable, and block 18 the FAIR or certification number.*
- Who is responsible for signing blocks 19 through 22? *Block 19 and 20 is name, signature of person performing the first article and date, blocks 21 and 22 the suppliers representative name, signature and date approving the FAI.*

# FORM 2: PRODUCT ACCOUNTABILITY



# FORM 2

# Partial FAI Requirements

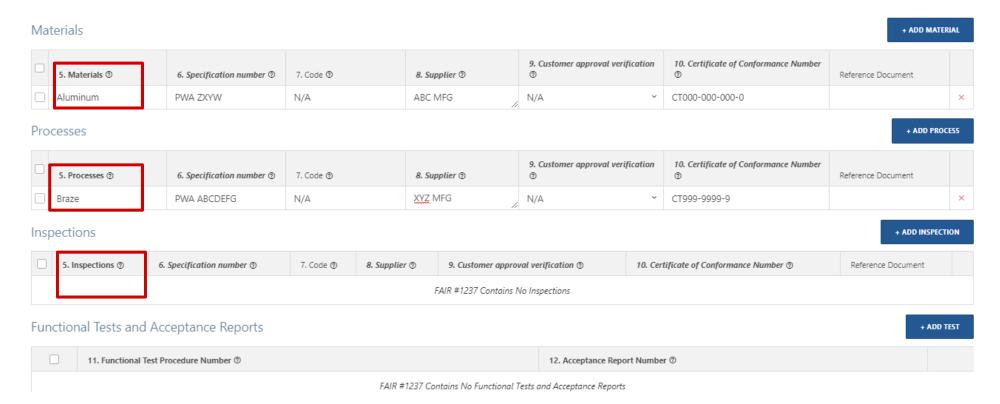
A Form 2 does not need to be attached for Partial FAIs if there is no special process (including NDTs) or material type change.

Enter N/A in Block 1, Sign & Date

# Block 5: Materials, Processes, Inspections

Applicable material, processes or inspections used as they appear on the drawing or within the specification. Include the actual material used not optional provided by the drawing.

Separate line is not required for the certification lab if material is purchased from LCS source. Special process codes & process masters can be on the same line or separate lines.



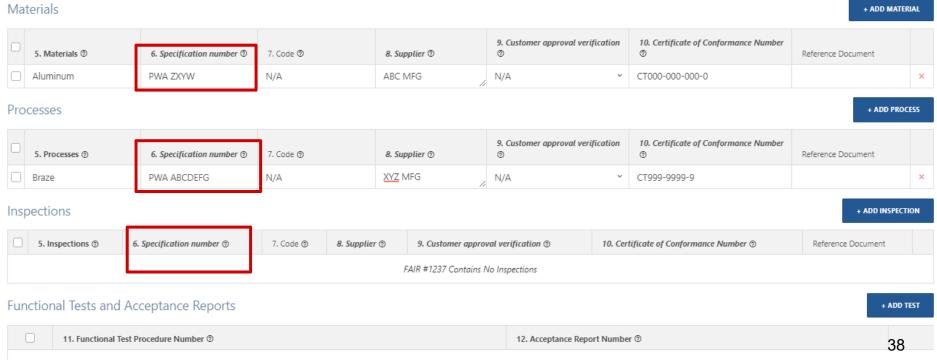
# **Block 6: Specification Number**

Material specifications and material form (e.g., sheet, bar) for all materials incorporated into the FAI part (e.g., weld or braze filler).

Special process specification number including the revision letter, the applicable type and class as it appears on the drawing. List standard & method for NDTs.

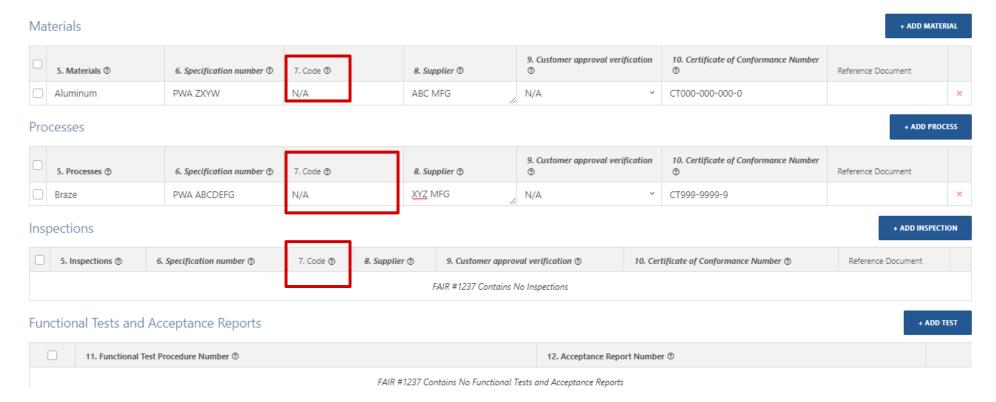
A Form 500 allows the supplier to use a down Rev in place of the current Rev. F500 is also required when heat treat is required to get the material to spec. F500 document must be attached and the spec should be the latest version at time of signing the form.

For PW supplied material, attach a document like the packing slip or manifest. This must identify that the material came from PW and what the material is.



#### Block 7: Code

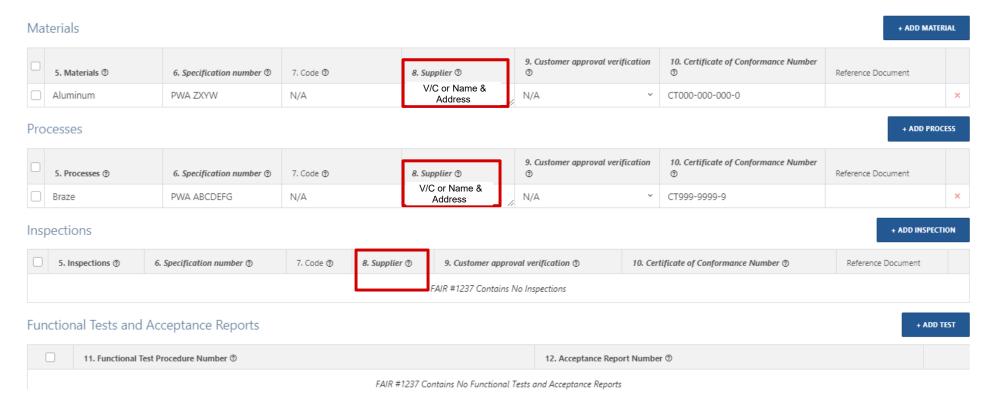
Any required code from the Customer for material or process listing, when required. Enter PWA code if listed. PWA specs with dashes should be listed under the spec, not the code. Enter N/A if not applicable.



# **Block 8: Supplier**

"Identify the <u>supplier name</u>, <u>address</u>, <u>and code</u> performing special processes or supply material. Supplier name and address may be used, when supplier code is not available or not adequate for identification." (AS9102B, Form 2 #8).

State the last supplier who sold material to manufacture or last procured source to manufacture.



# **Block 9: Customer Approval Verification**

Indicate if the special process or material source is restricted.

State "Yes" if only one line exist for material purchased from an LCS house and it was laboratory tested. (No separate line item for material testing)

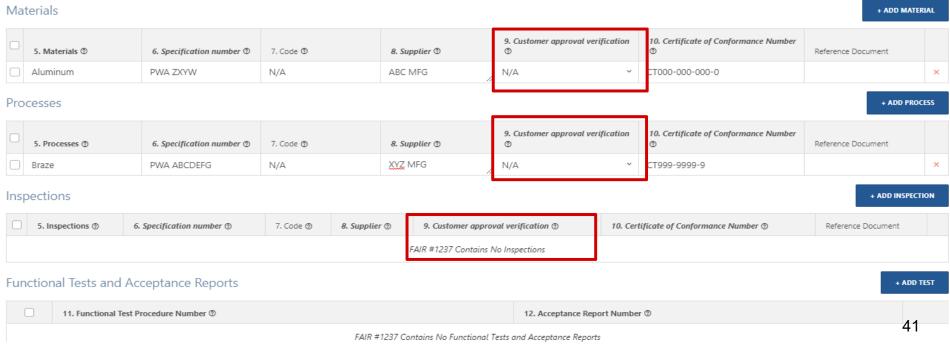
For material purchased from a non-LCS house and sent for lab testing two (2) lines items are required.

One line for the material where they would state "No" in block 09 and

One line item for material testing where they would state "Yes".

For Military/Industrial type specifications verify the supplier is NADCAP approved for source control parts and enter "Yes" in block 9.

Examples: NDT, Raw Materials, LCS, Source Qual., Source qualified materials (anti gallant, braze paste, etc.), MCL temporary approval. Enter N/A if not applicable.



### Block 10: Certificate of Conformance Number

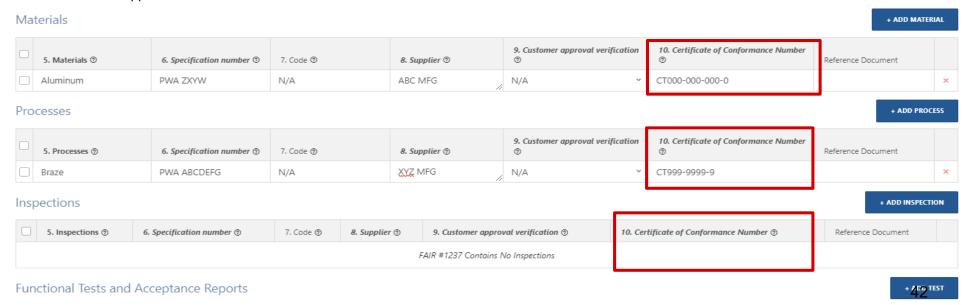
The applicable certificate number. (e.g. special process completion certification, raw material test report number, modified standard catalogue item compliance report number, traceability number).

Purchase Order numbers do not provide full traceability.

Enter the heat/lot/batch traceability number from the raw material cert. For raw material, the heat number is required at a minimum, Certification number, Lab Test Report number, Manufacturing Traveler number (with attached page or cert if not proprietary), Work Order # or Shipping Authorization or Customs Invoice Number. For PW supplied material, attach a document like the packing slip or manifest. This must identify that the material came from PW and what the material is.

For special in-house processes and in-house laboratory testing, a CoC needs to be created & attached with the FAI. Travelers are also acceptable. If a traveler is submitted, refer to Form 2 for Special Processes. Procedure numbers from the traveler are not required. Include the traveler number in this block to allow for traceability back to the traveler.

#### Enter N/A if not applicable



## Block 11: Functional Test Number

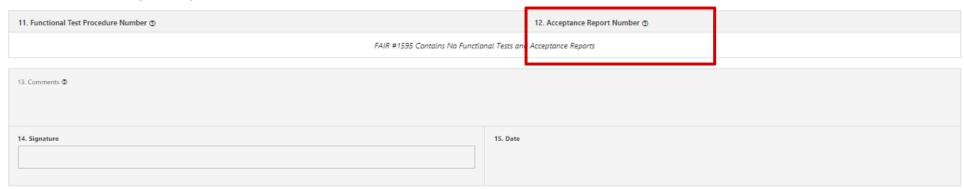
Functional Test Procedure number identified as a design characteristic. N/A if not applicable



# Block 12: Acceptance Report Number

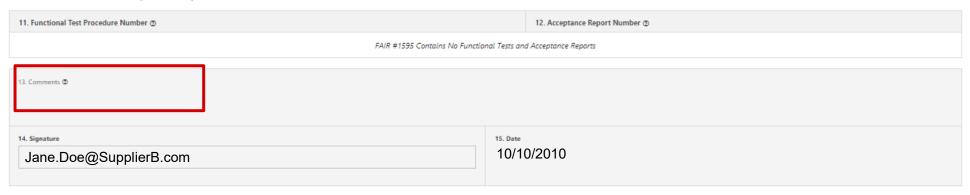
The Test Report Certificate number, Router number etc., as required. When applicable, the Acceptance Test Report must be included as part of FAI package.

N/A if not applicable.



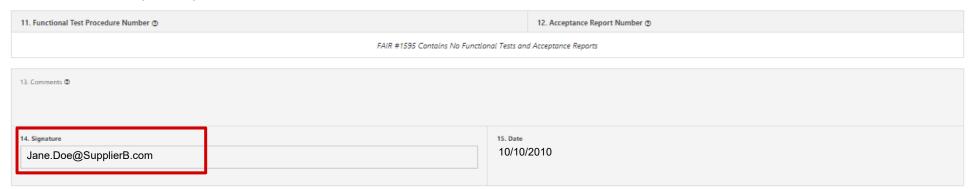
### **Block 13: Comments**

Optional field for user to enter comments



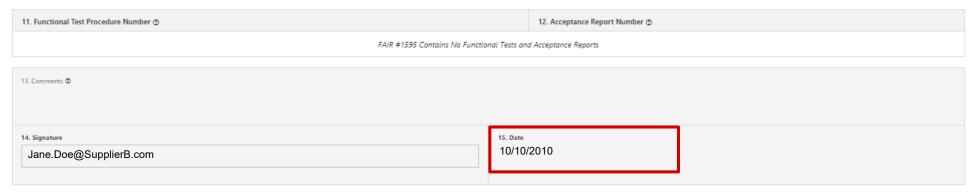
# Block 14: Signature

Email address of the individual approving the Form.



### Block 15: Date

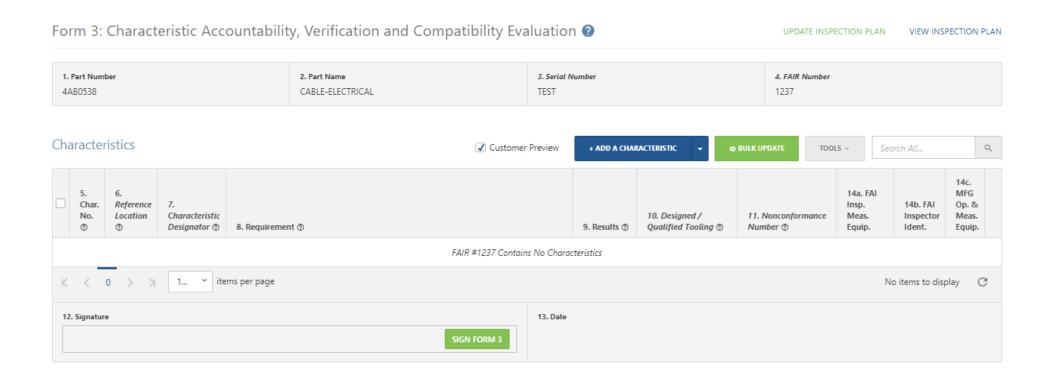
Auto populated date of when FAI forms and documentation package were completed. Date will populate once the Form has been signed.



### Overview Q & A

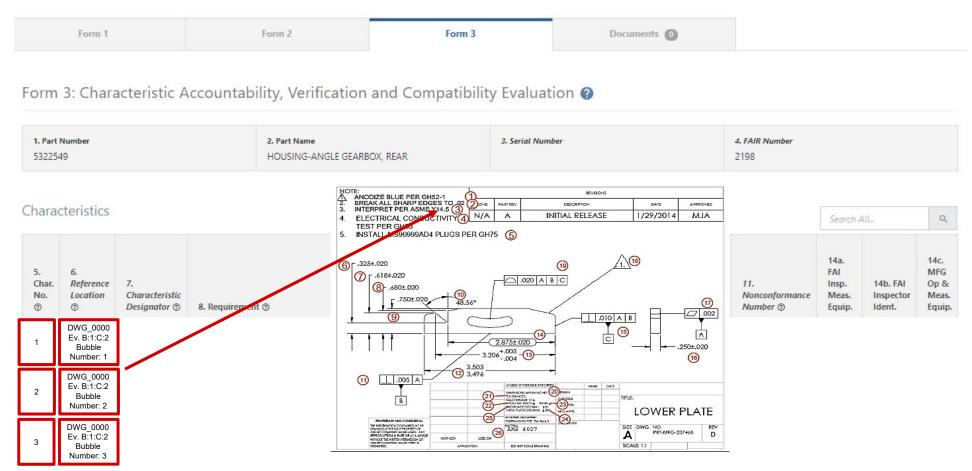
- What appears in blocks 1 through 4 on Forms 1, 2, and 3? The same information as it appears on form 1 blocks 1 through 4.
- What information is required in block 5? Material used, or special process listed or referenced on the drawing /RCC.
- What information is required in block 6? Raw material, "material form (e.g. sheet, bar)" or special process including revision letter, for special processes applicable type and class as it appears on the drawing.
- A drawing note states penetrant inspect per PWXXX Type 1, Level II any method. What will appear in block 6? PWXXX U

  Type 1, Level II any method or PWXXX Rev U Type 1, Level II, any method.
- What information is required in block 8? Supplier name, address, and code. Supplier name & address may be used, when supplier code is not available or not adequate for identification.
- The supplier is NADCAP approved what information is required in block 9 N/A, No or yes? Yes
- What is the minimum requirements entered in block 10 for raw material certification? Heat Number
- A drawing states to pressure test per AMS215. What information would be needed for validation on Form 2. Block 11 the test requirement and revision letter, block 12 the certification # with a copy of the certification attached.



# Block 5: Character Number (Continued on next pg)

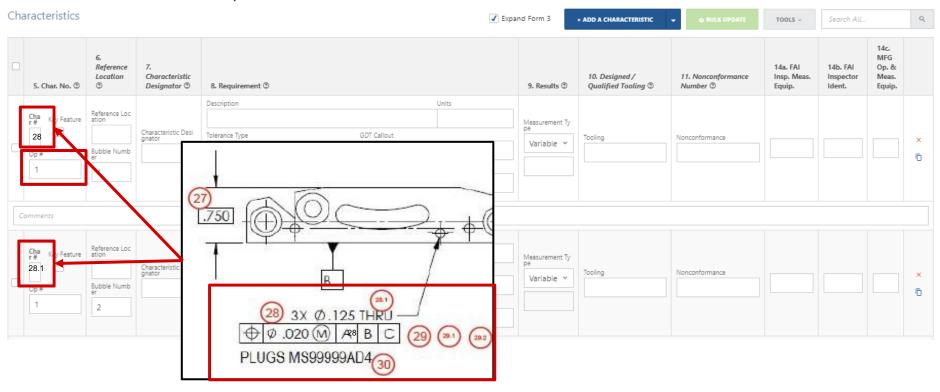
Assign and enter unique sequential number for all characteristics and notes on the drawing, specification, or Engineering Change (e.g., dimensional features, hardness, part marking size, etc.).



### **Block 5 Continued**

Dimensions that occur in multiple locations will require a unique characteristic number for location/position with a max & min. Basic dimensions and reference requirements must be entered with a unique sequential number.

Do not enter information in block: "Op#"

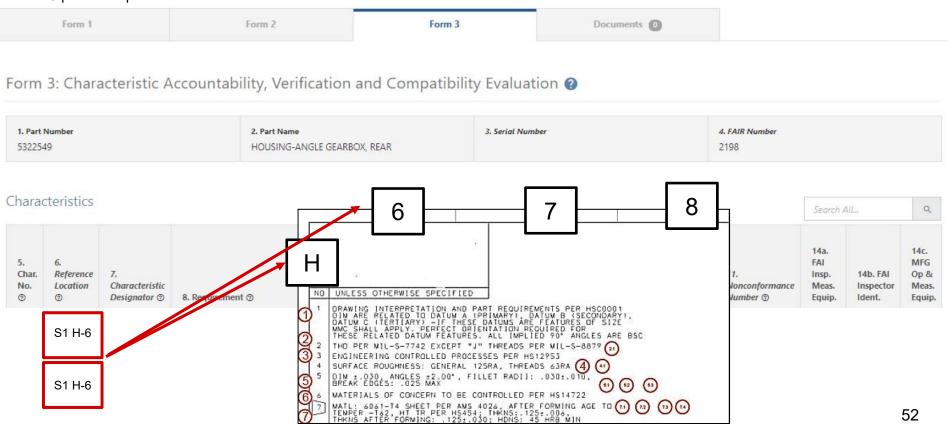


#### **Block 6: Reference Location**

The location of the Design Characteristic (e.g., drawing/specification page number and location of feature, e.g., E4- 2 for Zone E4 on Sheet 2). If the drawing does not indicate a zone location enter N/A or enter RCC, QAD, or P.O. It can be either location of bubble or feature.

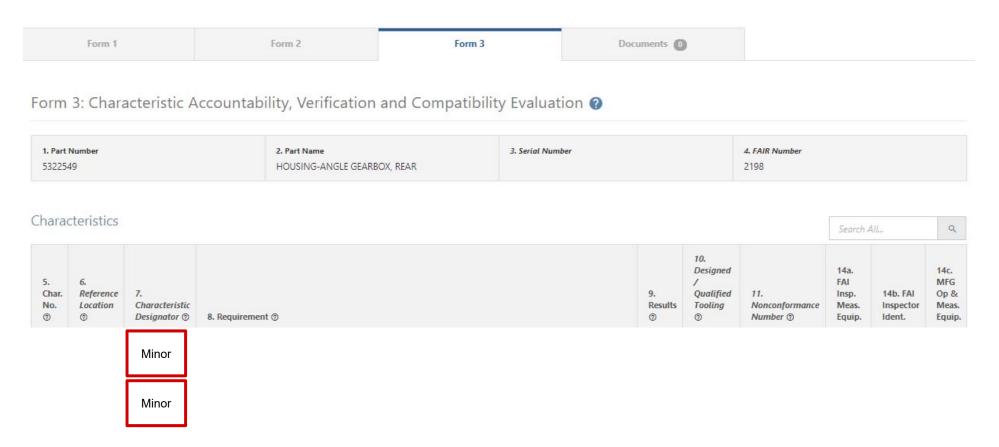
If additional specs are ballooned, supporting documentation must be attached.

For IC parts see special instructions at the end of this document.



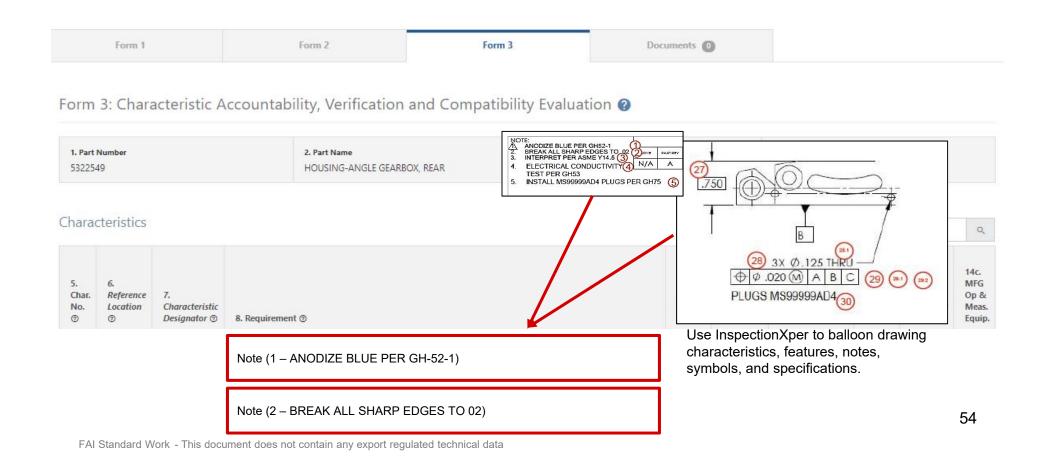
# Block 7: Characteristic Designator

Characteristic classification, (e.g., KPC 1 or 2, critical, major, or minor) Enter minor if not classified per ASQR-20.1, PWA 79345 or PWA 397.



# Block 8: Requirement (Continued on next pg)

Use InspectionXpert to enter all drawing characteristics, features, notes (enter complete text if the note has only one requirement. If the note has more than one requirement, balloon each requirement and record them. Only enter what is required in the note), symbols, and specifications as they appear on the drawing or Engineering Changes. This will require the breakout of additional requirements that are imposed including MS, AS bosses, flanges etc., generated during the manufacture of the product.



# **Block 8: Requirement**

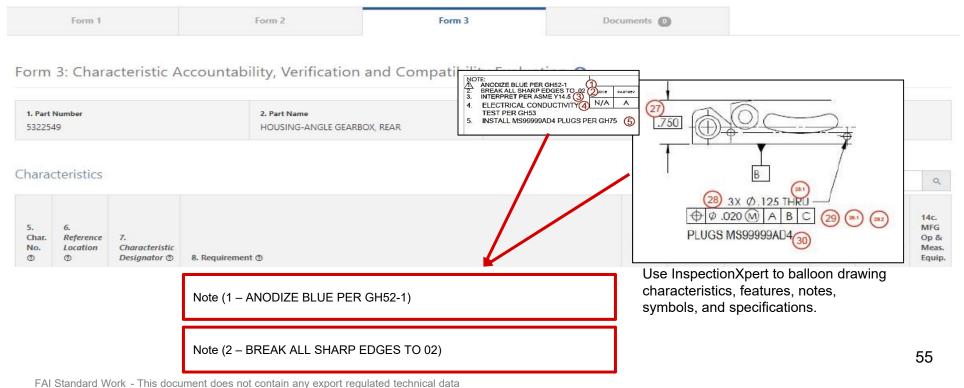
For multiple characteristics list each characteristic as individual values or list once with the minimum and maximum of measured values attained (this is beneficial when there are several identical characteristics). Only a maximum measurement is required for surface finish. If a characteristic is found to be nonconforming, then that characteristic shall be listed separately with the measured value noted.

When multiple items appear in the same note they must be separated into individual characteristics.

When PW Specifications call out the Characteristic they must be ballooned and added. See appendix A when drawing note and block 8 do not match for castings.

Per PWA310 and/or Note Marking approval F9236 must be attached. For marking omissions an approved eSRI signed by the PW310 team must be in place. Part marking acceptance will also require a photo or replica be attached.

Form 3 may include added characteristics that the supplier chooses to add (I.e., Verifying FOD, Tin Soldier, etc.)

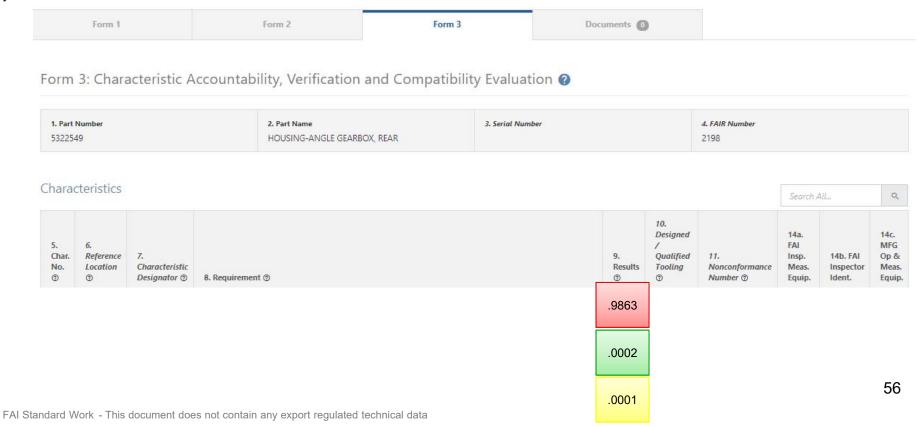


# Block 9: Results (Continued on next page)

Enter actual measurement obtained for each characteristic inspected in variable numeric terms (eg. Dia 10.010" – 10.020" must have min & max line items). Basic dimensions shall be reported as "Basic". If there are options, please state which option was used. For additional requirements called out in the spec that are listed here, indicate the referenced document in the Comments box. See Appendix 1 when basic dimensions are reported with actuals for castings.

GO/NO-GO gages for attribute data is allowed only if justification is approved by P&W SQAR (with substantiation).

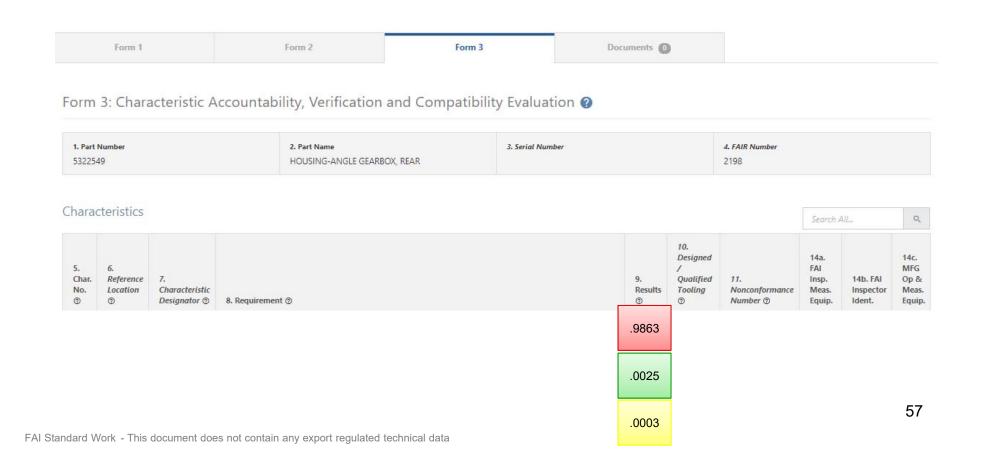
If Block 9 is not applicable, enter "N/A", and provide a reason in the Comments box. If no feasible inspection technique for a feature exist then contact your SQAR or submit eSRI for clarification.



# Block 9: Results - Bonus Tolerance (Continued on next page)

Indicate in the comments box if bonus tolerance was applied.

One result must be recorded after bonus tolerance is applied. It is optional to record a result before & after bonus tolerance is applied.



#### Block 9: Results - Basic Dimensions

It is recommended that basic dimensions should be reported as either "Basic" / "Pass" / "Accepts" / "Conforms" with no actual variable data. Special care must be taken to insure all applicable dimensions with tolerances are reported appropriately. Typically, but not always, such tolerances may be derived in the following manner:

- · As the result of the feature control symbol
- As called out on the face of the drawing, often as a "UOS" requirement
- In the general notes

Notwithstanding the above, it is the supplier's responsibility to ensure all appropriate drawing tolerances are accounted for.

Suppliers that are required to provide Profile data to PW Engineering for analysis per spec requirements (i.e. PWA332) may report actual values against Basic dimensions. In such cases, the supplier will convert the Basic dimension into a tolerance feature, applying the GDT tolerance frame against the Basic value, as appropriate.

#### Comments Field:

When a condition flags as red but is acceptable per a specification, use the comments field to classify the characteristic (i.e. type and size) and indicate the specification and paragraph that accepts the condition.

Examples on castings include positives/negatives, gate height, blending allowance, welding, etc. Some casting specifications may include PWA321, PWA79321, PWA341, PWA331

If using IX/NI, the following tutorial will assist or reference implementation manual in Net-Inspect:

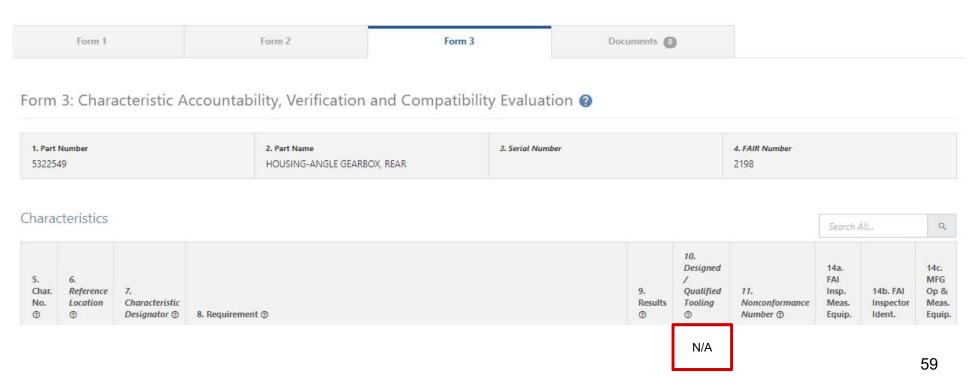


# Block 10: Designed/Qualified Tooling

Specially designed tooling, including CMM/CNC programming or any other approved special tooling as a means of inspection, making sure this tooling is traceable to a controlling number and it is under calibration control. CMM is to be listed in block 10 only if used as an attribute gauge. Enter N/A if no special tooling is required.

If using CMM program, ensure that it is correlated in accordance with ASQR 7.5

CMM is to be listed in Block 10 only if used as an attribute gage. Everything in block 10 should be for attribute acceptance.

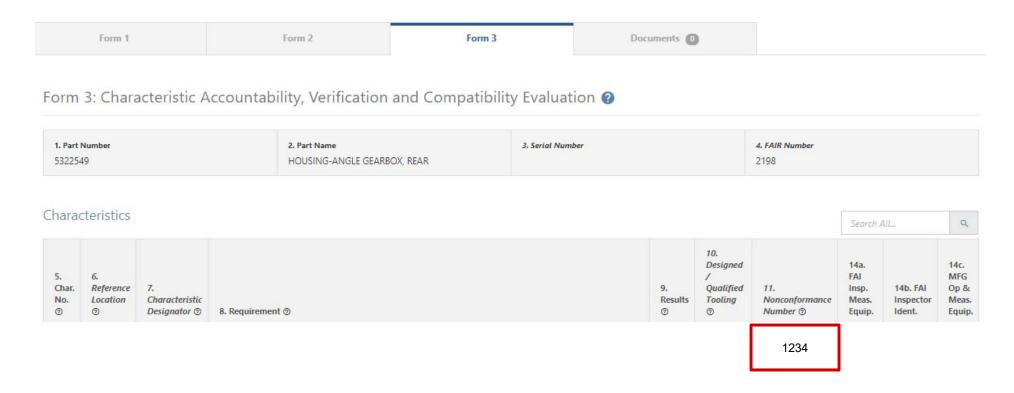


### Block 11: Nonconformance Number

The noncomformance document reference number if the characteristic is found to be non-conforming.

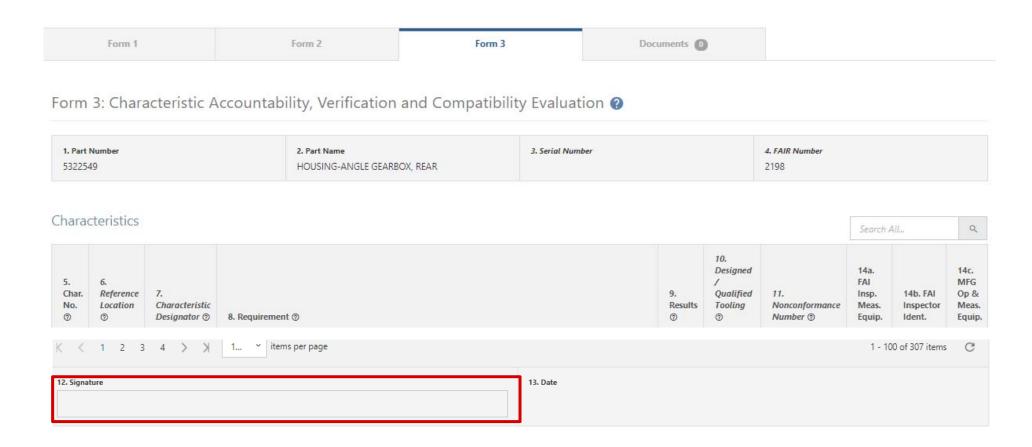
If the characteristic is found to be nonconforming, record only the PW eQN or the RMEA Number for Castings/Forgings.

Enter N/A if not applicable.



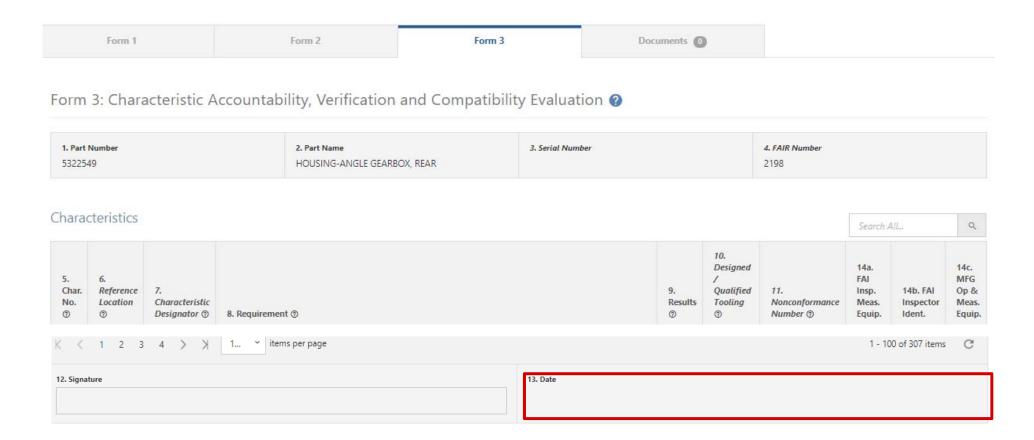
# Block 12: Signature

Signature of the individual who approves the FAI.



#### Block 13: Date

The date when the FAI forms and documentation package were prepared and completed. Date will populate once the Form has been signed.

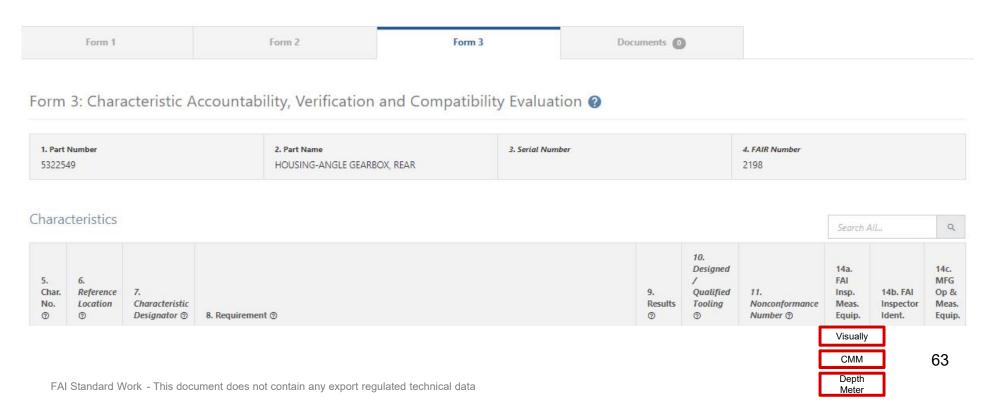


# Block 14a: FAI Insp., Meas., Equip.

Enter the inspection equipment used to accept the characteristic for the first article inspection lot.

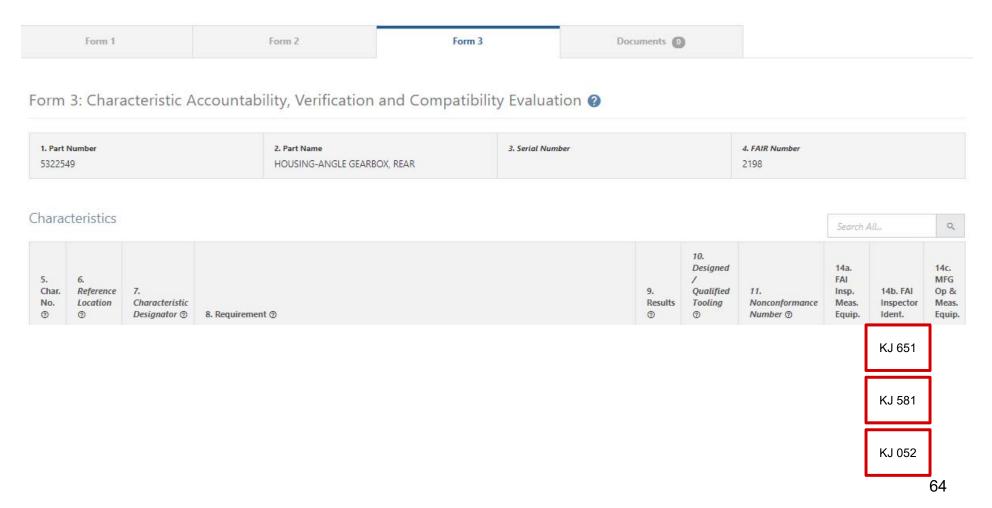
For Drawing notes with no measureable characteristics which list a Specification, enter "Specification" with the Specification number. Spec revision letter should be entered into block 14a or the comments box. For characteristics validated through a certification, enter "Certification" with cert number. For drawing notes with no measureable characteristics and Information enter "Information/Visual" per ASQR-01 Field 14 measuring equipment used as a media of inspection. For general notes found on the drawing, it is acceptable to enter "N/A". Tool number not required.

**Note:** Gaging accuracy and calibration shall comply with ASQR-01.FAI inspection measuring equipment must be capable of accurately measuring the specific requirement (i.e., radius gage, thread gage, surface plate, caliper, etc.). Suppliers must receive written approval to inspect outside these guidelines prior to submission of the FAI.



# Block 14b: FAI Inspector Ident.

Enter the operator or inspector ID that accepted the design characteristic.

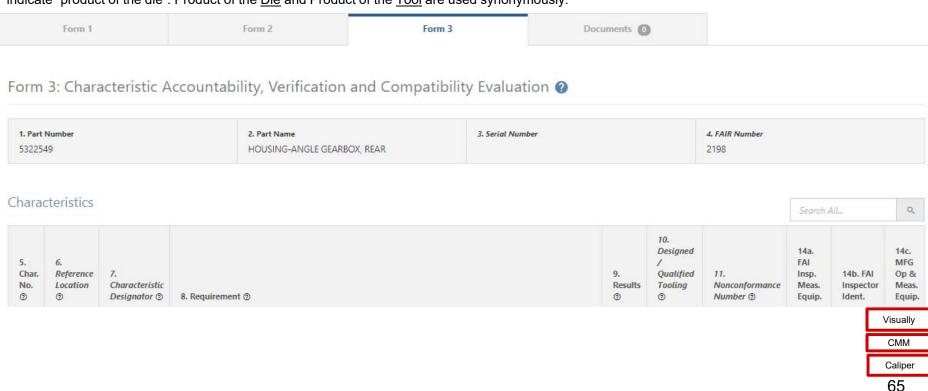


# Block 14c: MFG Op & Meas. Equip.

Two pieces of information are required.

- 1. Enter the inspection operation where the design characteristic is accepted. For example; Op 50, in process inspection # or final inspection.
- 2. Enter the production inspection equipment used to accept the design characteristic. This information may vary from block 14a based on supplier designed process. This should match the information on the inspection method sheets (IMS).

**Note:** For specification driven characteristics that do not require verification after FAI (such as ASQR-01) place "N/A" in this box. For PWQA 6078, indicate "product of the die". Product of the <u>Die</u> and Product of the <u>Tool</u> are used synonymously.



### **FORM 3: PART MARKING**

# Part Marking Requirements

Provide sufficient photos to demonstrate the marking location(s) and the content of the marking with their FAI submissions.

For example, one photo identifying the part as a whole with arrows indicating the part marking location(s), second photo zooming in on each location of the marking, and the third photo documenting the marking content.

This will allow P&W to verify that the marking location and content are compliant with P&W requirements during the FAI review. Additionally, indicate the marking methods used for each marking in the comments block of AS9102 Form 3. (Ref. EE 16-16A)

Part Marking Cell paperwork is required when a PPAP requirement must be met.

As of 04/01/2019 – All new parts must go through the part marking cell (not just PPAP parts). Part Marking Cell is not required on nonsalable Details, or on Details in an assembly joined together by a permanent method (i.e., welding).

### Overview Q & A

- When multiple characteristics appear in the field of the drawing and in the drawing notes what is the requirement for ballooning the drawing? *Each characteristic will be assigned a unique number for each location/position.*
- When the drawing has multiple pages how is the information be entered in block 6? *Drawing location zone and sheet number i.e. E4-2*
- When entering data in block 8 what is the information that is required? All drawing characteristics, features, symbols, note
  number and complete note.
- When no variable data applies what information is required in block 9? Accept
- Characteristics outside of the tolerance shall have a QN# or Deviation#, what block shall the nonconformance number be recorded? Form 1 Block 8, Form 3 Block 11 and form 1 checked incomplete
- Drawing notes with no measureable characteristics what information is going to be recorded in block 14? Information/Visual
- Drawing notes requiring validation of certification what information will be entered into block 14? Certification and certification #
- For variable dimension features, are min/max entries required? YES.
- When is the CMM program required on Form 3 Block 10? When it is an attribute feature. CMM program is attached & there is no requirement in AS9102 to put the CMM in Block 10.

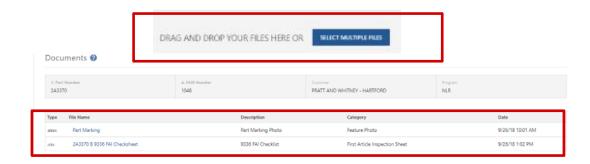
## **DOCUMENTS TAB**

# **Attaching Files**

Attach any files that should accompany the FAI (e.g. ballooned drawings, certifications, a bill of materials, etc.)

Drag & drop files from your computer into the "Drag and Drop" box or select multiple files at once by selecting the "Multiple Files" button.

Enter a description and category of each file that was attached. Then select "Upload" to attach all files at once. Files can no longer be attached to a FAIR that has been closed or submitted.



# **DOCUMENTS TAB**

#### **Attachment Notes**

**Details:** Attach all documents for the Detail FAI in 1 PDF (Microsoft Excel is not an acceptable format). Indicate in the file name that this attachment is a Detail.

Details can be linked to the assembly by using the "Link" button on Form 1. Form 1 Blocks 19 & 21 must be signed.

The Detail is not subject to review if the Detail FAI going into the top level is an existing FAI. The approved Form 1 is evidence that it is already approved.

**Traveler Documents:** Alternative documentation - the supplier can black-out information on the form, but OP number and specification to the process are required or the supplier can create an in-house CoC stating conformance to the process & attaching the document.

**Sub tier:** If a distributor purchases a part from a supplier, the distributor puts together the FAI in Net-Inspect and attaches Form 1 from the supplier. This applies when there is a new FAI for the distributor. If this is an existing FAI, the supplier does not need to submit in Net-Inspect because they have a signed Form 1 by the SQAR

The supplier can submit a previously signed Form 1 that was approved by the SQAR. This will be the only Form reviewed. If the supplier attached a full FAI and Form 1 is signed by a SQAR, 3<sup>rd</sup> party will not review Forms 2 & 3 of the attached approved documents.

Previously approved Form 1s can be flagged, "Not Complete". However, the new FAI should not be marked as "Complete" if this condition exists.

### **WORKFLOWS TAB**

#### 3<sup>rd</sup> Party Review

**Approve:** Select this option if there were 0 findings on the FAIR.

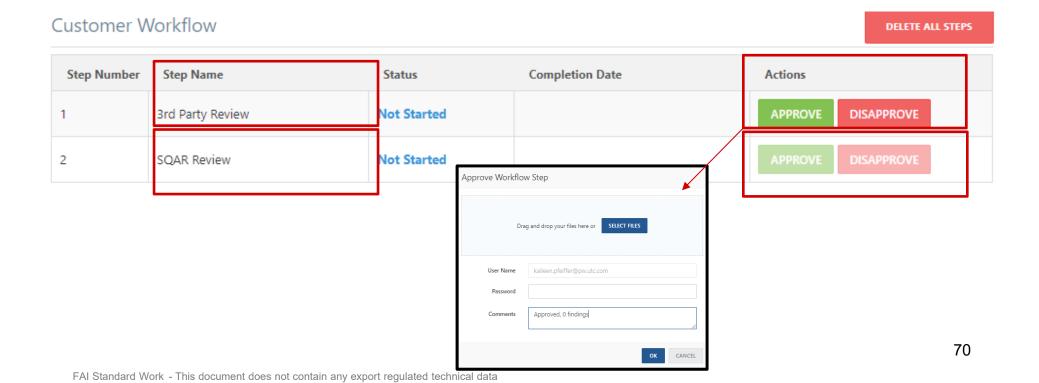
**Disapprove:** Select this option if there were findings on the FAIR or missing required documents.

#### **SQAR Review**

Approve: Select this option if the FAIR had 0 findings or objective evidence was submitted against findings and has been approved.

**Disapprove:** Select this option if there are findings on the FAIR or missing required documents.

The "Approve Workflow Step" window will appear after selecting approve or disapprove.



## **WORKFLOWS TAB**

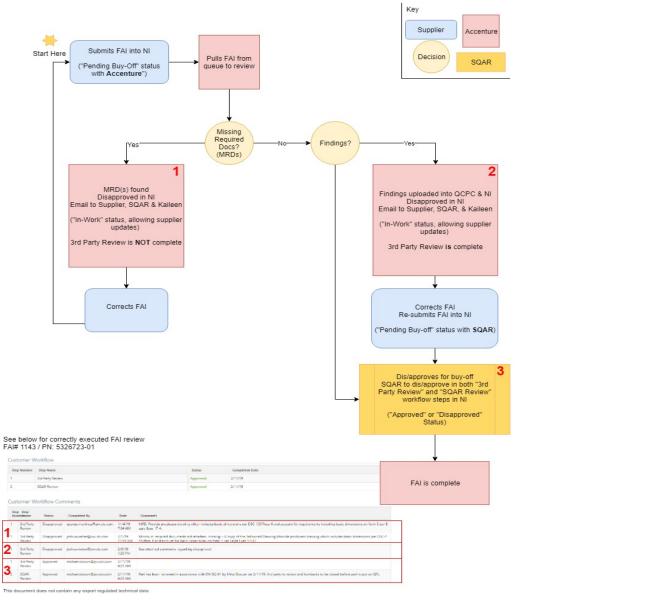
## **Customer Workflow Comments**

3<sup>rd</sup> Party Review & SQAR Review fields will populate automatically with the information selected from "Customer Workflow".

#### **Customer Workflow Comments**

Step Num	ber Step Name	Status	Completed By	Date	Comments	
1	3rd Party Review	Approved	Daniel.Gonzalez3@pw.utc.com	8/9/18 1:29 PM	FAI 2378 has no findings. Ready for approval.	
2	SQAR Review	Approved	levi.alvarez@pw.utc.com	8/10/18 7:55 AM		

# 3RD PARTY REVIEW PROCESS MAP



## NON-CONFORMANCE MATERIAL ACCEPTANCE

#### Item 1

#### Review e-QN approvals:

- Review e-QN's and verify if the e-QN is either a Deviation or Waiver type.
- A Deviation type e-QN accepts the submitted non-conforming condition for a limited time or for a limited number of pieces.
- A Waiver type E-QN accepts the submitted non-conforming condition which during production or after being submitted for inspection, depart from specified requirements, but is dispositioned by P&W suitable for "use as is".
- Verify quantity or time limit for deviation e-QN
- Review disposition action and if it has been implemented.
- If the disposition /corrective action is not implemented, you cannot sign-off the FAI complete. Check FAI not complete box. A Partial FAI will be required to close out any dispositions/corrective actions. After the Partial FAI is accepted, then the full FAI can be signed off complete.
- If there are no disposition/corrective actions required, the FAI can be signed-off complete.

#### NON-CONFORMANCE MATERIAL ACCEPTANCE

#### Item 2

- If applicable, review 56C for engineering approval of extended tolerances any dispositions:
- Review extended tolerance, are they accepted to the full amount request or to a lesser amount?
- You may use the 56C approved tolerance to accept the nonconforming item on the FAI.
- Verify that the new extended tolerance has been implemented in production work instructions, travelers, gauging.
- Is any disposition/corrective action required to implement the approved extended limits (revised tooling, gauging, work instructions, traveler)?
- If corrective action is pending, you cannot sign-off the FAI complete. Check FAI not complete box. A Partial FAI will be
  required to close out any tooling, gauging, work instruction or traveler corrective actions. After the Partial FAI is accepted,
  then the full FAI can be signed off complete.
- If there are no corrective actions required, the FAI can be signed-off complete.
- RMEA (Request for Manufacturing Engineering Appraisal, FORM-4563).
- A RMEA is a type of QN and is used to accept a non-conforming condition that will be eliminated through subsequent processing. The non-conforming condition will not be present on the finished part.

### NON-CONFORMANCE MATERIAL ACCEPTANCE

#### Item 2

- Review RMEA for approval signatures.
- There are three condition codes on a RMEA, Code A, B, and C.
- Code A, is accept as is. No further action required.
- If you have a RMEA with only Code A checked, you can sign off and approve the FAI.
- Subsequent articles of the same part number with departures identical or lesser in degree may be accepted by the supplier without processing another RMEA provided the part requirements have not changed since previous acceptance.
- Code B, Additional setup required:
- There is a cost penalty due to additional setup. When direct ship to a machining supplier, purchasing will coordinated the cost and time
  with the supplier before direct shipping. When shipping Code B, the material shall be segregated from conforming material and the SDS
  Label and Packing Slip shall be noted "RMEA Material, special handling required".
- A corrective action is required to correct the cause of nonconforming condition.
- If corrective action is pending, you cannot sign-off the FAI complete. Check FAI not complete box. A Partial FAI will be required to close out any corrective action.
- After the Partial FAI is accepted, then the full FAI can be signed off complete.
- Code C, Material rejected:
- Rejected material, not suitable for processing. A RMEA-QN shall not be resubmitted to P&W MRB.

### SPECIAL INSTRUCTIONS

- Subcomponent FAI/Detail parts: Previously SQAR/CQAR Approved Form 1 (Please provide SQAR/CQAR signed or approved Form 1) or full FAI package
- Detail FAIs for supplier owned design require minimum of supplier's form 1 with blocks 19 and 20 complete.
- Partial FAIs for details that do not affect form, fit or function of top level part are to be controlled and maintained by supplier.
   Accenture will not review.
- For detail components that are not stand alone top level parts, do not put PO in form 1, block 12 if creating FAI in IX/NI
- Form 1 is always required for a Partial FAI. Forms 2, 3 and supporting documentation are subject to change depending on the reason for the Partial FAI. If there are multiple Partials that were previously completed, attach the most recently approved P&W Form 1 (Full or Partial). The baseline revision should match the most recently approved Form 1 Revision. There must be a signature on Form 1.
- Duplicate Items on RCC and QAD shall have the same FAI number.
- Additional documents may be required for SQAR review and scanned into IX/NI but need not be reviewed by Accenture.
- There are two options for recording IC parts:
- 1) Produce one FAIR, listing both drawings in blocks 6 and 7, with both ballooned drawings attached and all requirements from both accounted for in forms 2 and 3. This is an ideal method for a supplier that will only ever use the one option(ex: Source controlled parts).
- 2) Produce two FAIRs: One for the IC part number and one for the option selected. The option selected will be listed on the form 1 of the IC FAIR in blocks 15-18. This is an ideal method for a supplier that may, depending on availability, need to switch between the options used(ex: Distributor FAIRs).

# TOP LEVEL REQUIREMENTS

# PW, PO Full & Partial

Program	Blue Print, PO, RCC, QAD	Support Data	FAI Package	
Military	Ballooned in IX	Scanned into IX or NI	Submit in Net Inspect	
Commercial	Ballooned in IX	Scanned into IX or NI	Submit in Net Inspect	
Non-Flight	Paper	Paper	Paper	
Shop Assist/Semi Fin	Mod Center to determine	Mod Center to determine	Mod Center to determine	