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John Deere Standard

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JDS-G223X3

Supplier Quality Manual — Production Part Approval Process (PPAP) Requirements

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1 Scope

1.1 JDS-G223X3 is intended to be used in conjunction with JDS-G223 and establishes the requirements for the John Deere part approval process.

Note 1 John Deere follows the AIAG PPAP model for physical builds. See JDS-G223 for additional information.

1.2 JDS-G223X3 also includes the requirements for the John Deere experimental parts acquisition process, Materials and Service Acquisition (MaSA).

1.3 This standard can contain mandatory provisions, which are identified by the words “shall” or “required”. Compliance with the mandatory provisions is required to claim conformance with this standard. This standard can also contain guideline provisions, which are generally identified by the words “should” or “recommended”. Compliance with the guideline provisions is not required, because they might not be appropriate for all machines or all applications.

2 Terms and Definitions

For the purposes of JDS-G223X3, the terms and definitions of JDS-G223 and the following apply.

2.1
class A surface or area
Critical or highly visible when viewed from the ground or operator station where appearance is critical. Examples includes hood and visible sheet steel.

2.2
Enterprise Product Delivery Process (EPDP)
Sequence of processes required to successfully design, test, and produce a product or service which meets or exceeds the expectations of John Deere and our customers.

2.3
Model Based Definition (MBD)
Visually perceptible figure used to transmit information independent of language. It may be produced by drawing, printing, or other means.

2.4
physical build
Physical model which is used to evaluate the complete product, processes, and tooling during the EPDP. Durability builds and limited production builds are examples of a physical build.

3 Abbreviations and Acronyms

For the purposes of JDS-G223X3, the abbreviations and acronyms in JDS-G223 and in Table 1 apply.

Table 1 Abbreviations and Acronyms

Abbreviation or Acronym	Definition
BOM	Bill of Materials
COPSQ	Cost of Poor Supplier Quality
LB	Level B
LF	Level F
QPL	Quality Plan Level
SFMEA	System Failure Mode and Effects Analysis

4 PPAP Submission Requirements

4.1 General

4.1.1 Specific requirements and clarifications shall be provided by the John Deere quality engineer.

4.1.2 Sample forms are available on JDSN. Any forms provided by a supplier shall contain the same content of JDSN samples.

4.1.3 When supplier forms do not contain the same content as the John Deere forms, the JDSN forms shall be used.

4.1.4 The supplier shall obtain approval from John Deere for the following:

- New parts not previously supplied to John Deere.
- Current parts not previously supplied to John Deere at the current QPL.
- Correction of a discrepancy on a rejected PPAP.
- Full approval on a previously deviated or conditionally approved PPAP.
- A modified product or revision level change.
- Any situation described in the SCR clauses of JDS-G223.

4.1.5 The PPAP revision shall match the quality part plan revision.

Note 2 For questions or clarification of the quality plan, contact the John Deere quality engineer assigned.

4.2 Record Retention

4.2.1 PPAP records defined in JDS-G223X3 shall be maintained for the duration of production and service requirements or a minimum of 3 years, whichever is longest, regardless of the submission level defined in JDS-G223.

4.2.2 Once the part is in series production, suppliers shall be able to submit the retained document within 24 hours when requested by John Deere.

4.3 Records Submission

4.3.1 Unless otherwise specifically specified, all PPAP submissions to John Deere shall be submitted at the purchased component level.

4.3.2 All child part level documents shall be retained at supplier as per clause 4.2. A John Deere quality engineer may request child level submission in the DPAR or Quality Plan.

4.3.3 Documents required for PPAP submission are listed in Table 2, or in individual part quality plans on JDSN, and are based on the QPL assigned.

4.3.4 Written consent by a John Deere quality engineer may be included in the quality part plan detailing which elements are required, or that may be omitted in case of changes in child parts only.

4.3.5 Any specific requirements discussed during the DPAR and documented by the John Deere quality engineer, or written consent from the John Deere quality engineer attached with PPAP submission, shall supersede the standard PPAP requirements.

4.3.6 When a DPAR is held and documents are requested in addition to those already populated in the part quality plan, the requested documents shall be uploaded to the Complete PPAP task in JDSN.

4.3.7 Special Characteristics in any child part may drive discussions during a DPAR for additional submissions beyond purchase part level.

4.3.8 The supplier shall be responsible to actively monitor JDSN and alternate systems as instructed by the John Deere quality engineer for PPAP submission requirements. No parts shall be shipped at a revision level listed as requiring a PPAP until the PPAP has been submitted and approved.

4.3.9 All PPAP shall be submitted by the supplier through JDSN Collaboration or alternate systems as instructed by the John Deere quality engineer.

4.3.10 Service parts are generally included in top level submissions. In the case that a part is resourced as service only, a QPL shall be assigned and a PPAP submission shall be required per the requirements found in Table 2.

4.3.11 Service only quality plans shall be generated if the QPL assigned is greater than 0.

Table 2 Production Part Approval Requirements by Quality Plan Level

Requirement		John Deere Quality Plan Level					
		0	1	2	3	4	Comments
1	Design Record						
	For proprietary components/details	R	R	R	R	R	Minimum interface and performance requirements
	For all other components/details	R	R	R	R	R	As requested
2	Engineering change documents, if any	R	R	R	R	R	Prior to design record update
3	John Deere Engineering approval	R	R	R	R	R	As requested
4	Design FMEA	R	R	R	R	S	Supplier owned design
5	Process Flow Diagram /Process Map	R	R	S	S	S	
6	Process FMEA	R	R	R	S	S	*Family level allowed
7	Control Plan	R	R	S	S	S	*Family level allowed
8	Measurement System Analysis Studies - Gage R&R studies for Special Characteristics	R	R	S	S	S	
9	ISIR Dimensional Results	R	S	S	S	S	Including John Deere drawing bubble print
10	Material/Metallurgical/Functional Test Results (as appropriate)	R	S	S	S	S	
11	Initial Process Studies – Capability Studies	R	R	S	S	S	Minimum all Special Characteristics
12	Qualified Laboratory Documentation	R	R	R	R	R	As requested
13	Appearance Approval Report (if applicable for John Deere Class A parts)	R	S	S	S	S	
14	Sample Product	R	R	R	R	R	As requested
15	Master Sample	R	R	R	R	R	As requested
16	Checking Aids	R	R	R	R	R	As requested
17	Records of compliance with John Deere specific requirements	R	R	R	R	R	As requested
18	Verification Warrant	R	S	S	S	S	John Deere form only

S = Supplier shall submit to John Deere and shall retain a copy of records or documentation items at appropriate locations.
R = Supplier shall retain at appropriate locations and shall make available to John Deere upon request.
***** = As agreed by John Deere.

5 Document Requirements

5.1 General

5.1.1 The supplier shall meet all PPAP requirements listed in Table 2.

5.1.2 The QPL determines which PPAP element shall be submitted versus retained.

5.1.3 The John Deere quality engineer may modify the submission requirements on a specific part number as documented in the DPAR or Quality Plan.

5.2 Design Record

5.2.1 Regardless of design control, the supplier shall have and shall maintain the design record for the purchase level part and all of the sub-components.

5.2.2 The record shall contain, a balloon model, a drawing, or a combination of both to supplement any electronic designs with clean part feature call outs.

5.2.3 Any documents referenced in the design record shall be part of the design record.

5.2.4 Design records include, but are not limited to the following:

- Prints.
- Assembly drawings.
- Features.
- Performance specifications.

5.3 Ballooning

5.3.1 Balloon model or balloon drawing shall be required for all submissions, and shall be required to be on the John Deere approved model or drawing.

5.3.2 Balloon model or balloon drawings shall be complete and include all toleranced characteristics and notes.

5.3.3 Basic or reference dimensions shall be ballooned if determined in the DPAR or Quality Plan.

5.4 Engineering Change Documents

The supplier shall maintain all authorized engineering change documents for any changes not recorded in the design record, but are included in the part or tooling.

5.5 John Deere Engineering Approval

When requested by John Deere, the supplier shall maintain evidence of John Deere Engineering approval.

5.6 Design/System FMEA

5.6.1 DFMEA/SFMEA shall be created and maintained by the supplier when the supplier owns the design or system.

5.6.2 Upon approval from a John Deere quality engineer, one FMEA may be used for a family or a group of similar parts.

Note 3 Refer to JDS-G223 for additional information.

Note 4 For additional information, see AIAG Failure Mode and Effects Manual and AIAG/VDA Failure Modes and Effects Analysis — FMEA Handbook.

5.7 Process Flow Diagrams/Maps

5.7.1 The supplier shall develop and maintain a process flow diagram/map that clearly shows process and sequence of production.

5.7.2 Upon approval from the John Deere quality engineer representative, one process flow diagram/map may be used for a family or a group of similar parts.

5.8 Process FMEA

5.8.1 PFMEA is required to be available for review at any time prior to the DPAR and to be submitted as per the active PFMEA task in the system for review. Exceptions can be made to review PFMEA on-site or virtually, when required, as discussed and agreed during the DPAR.

5.8.2 Upon approval from a John Deere quality engineer, one FMEA may be used for a family or a group of similar parts.

Note 5 Refer to JDS-G223 for additional information.

Note 6 For additional information, see AIAG Failure Mode and Effects Analysis Manual and AIAG & VDA Failure Modes and Effects Analysis — FMEA Handbook.

5.9 Control Plans

5.9.1 The supplier shall develop and maintain control plans that contain the following:

- Defined main processes at the system and subsystem levels.
- Component or material level required to produce the component.
- Documented product and process Special Characteristics including on-going process monitoring requirements.
- A plan for pre-launch and production which considers the FMEA outputs.
- Process producing bulk materials as well as parts.
- John Deere part number and revision.

5.9.2 Control plan shall indicate when non-production tooling is used.

5.9.3 Upon approval from the John Deere quality engineer, family control plans are acceptable for similar parts.

5.9.4 Family control plans shall list all part numbers and revision levels in which they control. This may be an independent document showing the linkage to the control plan.

5.9.5 Family control plans shall be acceptable for standard parts such as standard fasteners, bearings, and seals.

5.10 Measurement System Analysis Studies — Gage R&R

5.10.1 Gage R&R shall be done for variable and attribute gages used for all new or modified Special Characteristics on the model, the drawing, or a combination of both.

5.10.2 Gage R&R shall be performed for any additional characteristics identified during the DPAR.

Note 7 See JDS-G223 for additional information.

5.11 Dimensional Results — Initial Sample Inspection Report (ISIR)

5.11.1 The supplier shall ensure that all dimensional measurement results, associated documentation, and data files are included within the design record. See clause 5.2 for more information.

5.11.2 The supplier shall maintain these dimensional measurement results for each unique process, features, specifications, and characteristics noted in the design record.

5.11.3 All dimensional results shall include the revision level of parts measured, measurement process/equipment used, tolerancing sheets, and any engineering changes associated to these dimensional results which are not in the design record.

5.11.4 Unless otherwise communicated, the supplier shall document conformance to all dimensional specifications and notes on either the model and/or drawing as part of the ISIR.

5.11.5 A minimum of two pieces are required to be submitted for the PPAP.

5.11.6 Multi-cavity tooling shall have at least one sample per cavity measured.

5.11.7 All toleranced dimensions (geometrical and direct) shall be documented and verified to specification and associated to their balloon identifiers.

5.11.8 Numerical values shall be reported for features located in multiple locations within the part geometry. See Figure 1and Figure 2.

5.11.9 All toleranced dimensions shall have nominal and actual values reported.

5.11.10 Reference and basic dimensions do not need to be reported, unless requested by John Deere in the DPAR or Quality Plan.

5.11.11 All drawing notes shall be individually verified to specification and reported.

5.11.12 Additional documentation may be required based upon specific notes. Examples include, but not limited to:

- Cleanliness results.
- Performance results.

5.11.13 A BOM verification statement shall be included on the ISIR for full submissions.

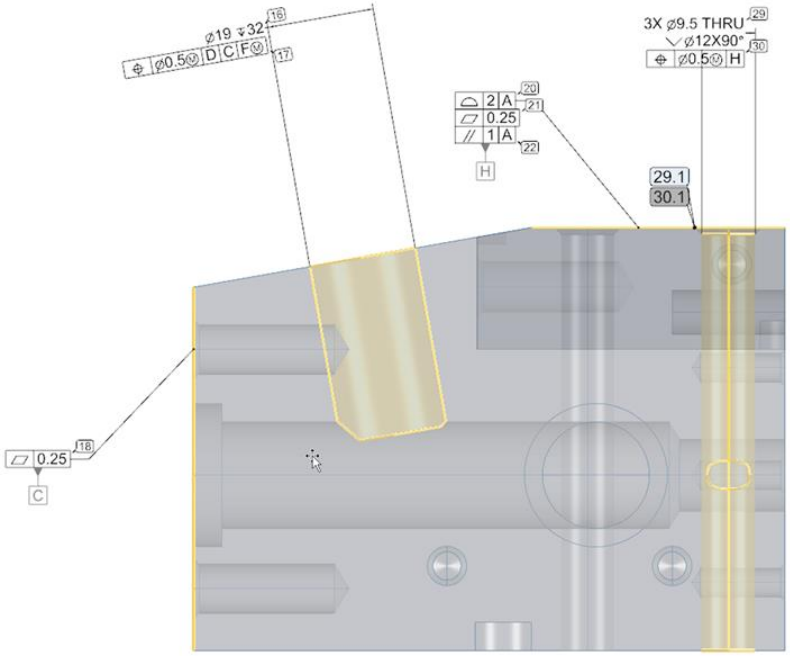

Figure 1 Example — Ballooned Model

Initial Sample Inspection Report (ISIR)												
Part Number:XD12345						Design/Revision Level: T						
Part Name/Description:HOUSING / WIDGET VALVE						Decision Number:						
Supplier Name: Santa Claus						Supplier Number: 1234567890						
Name of Inspection facility: North Pole						Lab Report Attached: ☐ Yes ☐ No						
How many pieces measured:2						Document ID:	923060ec-1558-4c06-8a80-fa54b6b495aa					
Item	Nominal Dimension/Specification & Material Specifications	Unit of Measure	Tolerance (+)	/	(-)	Piece 1	Piece 2				OK/Not OK	Verification
14	⌖ ⌀0.25Ⓜ C B A	mm	0.25	-	-	0.100	0.123				OK	
16	⌀19 ↧32	mm	0.13	19	-0.13	19.100	19.130				OK	
17	⌖ ⌀0.5Ⓜ D C FⓂ	mm	0.5	-	-	0.250	0.110				OK	
18	▱ 0.25	mm	0.25	-	-	0.003	0.058				OK	

Figure 2 Example — ISIR Form

5.12 Material/Metallurgical/Functional Test Results

5.12.1 Material/Metallurgical

5.12.1.1 The supplier shall maintain records of material, metallurgical, functional, and performance results for tests specified in the design record.

5.12.1.2 Material (for example, chemical, metallurgical, or physical) result submissions shall include design revision level, part number, test date, quantity tested, any engineering changes not in the design record, actual results, and the material supplier's name and location.

5.12.1.3 When a third-party laboratory is used for material testing, the supplier shall maintain copies of the laboratory certifications with all test documentation.

5.12.1.4 When the material supplier is specified by John Deere, the supplier shall procure material from the John Deere approved supplier list (for example, steel, plating, coatings, and paint).

5.12.1.5 Material explicitly listed on the purchased level print shall have material certificates submitted.

5.12.1.6 All material certificates required to produce the part received by the supplier shall be retained. See clause 4.2.

5.12.1.7 When applicable, a BOM verification statement shall be included for confirmation of all materials in the purchase level part.

5.12.2 Functional Test Results

5.12.2.1 When appropriate, the supplier shall perform performance and functional requirements as detailed in the design record or control plan (for example, pressure or flow).

5.12.2.2 Functional test results shall include the following:

- Part number.
- Revision level.
- Test date.
- Quantity tested.
- Any engineering changes not in the design record.
- Functional testing results.

5.12.2.3 Samples of end-of-line test results shall be provided with the PPAP.

5.12.2.4 Any additional requirements noted during the DPAR shall be submitted.

5.13 Initial Process Capability Studies

5.13.1 Initial process capability studies shall be conducted on all defined Special Characteristics.

5.13.2 Additional characteristics may be defined by John Deere for additional studies.

5.13.3 A Gage R&R study shall be performed prior to initial process capability studies.

5.13.4 A minimum sample size of 30 consecutive pieces shall be used taken from a stable, in control process. When 30 pieces are not available, consult with a John Deere quality engineer for additional instructions.

5.13.5 When capability studies are not acceptable, the supplier shall notify the John Deere quality engineer responsible for the quality plan. Additional actions may be required.

Note 8 Refer to JDS-G223 for additional information.

5.14 Qualified Laboratory Documentation

5.14.1 All inspection and testing for PPAP shall be completed by a qualified or accredited facility as defined by John Deere requirements.

5.14.2 The qualified or accredited facility shall have documentation showing the scope and qualifications for the type of measurement or test performed.

5.14.3 When a 3rd party laboratory is used, the organization shall submit all test results on the laboratory's letterhead.

5.14.4 The laboratory report shall include the following:

- Test methods or the process to execute the tests.
- Test results.
- Date of tests.
- Standards used to run the test.

5.15 Appearance Approval Report for John Deere Class A Parts

The supplier shall complete a separate appearance approval report for each part or assembly when the part has an appearance requirement of Class A parts on the design record.

5.16 Sample Production Parts

The supplier shall provide sample parts when requested.

5.17 Master Sample

5.17.1 When required by John Deere, the supplier shall retain a master sample for the same period as the PPAP records or until a new master sample is produced.

5.17.2 The supplier shall retain a master sample as required by the design record, control plan, or as a reference or standard.

5.17.3 Where required, the supplier shall retain a master sample for each position of a multiple cavity tool.

5.18 Supplier Functional Verification and Testing

The supplier shall submit results based on specific test requirements outlined on the print, per specified standards.

5.19 John Deere Specific Records of Compliance

The supplier shall have records of compliance to all John Deere specific requirements.

5.20 Part Submission Warrant

5.20.1 The supplier shall complete the John Deere part submission warrant for each part number.

5.20.2 The supplier shall verify that all measurements and tests conform with John Deere requirements and standards, and that all documents shall be available and included in the PPAP submission per Table 2, or as documented on the Quality Plan.

5.20.3 In the event all requirements are not met, and it is agreed to with the John Deere quality engineer, a deviated PPAP submission shall be completed with clear documentation of corrective actions required to close the deviation. See clause 10.3.

5.20.4 Upon approval from a John Deere quality engineer, one PSW may be used for a family or a group of similar parts.

5.20.5 A family PSW shall list all part numbers and revision levels. This may be an independent document showing the linkage to the single PSW.

5.20.6 Unless otherwise specified by John Deere, the PSW should record the part weight as shipped expressed in kilograms to four decimal places.

5.20.7 The part weight shall not include shipping or packaging aids.

5.20.8 Measurements should be based on a 10-piece average weight.

6 Additional Submission Requirements

6.1.1 When the purchased level part does not contain any dimensions or notes, it shall be the supplier's responsibility to review all assembly levels of the part.

6.1.2 The supplier shall notify John Deere of any deviations in order to get deviation approval before or during the PPAP submission.

6.1.3 Additional documents or child part documents may be required based on criticality of parts as per the discussion and agreement during the DPAR.

7 Proprietary Part PPAP Submission Requirements

7.1.1 Documents which are proprietary in nature, such as FMEA and control plan, may be retained at the supplier with agreement for an onsite or virtual review by a John Deere quality engineer.

7.1.2 Proprietary drawing changes shall be submitted to the John Deere quality engineer and the John Deere design engineer for approval, and the John Deere title block (confidential John Deere drawing) shall be added before PPAP submission.

7.1.3 The PPAP shall be accepted only against the John Deere approved drawing.

8 Consolidators and Kitting Assembly Supplier PPAP Requirements

8.1.1 All consolidators and kitting assembly suppliers shall submit the PPAP documents to John Deere purchase level part requirements.

8.1.2 As requested by the John Deere quality engineer, additional PPAP documents for the individual parts included in the kit shall be submitted.

9 PPAP Submission Exceptions

9.1.1 Based on a supplier's quality performance and ability to meet all requirements of PPAP submission consistently, John Deere may modify submission requirements.

9.1.2 The minimum submission requirements shall include the following:

- Part submission warrant with all details completed.
- Deviation authorization number documented in warrant, as required.
- Document submission only in case of any deviation found to require additional approval from John Deere.

10 PPAP Submission Responses

10.1 Full Approval

10.1.1 The part meets PPAP requirements, and the supplier is authorized to ship the specific part number and revision.

10.1.2 Approval may be a returned signed warrant or an automated email response containing the text "This is your authorization to ship parts according to the purchase order due date" or similar.

10.2 Conditional Approval

10.2.1 Supplier shall be authorized to ship the specific part number and revision with a condition that supplier resubmits the PPAP for full approval with the required data at a later point of time.

10.2.2 Unless approved by John Deere quality engineer or John Deere quality supervisor, a conditional approval shall be used for the following two conditions:

- Capability studies not completed due to insufficient sample size.
    - Submission of capability studies occur immediately after the required quantity of components have been manufactured.
- ISIR where first order does not include enough parts to meet ISIR quantity requirement.
    - Submission and approval of additional part inspections occur prior to future shipments.

10.3 Deviated Approval

10.3.1 The part meets deviation requirements and supplier is authorized to ship parts within deviation date range, up to the quantity allowable by John Deere.

10.3.2 Examples of when Deviated Approval may be used include, but are not limited to the following:

- Part not to spec (dimensional, material, paint, end of line testing, drawing notes, etc.).
- Drawing update still in-process by John Deere.
- Part from Non-Production Tooling, Process, or Facility.

10.3.3 When the supplier wants to ship product not meeting the specified requirements, written approval shall be obtained from John Deere prior to shipment of the product.

10.3.4 Any and all deviations from production processes or requirements outlined within the quality plan shall have an approved deviation authorization documented, which must be submitted with the PPAP package.

10.3.5 The request shall be made using the Engineering Deviation Authorization Checklist and Form (see JDSN), and shall apply equally to products or services purchased from the supply chain.

10.3.6 The supplier shall have the responsibility to identify and communicate to John Deere any and all deviations.

10.3.7 The supplier shall maintain a record of the deviation expiration date and quantity authorized by any John Deere deviation.

10.3.8 The supplier shall assume responsibility to ensure that deviated PPAP are resolved prior to expiration, and the supplier shall submit for full approval once the deviation is no longer required or submit for an extension as required.

10.3.9 The supplier shall ensure that compliance is met in accordance with the original or superseding product specifications and requirements when the deviation expires.

10.3.10 Full traceability shall be guaranteed, including documentation of serial numbers (if available), and each shipping container of deviated product shall be properly identified with the John Deere deviation number.

Note 9 Deviations are temporary approvals. Permanent changes must follow the SCR process if the part number and revision level have full PPAP approval.

10.4 Rejected Parts

10.4.1 When PPAP has been rejected, the supplier shall not be authorized to ship the parts.

10.4.2 The John Deere quality engineer shall add notes to the quality plan describing what additional information is needed for submission.

10.4.3 The John Deere quality engineer shall set the PPAP complete task to rejected in the quality plan.

10.4.4 When part is received in the factory with a rejected PPAP status, the part lot shall be rejected, be put into quality hold, and COPSQ charges shall be applicable.

10.5 Non-Submission of PPAP

10.5.1 When parts are received in the factory without the PPAP being approved, deviated, or conditionally approved, the lot shall be rejected and put into quality hold, and COPSQ charges shall be applicable.

10.5.2 To avoid shipping delays, the supplier should submit the PPAP at least one week before the parts are due to reach the John Deere factory allowing for the review and potential resubmission time in case of rejection.

11 MaSA Experimental Part Requirements

11.1 John Deere can order any part for experimental use when tracking desired.

11.2 As part of the MaSA request, certain quality information can be required by an inspection level request, as agreed to by the design engineer and quality engineer who define the appropriate inspection level needed on the material.

11.3 The supplier shall follow the inspection level specified on the MaSA request, and shall submit inspection reports via the JDSN MaSA workflow.

11.4 MaSA quality plans have the nomenclature of “Q” followed by the John Deere part number and revision level. The quality plan shall start with the John Deere factory designation, and shall end with a random tracking number.

Example MX01 QT14444A A_453789 is the quality plan number for part T14444 at A revision.

11.5 Parts with inspection level requirements shall be automatically placed on quality hold, and shall not be received until the supplier completes the submission of the inspection report, and the quality engineer approves. The quality levels are defined in Table 3.

11.6 The experimental part purchase order shall document the quality plan number and inspection level requirements.

Table 3 Quality Inspection Levels

Level	Inspection Quantity			Inspection Type		Serialized Part	Report Content
	Total	Dimension	Materials Heat Treat	Special Characteristic	Features		
A	0			N/A		N/A	
B	2	2	0	All Characteristics	All Labeled "LB"	No	Actual Dimensions
C	2	2	0	All Characteristics	All Features	No	Actual Dimensions
D	2	2	2	All Characteristics	All Features	No	Actual Dimensions
E	5	5	2	All Characteristics	All Features	No	Actual Dimensions
F	2	2	2	All Characteristics	All Labeled "LF"	Yes	Actual Dimensions Traceable to Serial Number
G	2	2	2	All Characteristics on All Parts	All Features on All Parts+	Yes	Actual Dimensions Traceable to Serial Number

+ When Special Characteristic and Feature inspection is required on less than total ordered quantity, quantity to be inspected shall be stated**.**

Level A – No documented inspection required. Suppler remains responsible for providing parts that meet all dimensions, tolerances, and features indicated on the print.

Level B – Inspect two pieces of ordered quantity for all features labeled "LB" on the print. A report with actual dimensions recorded shall be required to be submitted, and shall obtain approval prior to part shipment for all inspected features of the part. Part serialization is not required. Supplier remains responsible for providing parts that meet all dimensions, tolerances, and features indicated on the print.

Level C – Inspect two pieces of ordered quantity for all dimensional features on the print. Inspect all Special Characteristics on all parts, unless a reduced number of parts is indicated. A report with actual dimensions recorded shall bet submitted, and shall obtain approval prior to part shipment for all inspected features of the part. Part serialization is not required Supplier remains responsible for providing parts that meet all dimensions, tolerances, and features indicated on the print.

Level D – Inspect two pieces of ordered quantity for all dimensional features, material, and heat treatment on the print. Inspect all Special Characteristics on all parts, unless a reduced number of parts is indicated. A report with actual dimensions recorded shall bet submitted, and shall obtain approval prior to part shipment for all inspected features of the part. Part serialization is not required Supplier remains responsible for providing parts that meet all dimensions, tolerances, and features indicated on the print.

Level E – Inspect five pieces of ordered quantity for all dimensional features, and two pieces for material, and heat treatment on the print. Inspect all Special Characteristics on all parts, unless a reduced number of parts is indicated. A report with actual dimensions recorded shall bet submitted, and shall obtain approval prior to part shipment for all inspected features of the part. Part serialization is not required Supplier remains responsible for providing parts that meet all dimensions, tolerances, and features indicated on the print.

Level F – Inspect two pieces of ordered quantity for all dimensional features, material, and heat treatment. Inspect all Special Characteristics and features labeled "LF" on the print on all parts, unless a reduced number of parts is indicated. A report with actual dimensions recorded, traceable to a part serial number shall bet submitted, and shall obtain approval prior to part shipment for all inspected features of the part. Unless otherwise noted on the print, part serialization is required. Supplier remains responsible for providing parts that meet all dimensions, tolerances, and features indicated on the print.

Level G – Inspect two pieces of ordered quantity for all dimensional features, material, and heat treatment on the print. Inspect all machined features and all Special Characteristics on all parts, unless a reduced number of parts is indicated. A report with actual dimensions recorded shall bet submitted, and shall obtain approval prior to part shipment for all inspected features of the part. Unless otherwise noted on the print, part serialization is required. Supplier remains responsible for providing parts that meet all dimensions, tolerances, and features indicated on the print.

12 References

For undated references, the latest edition of the referenced document (including any amendments) applies.

12.1 Access to John Deere Standards

12.1.1 John Deere Standards can be accessed by John Deere personnel via the Engineering Standards internal website.

12.1.2 Employees of suppliers with an approved John Deere supplier number can obtain access to John Deere Standards via the JD Supply Network (JDSN). Access to JDSN is by approved individual name and password. Suppliers should contact their Supply Management representative with questions about JDSN.

Note 10 Only John Deere Standards which have been approved for supplier distribution are available via JDSN.

12.2 Access to Standards from External Organizations

12.2.1 Most standards from organizations external to John Deere are available to John Deere personnel via the Engineering Standards internal website.

12.2.2 Suppliers are responsible for obtaining relevant external standards. In accordance with copyright laws and Company policy, John Deere personnel shall not provide copies of these standards to suppliers.

12.3 References Cited in This Standard

12.3.1 John Deere Standards

JDS-G223	Supplier Quality Manual

12.3.2 AIAG Standards (Automotive Industry Action Group)

AIAG	Potential Failure Mode Effects Analysis — FMEA Manual
AIAG/VDA	Failure Modes and Effects Analysis — FMEA Handbook

Summary of Changes from Previous Edition
(For Information Only — Not Part of the Standard)

Updated “Key Characteristics” to “Special Characteristics” throughout the document.