

# **IR 0451**

**BOEING DEFENSE SYSTEMS (BDS)  
St. Louis / St. Charles**

**BOEING GLOBAL SERVICES (BGS)  
St. Louis / Cecil Field**

## **Instructions for Submittal and Handling Of External Nonconformance Documents**

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Revision bars not used. Changes made to the following Sections: 2.2, 2.3, 2.5, 2.8, 2.11, 2.12.2, 2.22 - 2.30, 3, 5.1, 6.1, 8.4.4, 8.8, 9.2, 9.6, 10.2.6, 13.

IR0451 Content Owner – BDS St. Louis Quality – Material Review

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# 1 Introduction

The information contained in this document does not relieve the Supplier of any requirements invoked in the Boeing Defense Systems (BDS) or Boeing Global Services (BGS) Purchase Contract. BDS and BGS will hereafter be referred to as “Boeing”.

- 1.1 The purpose of this document is to provide:
  - 1.1.1 A process to request a Boeing material review disposition for Supplier identified nonconformance.
  - 1.1.2 Guidance on documenting nonconformances for Boeing Suppliers, Boeing Field Teams, or Commercial Customers (including Retrofit Mod Teams, Spares, etc.).
- 1.2 This document shall be used when a nonconformance is identified by a Supplier on a part, assembly or tool that is either procured or produced by Boeing. This process also applies to Suppliers who use Boeing supplied tooling.
- 1.3 This document shall be used by Suppliers that have been delegated Material Review Authority (MRA) when the situation exceeds the authority granted by their MRA letter (see D950-11135-1).
- 1.4 Boeing reserves the right on whether or not to conduct a review and complete a disposition on a supplier nonconforming part. If Boeing does not elect to provide an MRB disposition of the nonconformance the supplier will be notified.
- 1.5 Strict adherence to the requirements of this document is critical for timely completion of the disposition process.

## 2 Requirements for Supplier Submittals

- 2.1 Nonconforming product requiring Boeing disposition shall be reported to Boeing immediately upon discovery of the noncompliant condition, submittals will be processed by Boeing MRB.
  - 2.1.1 To insure data integrity all submissions shall be submitted directly by the supplier, not Boeing representation of the supplier.
  - 2.1.2 The Supplier shall maintain a documented process that identifies, segregates and controls nonconforming product at all times.
  - 2.1.3 The nonconforming product shall be clearly identified as nonconforming.
  - 2.1.4 Apart from the exceptions noted in 2.2.1, product nonconformances which involve rework to Engineering Requirements or scrap of supplier owned material do not require submittal for Boeing disposition. See exceptions for Boeing Furnished Material in paragraph 2.5.
  - 2.1.5 If the Supplier is uncertain as to whether Boeing disposition is required or clarification regarding IR0451, contact the Boeing Procurement Agent to receive direction from Boeing MRB Quality Assurance.
  
- 2.2 A Boeing NCR is not required for Supplier parts if the Supplier can Rework the conditions to fully conform to Purchase Contract (PC) and / or B/P or model specifications (which includes Process Specifications (PS) requirements), or for Scrap of Supplier owned material which is obviously unfit for use and/or not economically repairable.
  - 2.2.1 Examples that exceed Rework Authority (i.e. Repairs require submittal to Boeing – See definition of **Rework** in Section 13):
    - 2.2.1.1 Removal of permanent fasteners to fix a non-fastener rejection condition is a Repair if the PS does not authorize action for addressing the specific condition (such as a mismatch).

**NOTE:** A specification that provides instructions in how to remove permanent fasteners, but does not provide the specific condition under which they may be removed, does not meet this requirement.
    - 2.2.1.2 Machine burn on the surface due to possible overheating of Titanium is not a Rework condition.
  
- 2.3 Work may continue when necessary on products identified as nonconforming as long as the area being worked does not alter the nonconforming condition or the ability to perform a repair of the nonconforming condition. The area of the nonconformance must not be worked until the disposition is approved and received back from Boeing MRB.

- 2.3.1 No additional units shall be introduced into production beyond the sequence where the nonconforming condition is introduced without approval from Boeing. The nonconforming product(s) must not be installed into the next assembly.
- 2.3.2 The decision to continue scheduled work on the nonconforming product(s) already in progress shall be at the Suppliers Risk, and shall be considered “Work at Risk”. Should Boeing determine the product is not salvageable, Boeing will not be liable for the costs associated with “work at risk”.
- 2.4 Nonconforming parts / assemblies / tools **SHALL NOT BE SENT TO BOEING OR ANOTHER SUPPLIER UNTIL A DISPOSITION IS RECEIVED FROM BOEING MRB AND COMPLIED WITH,** or until written authorization is provided by Boeing MRB to ship on an open NCR.
- 2.5 A Boeing NCR is required for defects found on Boeing Furnished Material (BFM) regardless of responsibility. That includes those not caused by the Supplier (i.e. when delivered to the supplier) or those which are caused by the Supplier (i.e. damaged while stored at the supplier’s location). This includes the following:
  - 2.5.1 Nonconforming BFM that will be consumed into an assembly by the Supplier shall be submitted on an SQIS MR submission. The PC and line item for the assembly or final part number and serial number shall be used to populate the SQIS MR submission. Do not submit the SQIS MR against the BFM supplier’s PC, Line Item. Boeing will adjust the responsibility code for these NCRs to Internal Procurement to avoid charging suppliers for the discrepancy.
  - 2.5.2 Nonconforming BFM to be returned to Boeing or scrapped shall be submitted on a MAC861MRB form to [mrb101@mw.boeing.com](mailto:mrb101@mw.boeing.com). The PC and line item on the MAC861MRB form can be left blank. The PC and LI for assembly or final part number and serial number should be included in the MAC861MRB discrepancy text along with the BFM defective part detail description. Boeing will adjust the responsibility code for these NCRs to Internal Procurement to avoid charging suppliers for the discrepancy. All BFM parts returned to Boeing shall not follow delivery instructions on the Purchase Contract, but shall be delivered to the following address:

Building 101:  
THE BOEING COMPANY (MRB CRIB)  
GATE 101, AIRPORT ROAD  
EAST DOCK 101, DOORS 5 - 8  
BERKELEY, MO 63134

- 2.6 NCR Documents **shall not** be used to document such things as errors in blueprints or certifications, design deficiencies, missing kit parts, part shortages, requests to ship incomplete parts, design change requests, deviation requests, requests for product / material substitutions, incomplete testing or already delivered product. Contact Boeing Purchase Agent for instructions for appropriate submittal of these issues.
  - 2.6.1 Engineering issues may be documented on NCR documents for Tooling issues in the following instances.
    - 2.6.1.1 The tool will not produce a part or assembly to engineering requirements.
    - 2.6.1.2 The tool has the potential to damage a part or assembly.
    - 2.6.1.3 The tool has the potential to injure the operator or surrounding personnel.
- 2.7 NCR Documents **shall not** be used for delivered product:
  - 2.7.1 Post Delivery Contracts including warranty claims, QDRs, RODs, SDRs or FPRs.
  - 2.7.2 Supplier disclosures or Notice of Escapements (NOE) of parts / assemblies / tools already delivered to Boeing (or a Boeing Supplier or Customer). Refer to the Purchase Contract for the appropriate NOE process (See PC Clause Q320).
- 2.8 Only 1 Purchase Contact (PC) and Line Item can be submitted per document. The PC and Line item used must have enough open quantity to cover the number of parts in the request.
- 2.9 Previous NCRs on similar conditions shall be referenced in the nonconformance following the IS Condition to aid in evaluation, but the NCR **must not** depend upon another document to explain the discrepancy.
- 2.10 Each nonconforming characteristic shall be numerically listed and requires a separate entry on the nonconformance record.
- 2.11 Product definition and the defect description of the condition submitted on the Supplier Quality Information System Material Review Module (SQIS-MR) or MAC861MRB form shall include all that is needed to enable Boeing MRB to understand the discrepancy and provide the permanent record of the nonconformance. The closed NCR is a record of the delivered product configuration. It is important that nonconformances are clearly and accurately written and contain enough information to allow Boeing MRB to efficiently evaluate and disposition the NCR.

- 2.11.1 Reported nonconformance shall contain the following in the “As-Is” defect description:
  - 2.11.1.1 Document the actual (nonconforming) condition of the product in a clear manner to provide a complete understanding of the situation.
  - 2.11.1.2 See Para. 5.1.1 for additional training / instruction files.
- 2.11.2 Reported nonconformance shall contain the following in the “Should Be” defect description: The condition / requirement which the part should be conforming to.
  - 2.11.2.1 See Para. 5.1.1 for additional training / instruction files.
  - 2.11.2.2 Specify the engineering definition used to identify the defect in the “Should Be” statement of the discrepancy.
  - 2.11.2.3 Specify the Engineering Drawing (blueprint) revision level, sheet number and zone for all discrepant dimensions.
  - 2.11.2.4 For model based defined parts, state the model number and revision level.
  - 2.11.2.5 Specify the Engineering Drawing or model based definition dimension and tolerance.
  - 2.11.2.6 Enter the percentage of completion of failed part / assembly / tools, e.g. 25%, 90%, or 100% complete.
  - 2.11.2.7 Indicate inspections completed to date.
  - 2.11.2.8 Indicate which processing operations (e.g. anodize, prime, plating, etc.) have been performed and those which are pending.
- 2.11.3 Additional information may be required for individual submissions. For a complete list of additional information to be added to the “As-Is” and “Should Be” statements, see Para. 5.1.1 for additional training / instruction files.
- 2.11.4 If additional attachments need to be provided for your submittal which exceed the size limitation of SQIS MR, the attachments shall be sent to the following email. The email subject must contain a reference to the Boeing NCR number.
  - 2.11.4.1 For BDS: [mrb101@mw.boeing.com](mailto:mrb101@mw.boeing.com).
  - 2.11.4.2 For BGS: [BGSMRB@exchange.boeing.com](mailto:BGSMRB@exchange.boeing.com).
- 2.12 The Failed Part Number or Discrepant Part Number shall be the most obvious part that contains the defect. The following exceptions apply when identifying the failed part number.

2.12.1 When more than one part is affected by the discrepancy, the first part affected shall be entered as the Failed Part Number or the Discrepant Part Number so consistent rejection data can be maintained. If a part with critical material requirement (Criticality hierarchy: FCT, FC, SOF, CSI, Interchangeable, Replaceable, MC) is affected by the discrepancy, the failed part number shall always be the part number with the most critical material requirements. Defects impacting multiple critical parts shall record traceable parts in the failed part number field. The criticality of all other parts shall be documented in the discrepancy field. The discrepancy text shall include callout of all parts that are affected by the discrepancy. The other affected parts shall be documented in the reference part field. The critical material requirements for referenced part numbers shall be denoted in the discrepancy field, as applicable.

Example: A hole is drilled oversize in a moldline skin only. The skin mates with multiple details, one of which has critical material requirements. The moldline skin shall be entered into the failed part number field.

Note: If the repair will involve critically classified parts, the failed part number will be updated to reflect the critical parts as noted in the above example.

- 2.12.2 For TCA (Traceable Critical Assembly), the assembly number shall be entered as the failed part number, the serial number of the assembly shall be documented in the S/N field. The S/N shall contain the serial number only without any data identifiers. Part numbers, criticality levels and S/N for traceable details must be identified for all discrepant critical parts.
- 2.12.3 For all assembly defects, if critical parts are not affected, when more than one part is discrepant, the first part affected shall be entered, e.g., for a hole drilled through more than one part, the first part drilled into is entered as the failed part number. (Note: for assembly defects, do not enter the panstock part numbers as the failed part number, i.e., fasteners, gang channels, platenuts, etc.).
- 2.12.4 For an assembly with multiple defects involving multiple parts enter “See Entries” in the failed part number field and in each entry document the failed part number for that entry. Identify the failed part number in accordance with this section. Begin entry text with failed part number, followed by the “Should be” and “AS-IS” conditions.
- 2.12.5 When the supplier has assigned their own part number identification to a part, it is the Boeing part number that shall be entered in the failed part number field.

- 2.12.6 Enter information about the specific part or detail that actually failed. The most obvious detail part number or software identification number of the item having the nonconformance shall be entered in the failed part number field. If the detail part number cannot be readily determined, the assembly part number shall be entered. In all areas, the planning detail part or assembly dash number shall be entered when available, e.g., 74AXXXXXX-5XXX for F- 18, DAXXXXXXXX-4X for T-45. The Boeing detail part number is preferred when known, however, notation of the Engineering dash number is required in the text.
- NOTE: Do not use any Supplier assigned dash numbers on Boeing MAC861MRB form or MR submittal.
- 2.13 When parts / tools do not pass required conductivity or hardness test, the Supplier shall list conductivity / hardness test requirements values and the results for any / all specimens tested and indicate whether these values were accepted or rejected.
- 2.14 When test specimens (tensile, fracture toughness, etc.) are rejected, the Supplier shall list the test requirements and the values for rejected specimens along with values for any/all specimens that were accepted. Abnormalities with the test specimens or test procedure shall also be documented. Any excess specimens/stock that may exist for retest purposes shall be noted on the tag submittal.
- 2.15 Nonconforming raw materials or detail parts shall not be incorporated into a part / assembly without an authorizing Boeing MRB document.
- 2.16 When the rejection involves parts / tools for which the engineering definition is owned by the supplier, and not stored in REDARS / EAD at Boeing, a copy of the relevant engineering definition shall be included as an attachment with the submittal.
- 2.17 The assigned product definition names shall be used in the defect description, i.e., longeron, stiffener, aileron, etc. – reference the product definition part list. Include feature names when practical. Such as flange, web, hole, surface, etc.
- 2.18 Defects created by impact damage shall be reported using the appropriate damage code. The results of any visual inspection or NDT performed to identify extent of damage shall be documented on the nonconformance document. The cause of the damage shall be noted when known.

- 2.19 Nonconformance of composite parts having visual or suspect conditions such as cracks, delaminations, unbonds, etc. require additional Nondestructive Inspection (NDI) , by operators certified per NAS410.
- 2.19.1 Nonconforming NDI findings shall contain graphic attachments (such as photograph, drawing, X-Ray image, C-scan image, etc.) depicting the characteristics of the nonconformance, specific location, shape and size of defect areas and reference any applicable process specification.
  - 2.19.2 When NDI is performed and no further defects are found, it is recommended to include a statement of “No damage beyond visual noted by document initiator” prior to submission of the NCR to Boeing for disposition.
  - 2.19.3 In cases where NDI cannot be performed and/or results are inconclusive, a statement shall be included by the supplier as part of their submittal.
- 2.20 The defect count represents the number of defects associated with one nonconformance.
- 2.20.1 When the part quantity is one the number of defects associated with the nonconformance will be totaled (e.g. 6 hole defects on 1 part = 6 defects).
  - 2.20.2 When multiple pieces are nonconforming the defect count shall be cumulative (e.g. 6 hole defects on 6 parts = 36 defects).
- 2.21 The nonconformance document shall provide specific information for each part. For multiple parts, each part must be temporarily serialized and the discrepant measurement of each part must be reported. Reporting a range of discrepant values for multiple parts is not acceptable. A sketch may be used with letters in place of firm dimensions. A table must then be added to the nonconformance, relating the dimensions for each serial number to the part.
- 2.22 When describing nonconformance discrepancies for assembly engineering requirements, such as; short edge distance, assembly interference, assembly misalignment, insufficient clearance, riding conditions or out of tolerance assembly gap, the statement shall include a description of the detail dimensions affecting the condition. The additional information shall be limited to conditions that can be made to identify key characteristics without disassembly of the product or use of extraordinary methods of measurement.

- 2.23 Undercuts and Undersize conditions shall be reported as separate conditions.
  - 2.23.1 An undercut has a visible edges and is usually caused by a cutter overrun.
  - 2.23.2 An undersized condition generally affects the entire surface, has little or no distinct edge and is usually caused by tooling set up mis-location. Providing a thickness grid of the affected area will expedite the review of the NCR.
  
- 2.24 For Undersize conditions that are difficult to describe (non-linear taper) a grid showing the remaining thickness of material in the discrepant area must be reported.
  - 2.24.1 The grid size and spacing should be as required to define the condition's shape and tapers.
  - 2.24.2 For tapered areas the grid should extend until engineering minimum thickness values or greater are obtained and those values shall be recorded in the grid to clearly show where the part thickness returns to be within engineering tolerance.
  
- 2.25 In subsequent correspondence after the initial submittal, the subject line for all Partial, Corrected Information and Notice of Revision (NOR) submittals must contain the Boeing NCR number, Failed Part Number, Purchase Contract and Line item.
- 2.26 Uncommon abbreviations may only be used if previously spelled out in the document.
  - 2.26.1 Introducing spaces or incorrect numbers and abbreviations will hinder searches meant to speed up the review process.
  
- 2.27 Provide the technical point of contact name, phone number and email address in the discrepancy statement when the person submitting the ND is not the technical point of contact.
  
- 2.28 NCRs initiated by the supplier (for Supplier responsibility) will affect the Supplier's Quality Rating in the Enterprise Supplier Performance Measurement system (ESPM) beginning January 1, 2021. As a minimum, notification for corrective action (NN) will be issued thru SQIS for each Supplier initiated NCR. Boeing may request additional formal corrective action for repetitive conditions, excessive requests or continual inaccurate submittals (e.g. incorrect information, missing information, graphics or MAC861MRB).
  
- 2.29 Suppliers shall not request a Change of Charge (CoC) via a SQIS MR or an MAC861MRB Form submittal.
  - 2.29.1 Change of Charge requests should be submitted in Supplier Quality Information System (SQIS) CA Module.
  - 2.29.2 Suppliers must include rationale for the Change of Charge in clear concise language, including all pertinent details necessary to evaluate the validity of the request.

- 2.29.3 A SQIS CoC, even if accepted, does NOT give the supplier authorization to ship a part back to Boeing. The supplier MUST follow the instructions on the NCR for return to Boeing. Any CoC request in SQIS MUST include the non-conformance number you obtain from the SQIS-MR / MAC861MRB NOR process or the request will be rejected.
- 2.30 If Boeing Quality / Engineering personnel were contacted prior to the NCR submittal, please include names and telephone numbers in discrepancy section and reference any Boeing Engineering Variance or Order, Boeing Requirements Change Proposal (RCP) or Configuration Change Proposal (CCP) related to the condition documented.

### 3 Graphics / Attachment Requirements

- 3.1 Use of graphics, a sketch or a digital photograph of the nonconforming condition and surrounding area is recommended. Multiple graphics, sketches or photographs may be required to orient the viewer to the defect location on the part/assembly/tool. A close-up photograph may also be helpful to adequately define the details of the defect. All graphics, sketches and photographs shall be clear and legible.
- 3.2 The discrepancy detail text must refer to each file name in the text description of the defect.
- 3.3 Attach the graphic package to the discrepancy that it pertains to.
- 3.4 When the graphics package applies to all discrepancies attach it to the 1<sup>st</sup> discrepancy only.
- 3.5 Graphics associated with discrepancies submitted for review (i.e. digital photos, sketches, etc.) will be any of these electronic formats: .PDF, .TXT, .DOC, .PPT, .XLS, .TIF, .JPG, or .GIF.
  - 3.5.1 When submitting a pdf file as an attachment in SQIS the file shall be made “Inactive”.
  - 3.5.2 When submitting a MAC861MRB form via email as a pdf file the file shall be “Active”.
  - 3.5.3 The following naming convention for attachments will be used to identify the attachment file(s).
    - 3.5.3.1 The file name shall be less than 20 characters long.
    - 3.5.3.2 The file name shall individually identify different files.
    - 3.5.3.3 The recommended file naming convention for discrepancy graphics is as follows: (Supplier ND Number\_discrepancy number\_graphic number\_file type) See the following examples of discrepancy graphics:
      - 3.5.3.3.1 If there is more than one graphic in the discrepancy the naming should be per discrepancy and number of graphics. An example of one discrepancy with three graphics follows:
        - 3.5.3.3.1.1 ND3667\_D1\_G1
        - 3.5.3.3.1.2 ND3667\_D1\_G2
        - 3.5.3.3.1.3 ND3667\_D1\_G3

3.5.3.3.2 If there are several discrepancies documented on the ND illustrated in several graphics the naming would be per discrepancy then graphic number. An example of 3 discrepancies with four graphics follow:

3.5.3.3.2.1 ND3667\_D1\_G1

3.5.3.3.2.2 ND3667\_D1\_G2

3.5.3.3.2.3 ND3667\_D2\_G1

3.5.3.3.2.4 ND3667\_D3\_G1

3.5.3.3.3 If there are several types of graphics add a graphic type to end of file name. See the following examples:

3.5.3.3.3.1 ND3667\_D1\_G1\_TR (example test report)

3.5.3.3.3.2 ND3667\_D1\_G2\_EX (excel)

3.5.3.3.3.3 ND3667\_D2\_G1\_PPT (power point)

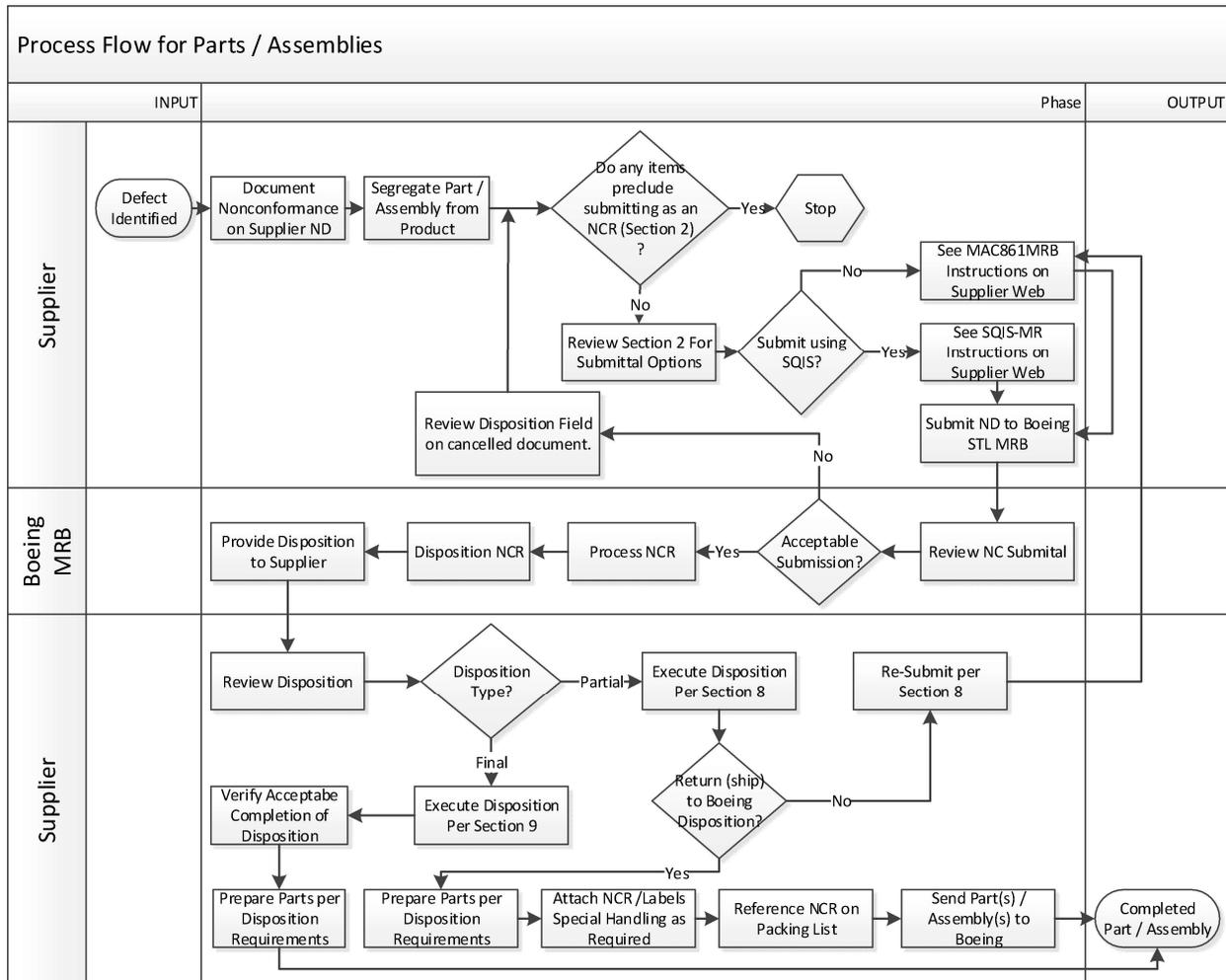
3.6 The graphic representation of the sketch or photograph must contain enough information to link the sketch to the ND. The following should appear on the sketch or photo when printed:

- 3.6.1 File Name
- 3.6.2 Date of Creation
- 3.6.3 Name of person providing the information
- 3.6.4 Supplier ND and Discrepancy Number
- 3.6.5 Aircraft Orientation or Part Orientation
- 3.6.6 Identify the defect on the sketch or photo

3.7 Enter the percentage of completion of failed part / assembly / tools, e.g. 25%, 90%, or 100% complete

- 3.7.1 Indicate inspections completed to date
- 3.7.2 Indicate if processing operations (e.g. anodize, prime, plating, etc.) have been performed.

## 4 Basic Flow



## 5 Nonconformance Submittal Systems

5.1 The submittal will be made using either the Supplier Quality Information System Material Review Module (SQIS-MR) or MAC861MRB Form depending upon the program. All Tooling nonconformances for all programs shall be submitted on a MAC861MRB form. For the purposes of compliance to the requirements contained within this document, the term “MRR” used in the SQIS-MR system and SQIS MR Instructions is consistent with the term “NCR” used herein. The term “PO” used in the SQIS-MR Instructions is consistent with the term “PC” used herein.

5.1.1 The following website contains additional training and instructions -  
[http://www.boeing.com/supplier\\_portal/bdsSiteReqs.html](http://www.boeing.com/supplier_portal/bdsSiteReqs.html)

5.1.1.1 SQIS MR Instructions – Requirements for submitting a SQIS MR.

5.1.1.2 MAC861MRB form

5.1.1.3 MAC861 Instructions – Requirements for completing a MAC861MRB form.

5.1.1.4 IR0451 Defect Descriptions – Listing of information needed for a given type of defect.

5.1.1.5 SQIS MR Process Defect Code – a list of possible Process and Defect codes to select when submitting a SQIS MR.

5.1.1.6 NCR Discrepancy Submission Checklist – a checklist containing the mandatory information to be included for IS / SB statements for a SQIS MR submittal.

5.1.2 The initial nonconformance for parts / assemblies for the following Program(s) shall be submitted via SQIS-MR.

5.1.2.1 **BDS Production Programs:** All programs (F15, F18, T7, MQ-25, 777X, etc.).

5.1.2.2 **Weapons Programs:** Cruise Missile Systems (CMS), Harpoon, SLAMER (may be listed as HARP/ER, IWIU & SBRC).

5.1.2.3 **BGS Programs:** Out of Production Spares (AV8, T45, KC-135, B52, B2, F22, etc.), Retrofit, Repair of Repairables (ROR), Modifications, Repairs, Virtual Warehouse, IWAs, etc.

5.1.3 Unless otherwise directed by the Boeing Procurement Agent or the purchase contract, nonconformances for the following Program(s) shall be submitted using the MAC861MRB form:

5.1.3.1 **Training Systems and Government Services (TSGS):** Email to [288-Mrb@boeing.com](mailto:288-Mrb@boeing.com)

5.1.3.2 **GFE / GOM:** Email to [mrb101@mw.boeing.com](mailto:mrb101@mw.boeing.com)

5.1.3.3 **QF-16:** Email to [cecilfieldqa@boeing.com](mailto:cecilfieldqa@boeing.com)

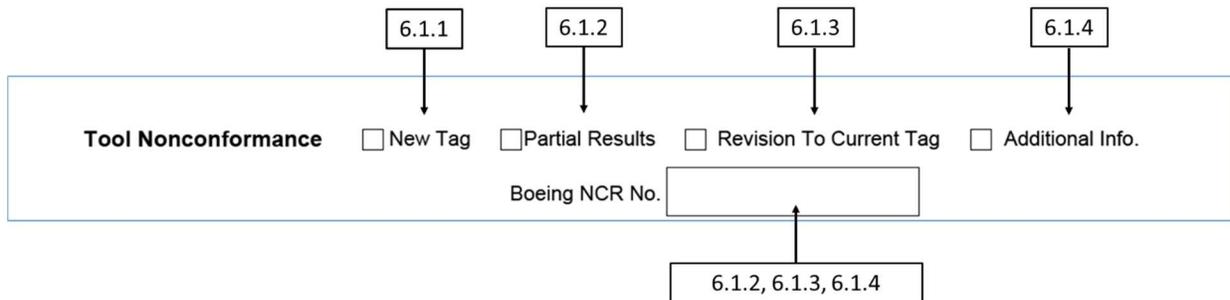
5.1.3.4 **Tooling:** Email to [mrbtool@exchange.boeing.com](mailto:mrbtool@exchange.boeing.com)

5.1.3.5 **Phantom Works:** Procurement Agent must be contacted for tag submittal instructions.

- 5.1.3.6 **Weapons:** Direct Attack programs (such as JDAM, SDB, LASERJDAM, MOP, HAAWC and B61) shall be submitted directly to the Boeing Procurement Agent / Supplier Manager.
- 5.1.3.7 **A-10 ATTACK:** e-mail to [A10MRB@boeing.com](mailto:A10MRB@boeing.com)
- 5.2 Do not submit a duplicate SQIS-MR or MAC861MRB. Suppliers must not submit the same nonconformance by more than one method or more than one time.
- 5.3 Only one MAC861MRB form shall be submitted with its associated graphics per email.
- 5.4 For an initial MAC861MRB submission the part number and the supplier internal ND document number shall be included in the subject line of the Message Courier submission.
- 5.5 A MAC861MRB form is required for any follow-on communications, revisions or changes to any initial submission regardless of the initial submittal method. The NCR number shall be included in the subject line of the Message Courier submission.
- 5.6 In lieu of submitting the MAC861MRB form via Message Courier or the SQIS-MR, suppliers supported by an on-site Boeing production support team may submit their supplier ND for the local creation of a Boeing NCR.
- 5.7 For suppliers operating under MRA agreements the following situations require submittal of an NCR to Boeing MRB for coordination and further processing:
  - 5.7.1 Scrapping or returning BFM.
  - 5.7.2 When shipping product on an open NCR for further work to be performed at Boeing.

## 6 How to Select the Proper Tooling NCR Types

- 6.1 When submitting the MAC861MRB form for a Tooling nonconformance select the applicable information box across the top of the form, on page 4. The Boeing NCR number must be provided by the supplier when resubmitting or referencing a previous NCR. (Paragraphs 6.1.2 thru 6.1.4). Only one of the following boxes shall be selected:
- 6.1.1 New Tag – First Time Submittal of nonconformance.
  - 6.1.2 Partial Results – Return of information required per a partial or temporary disposition from Boeing. Enter the number of the NCR requiring the revision.
  - 6.1.3 Revision To Current Tag – Used to submit a notice of revision (NOR) to revise an NCR after Boeing has provided a final disposition. Enter the number of the NCR requiring the revision.
  - 6.1.4 Additional Info – For the submittal of pertinent / additional information regarding the nonconformance after the original submittal. Enter the number of the NCR requiring the revision.



## 7 What to do when Boeing Cancels a Submission

- 7.1 Upon receipt of a SQIS-MR request or a MAC861MRB form at Boeing, MRB QA personnel will either approve or cancel the request. The Supplier will be notified with reasons for any cancelation and shall address the problems documented and submit a new request. When resubmitting a new request of a canceled submittal, include in the "Cause Statement" a reference to the canceled NCR.
  
- 7.2 Based upon part need, cost, discrepancy type, number of occurrences of the discrepancy or other factors, Boeing may elect to reject the request and not provide a disposition. The following notification or similar will either be provided in the disposition field of the SQIS-MR record or via email for requests outside of SQIS-MR:  
"This NCR is rejected by Boeing. An engineering disposition will not be processed for this item. Do NOT re-submit this nonconforming condition for this part number under any Boeing purchase contract, without prior written approval of Boeing St. Louis. Please proceed with performance of Supplier's obligations in accordance with the terms of the Boeing purchase contract."

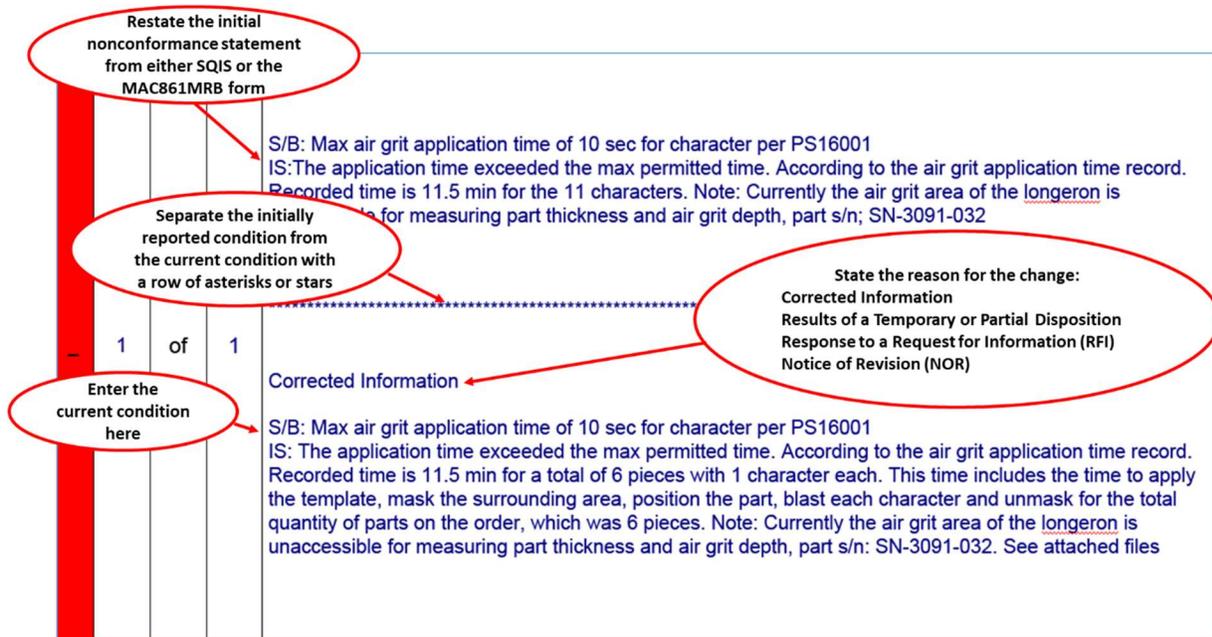
## 8 What to do when a Supplier wants to submit Corrected Information or Temporary / Partial Results (RFI, Rework or Repair)

- 8.1 Corrections or responses to a previously submitted MAC861MRB or SQIS-MR submittal shall be submitted on a MAC861MRB form. See “MAC861 Instructions”. Do not create a new SQIS-MR submittal for changes to an existing submittal.
  - 8.1.1 Mark the box for Corrected Information when the supplier is sending in correction for information the supplier has previously submitted (Only use prior to receiving the Boeing disposition).
  - 8.1.2 When re-submitting graphics / attachments for Corrected or RFI Results, highlight the changed information.
- 8.2 Mark the box for Partial Disposition Results when the supplier is responding to an RFI Rework or Repair disposition. Also provide the Boeing NCR number. See Section 6 for submitting Corrected Information or RFIs on Tooling NCRs.

The diagram shows a portion of a form with the following fields and callouts:

- Date of this submission**: A text input field.
- Part Nonconformance:** A section header with three checkboxes:
  - New Tag
  - Corrected Information (circled in red, with callout 8.1.1 pointing to it)
  - Partial Disposition Result (circled in red, with callout 8.2 pointing to it)
- Boeing NCR No.**: A text input field (circled in red, with callout 8.2 pointing to it).
- NOR (Revision to Final Disposition)**: A checkbox.

- 8.3 Submitting updates to any NCR submission
  - 8.3.1 To initiate a request for any type of update to a previous submittal, submit a new MAC861MRB form checking appropriate box at the top of the form. The following formatting requirements must be met or the submittal will be rejected back for corrections:
    - 8.3.1.1 When submitting any type of update request, the supplier shall retain the initial “As-Is” and “Should Be” in the request.
    - 8.3.1.2 For any type of update the supplier shall respond to all discrepancies in the NCR. For those discrepancies not affected include a banner stating:  
\*\*\*\*\* NO CHANGE THIS DISCREPANCY \*\*\*\*\*
    - 8.3.1.3 The new standalone current/corrected “As-Is” and “Should Be” detailed text shall be documented beneath the initial discrepancy text separated by a row of asterisks or stars (\*\*\*\*\*). See Example below:



8.4 Supplier corrections or responses for Temporary Disposition Results, Revisions to Current NCRs, Addition Information for original submittals and communications with Boeing MRB shall be submitted through the following email addresses:

- 8.4.1 **BDS MRB:** [RFIPartialResultsNOR@exchange.boeing.com](mailto:RFIPartialResultsNOR@exchange.boeing.com)
- 8.4.2 **BGS MRB:** [BGSMRB@exchange.boeing.com](mailto:BGSMRB@exchange.boeing.com)
- 8.4.3 **Tooling MRB:** [mrbtool@exchange.boeing.com](mailto:mrbtool@exchange.boeing.com)
- 8.4.4 **Harpoon / SLAM / ER:** [mrb-harpoonslam-er@mw.boeing.com](mailto:mrb-harpoonslam-er@mw.boeing.com)

**8.5 Corrected Information (prior to receiving a Boeing disposition)**

- 8.5.1 The NCR is no longer required (provide reason for cancelation).
- 8.5.2 There has been a change to a prior condition (provide reason for change).
- 8.5.3 Additional defect discovered on the part / assembly / tool.
- 8.5.4 Change to a Boeing PC item quantity or status.

**8.6 “Request for Information” (RFI) Disposition**

- 8.6.1 Suppliers receiving a request from Boeing MRB for additional or clarifying information regarding the defect description shall have **FIVE (5) working days** to respond to Boeing MRB. Failure to provide a response or estimated completion date may result in a closed NCR / NOR with a “Not Acceptable to Boeing” disposition. A formal request for corrective action may be issued to the Supplier for not following these requirements.

## 8.7 “Supplier Repair” or “Supplier Rework” Partial Disposition

- 8.7.1 When a partial disposition requires the Supplier to perform repair actions, prior to providing the part to Boeing, the Supplier shall perform these actions in an expedited manner and communicate delivery status / date to the Boeing Procurement Agent. The part shall be shipped to Boeing only on the PC line item noted in the NCR.
- 8.7.2 Suppliers receiving a temporary disposition from Boeing MRB for any Repair / Rework shall have **Thirty (30) working days** to provide information to Boeing MRB. Failure to provide a response or estimated completion date may result in a closed NCR / NOR with a “Not Acceptable to Boeing” disposition. A formal request for corrective action may be issued to the Supplier for not following these requirements.

## 8.8 “Ship to Boeing / Return to Boeing” Disposition

- 8.8.1 Comply with the disposition and instructions in the NCR.
- 8.8.2 Complete Purchase Contract requirements.
- 8.8.3 Apply an NCR hold tag Form X34355 in the area of the nonconformance.
- 8.8.4 Rubber ink stamp NCR # in area of Part Number.
- 8.8.5 The supplier shall mark the shipping container with an NCR hold tag Form X34355, attaching it to the outside of the box.
- 8.8.6 Clearly mark the box with “Attn: Material Review Crib Personnel - MRB item enclosed”.
- 8.8.7 The Open NCR number shall appear on the shipment packing list.

## 9 What to do when a Supplier Receives a Final Disposition

### 9.1 General Information:

- 9.1.1 Material review parts / assemblies shall not be sent to Boeing in the same container as “good” parts.
- 9.1.2 In order for Boeing to properly control and process material reviewed parts, the parts must be identified as defined herein plus any instructions provided in the MRB disposition. For additional identification information and/or requirements, reference PS16001 and MIL-STD-130.

### 9.2 “Use As Is” Disposition

- 9.2.1 On all dispositions where the discrepancy is visible or will be visible after any work has been performed, the product will be identified with the nonconformance number for traceability using the appropriate method per PS16001. This requirement will be stated in the disposition, when required.
  - 9.2.1.1 Where practical, place the nonconformance number in the area of the nonconformance.

### 9.3 “Supplier Repair” Disposition

- 9.3.1 Perform the Repair per the disposition.
- 9.3.2 On all dispositions where the discrepancy is visible or will be visible after any work has been performed, the product will be identified with the nonconformance number for traceability using the appropriate method per PS16001. This requirement will be stated in the disposition, when required.
  - 9.3.2.1 Where practical, place the nonconformance number in the area of the nonconformance.

### 9.4 “Supplier Rework” Disposition

- 9.4.1 Perform the Rework per the Disposition.
- 9.4.2 No ink stamping of Boeing NCR number on the part is required.

### 9.5 “No Defect” Disposition

- 9.5.1 No ink stamping of Boeing NCR number on the part is required.
- 9.5.2 Ship the part per original purchase contract.

### 9.6 “Scrap” Disposition

- 9.6.1 “Scrap” means the item cannot be sold / delivered to Boeing.
- 9.6.2 No ink stamping of Boeing NCR number on the part is required.
- 9.6.3 Remove all Boeing required part marking and part numbers.

- 9.6.4 Scrapped parts must be destroyed beyond their original form, intended use or the ability to reverse engineer to prevent risk of these parts reentering the market place.
- 9.6.5 Part(s) with a “Scrap” disposition shall not be reworked, or repaired for resubmittal to Boeing.
- 9.6.6 Salvaging of usable details from scrapped assemblies must be defined by an authorized NCR disposition at the time the assembly is dispositioned as scrap.
- 9.6.7 For Boeing supplied materials, Boeing will provide instructions for disposing of the scrapped material.

### **9.7 “Not Acceptable to Boeing” Disposition**

- 9.7.1 No ink stamping of Boeing NCR number on the part is required.
- 9.7.2 Remove all Boeing required part marking and part numbers.
- 9.7.3 Part(s) with a “Not Acceptable to Boeing” disposition shall not be reworked, or repaired for resubmittal to Boeing.
- 9.7.4 Salvaging of usable details from “Not Acceptable to Boeing” assemblies must be defined by an authorized NCR disposition.
- 9.7.5 Not acceptable to Boeing means the item cannot be sold / delivered to Boeing.

## 10 When to Submit a Notice of Revision (NOR) (NCR is Closed)

10.1 A Supplier shall submit a NOR (an MAC861MRB Form). See Instructions for a MAC861MRB Form for a “Revision to Final Disposition”. An NOR is required for any of the following situations:

- 10.1.1 Cannot comply with the NCR disposition.
- 10.1.2 The currently documented condition has changed or no longer accurately reflects the condition (provide reason for change).
- 10.1.3 Cannot duplicate the Boeing rejection of a part.
- 10.1.4 Additional defect discovered on part / assembly / tool.
- 10.1.5 Defect created while performing disposition.
- 10.1.6 For RTV parts that are either missing parts of the assembly or contain extra parts that are not part of the returned assembly.

10.2 NORs for a previously submitted MAC861MRB or SQIS-MR submittal shall be submitted on a MAC861MRB form. Do not create a new SQIS-MR submittal for an NOR. See Section 6 for submitting NORs on Tooling NCRs.

10.2.1 Mark the box for NOR (Revision to Final Disposition) when the supplier is submitting an NOR for information the supplier has previously submitted on a closed NCR. Only use after receiving the Boeing final disposition.

10.2.2 Enter the Previously closed Boeing NCR No.

The image shows a portion of a form with a blue border. It contains the following elements: a text box for 'Date of this submission'; a 'Part Nonconformance:' section with three checkboxes: 'New Tag', 'Corrected Information', and 'Partial Disposition Result'; a 'Boeing NCR No.' text box; and a checkbox for 'NOR (Revision to Final Disposition)'. Red circles are drawn around the 'Boeing NCR No.' text box and the 'NOR (Revision to Final Disposition)' checkbox.

10.2.3 Document reason for the NOR. The following formatting requirements must be met or the submittal will be rejected back for corrections. When submitting a NOR request, the supplier shall retain the initial “As-Is” and “Should Be” in the request. The new standalone current/corrected “As-Is” and “Should Be” shall be documented beneath the initial discrepancy text separated by a row of asterisks or stars (\*\*\*\*\*). Additionally, the supplier shall state for each discrepancy, what is the current state of the product and an update the recommended disposition if needed. See the following example:

	1	of	1	<p>Original Non-conformance write up: Is: (1) hole for ST3M759V08 fastener is elongated up to 0.218 dia. on 68A123456-2009 fitting and to 0.221 dia. on 68A123456-2097vskin and 0.1895 dia. on the 68A234567-2061A angle at fuselage station 652.500</p> <p>should be: Hole 0.1635 Dia ***** NOR*****</p> <p>Reason for revision IS: After rework for (1) hole for ST3M759V08 fastener per provided disposition, hole elongated up to 0.2510 dia. on 68A123456-2009 fitting and up t 0.2512 dia. on 68A123456-2097 skin and .2509 dia. on 68A234567-2061A angle at fuselage station 652.500</p> <p>SHOULD BE: Hole should be opened to .02500+0.0008/-0.000 per disposition</p>
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10.2.4 For any type of update the supplier shall reply with the current status of all discrepancies and the original quality on the NCR. For those discrepancies not affected include a banner stating:

\*\*\*\*\* NO CHANGE THIS DISCREPANCY \*\*\*\*\*

10.2.5 When submitting a NOR the supplier shall also indicate the work performed per the previous disposition for each individual discrepancy.

10.2.6 Once the original NCR is superseded by Boeing, due to a supplier submitted NOR, the original NCR will appear as "Canceled" in the SQIS System.

10.2.7 Guidelines for Documentation of Supplier defects on a MAC861MRB form is provided in Instructions for a MAC861MRB Form.

## 11 Return to Supplier (RTS) Disposition NCR

- 11.1 If part(s) or tool(s) on a Boeing NCR are returned to the Supplier for a discrepancy identified at Boeing, the Supplier shall comply with the disposition.
- 11.2 When the Supplier “Cannot Duplicate” or verify the condition a Boeing initiated NCR, the Supplier shall submit a MAC861MRB form (See Instructions for a MAC861MRB Form) with the “NOR (Revision to Final Disposition)” box checked.
  - 11.2.1 The Supplier shall retain control of the part / tool until further notification from the Boeing MRB.
  - 11.2.2 The Supplier shall document on the MAC861MRB form the test performed; furnish test results, plus any additional data that will facilitate the evaluation process at Boeing. Re-inspecting or re-running an Acceptance Test Procedure (ATP) does not constitute rework or repair and must be submitted as an NOR for “Cannot Duplicate”. When re-inspecting or re-running ATPs the test results must be submitted with the NOR.
  - 11.2.3 For a defect / deficiency that cannot be duplicated or verified, the Supplier shall submit a NOR utilizing the MAC861MRB form (See Instructions for a MAC861MRB Form) to Boeing MRB for further disposition. E-mail to:
    - 11.2.3.1 BDS MRB: [RFIPartialResultsNOR@exchange.boeing.com](mailto:RFIPartialResultsNOR@exchange.boeing.com)
    - 11.2.3.2 BDS International MRB: [Mrbint@exchange.boeing.com](mailto:Mrbint@exchange.boeing.com)
    - 11.2.3.3 BGS MRB: [BGSMRB@exchange.boeing.com](mailto:BGSMRB@exchange.boeing.com)
    - 11.2.3.4 Tooling MRB: [mrbtool@exchange.boeing.com](mailto:mrbtool@exchange.boeing.com)
    - 11.2.3.5 Weapons: Direct Attack programs (such as JDAM, SDB, LASERJDAM, MOP, HAAWC and B61) shall be submitted directly to the Boeing Procurement Agent / Supplier Manager.
- 11.3 Suppliers must not ship nonconforming product without prior written authority from Boeing MRB. Product shipped to Boeing or to another Supplier without authorization may be returned to the supplier for further evaluation.

## 12 Other Issues / Situations

### 12.1 Boeing Returned Incorrect Part / Incorrect Supplier

- 12.1.1 All parts / tools received at an incorrect Supplier shall be placed in a designated bond area at the Supplier location upon arrival. The Supplier shall review the enclosed Shipper and contact the Boeing Procurement Agent for instructions.
- 12.1.2 The Supplier shall initiate an NOR to notify Boeing (See Section 10):
  - 12.1.2.1 Parts / tools shall not be shipped without Boeing MRB authorization.
  - 12.1.2.2 The Boeing Procurement Agent shall request Boeing MRB to supersede the original NCR for update to a corrected shipper.
  - 12.1.2.3 If the part / tool is to be sent to a correct Supplier, the Boeing Procurement Agent will negotiate shipping costs and MRB will send the updated instructions to the Supplier via Email.
  - 12.1.2.4 If the Boeing Procurement Agent determines that the part / tool is to be returned to Boeing prior to shipment to the correct Supplier, a Partial or Temporary disposition will be sent to the Supplier with instructions on shipment.

## 13 Definitions

- 13.1 **BDS** – Boeing Defense Systems
- 13.2 **BGS** – Boeing Global Services
- 13.3 **Boeing Furnished Material (BFM)** – Raw material or other product purchased by Boeing but delivered to a location other than Boeing for additional manufacturing / assembly operations.
- 13.4 **B/P** - Blueprint or other product definition format Document blueprint or model definition information needed to accurately locate defect on the part. Note the specific B/P sheet number and B/P zone. Enter the tool detail number(s) for this discrepancy. For non-design tools, enter “Non-design” and attach a sketch or photograph showing the defect location with measurements from known features. Photographs may require multiple frames to show the specific location of the defect.
- 13.5 **Change of Charge (CoC)** – A request in SQIS to change the responsibility for a nonconformance.
- 13.6 **CSI** - Critical Safety Item
- 13.7 **Failed Part Number / Discrepant Part Number** – Shall be the most obvious part that contains the defect. Exceptions for the Failed Part Number or Discrepant Part Number are listed in Section 2.
- 13.8 **FC** - Fracture Critical
- 13.9 **FCT** - Fracture Critical Traceable
- 13.10 **FPR** – Field Problem Report
- 13.11 **Graphic** – Visual information which is used to convey detail on the nonconformance
- 13.12 **MC** - Maintenance Critical
- 13.13 **MRB** - Material Review Board
- 13.14 **NCR** – Boeing Nonconformance Record
- 13.15 **Nonconformance(s)** - The failure of a product characteristic or functional test to conform to the requirements specified in contract, specifications, drawing or other approved product definition data.
- 13.16 **ND** – The Supplier’s Nonconformance Document.
- 13.17 **NOE** – Notice of Escapement – See Boeing Purchase Contract clause Q320 for more information.
- 13.18 **NOR** – Notice of Revision, used by the supplier to revise a nonconformance document after the document has been transferred to an electronic nonconformance document, dispositioned, distributed and closed.
- 13.19 **MAC861MRB Form** - form used to submit nonconformance information for creation of a Boeing nonconformance document.

- 13.20 **Product** – Generic term representing any item related to the manufacture, modification or repair of a Boeing contracted product; such as, raw material, detail parts, sub-assembly, assembly, tool, tooling details, etc.
- 13.21 **QDR** – Quality Deficiency Report
- 13.22 **REPAIR** – Processing of nonconforming product to make it acceptable for the intended use, although it does not conform to requirements originally specified in the purchase contract, specification, drawing / model, or other approved product definition data.
- 13.23 **REWORK** – A disposition for the reprocessing of nonconforming product to make it conform completely to the build-to-media, specifications, or contract requirements.  
**NOTE:** If the supplier has questions regarding Rework / Repair, see Para. 2.2. Please submit a MAC861MRB to MRB (new submittal) as noted in Section 5.1 prior to starting work.
- 13.24 **ROD** – Report of Discrepancy
- 13.25 **SOF** – Safety of Flight
- 13.26 **SDR** – Service Deviation Report
- 13.27 **Supplier** – Provider of products / services to Boeing, or initiator of an MAC861MRB to Boeing not directly fabricating or assembling product, i.e., Retrofit Mod Teams.