People Finding A Better Way®

Dana's Supplier Quality and Development Manual

20-Aug-2025

Our Purchasing Vision

At Dana, we believe in sustainable value creation and achieve this through an organized supply chain. We carefully select suppliers based on a variety of factors, including total cost of ownership, quality, reliability, and timely delivery. Building strong relationships with our suppliers is a key value for us. We aim to create long-lasting and sustainable relationships with a select group of suppliers worldwide, based on trust, high standards, and mutual benefits. Our formalized relationship management system enables us to collaborate with strategic suppliers to embed sustainable joint value creation through strong relationships.

As we continue to experience fast-paced growth in international markets, we face increased complexity. To achieve our goals, we need our suppliers to share the same vision and work with us to achieve mutual benefits. Leveraging the global economy helps us elevate our competitiveness and that of our suppliers. By reducing costs and adopting a stronger business model, we can align with customer values and increase market opportunities.

i. Introduction

Dana expects excellence from its suppliers in every aspect of their performance within the global vehicular supply chain. This Supplier Quality and Development Manual[1] (a.k.a. “Supplier Quality Manual” or “Manual”) sets forth Dana’s expectations and requirements of its suppliers. Dana’s business relationships with its suppliers are based on the requirements specified in this Manual, as well as the specific terms and conditions of the contract and/or purchase order (collectively “Contract”) related to your transaction(s) with Dana. In case of any inconsistency between this Manual and the Contract, the Contract will take precedence.

To meet the world-class expectations of our customers, Dana has established appropriate standards to ensure the safety, quality, and sustainability of our products, and the and the stakeholders impacted by our business. The requirements set forth in this Manual are required of every Dana supplier worldwide. These common requirements allow Dana to assess all suppliers based on equal expectations and performance standards.

[1] This version of the Manual supersedes all previous versions of the Manual and may be updated and modified by Dana on a periodic basis.

Table of Contents

ii. Business Conduct

Dana is committed to doing business in an ethical manner and with respect for our people and the communities in which they live. We expect the same of our suppliers. In support of this objective, Dana has established a “Supplier Code to Business Conduct” which is part of every supply agreement between Dana and its suppliers. To access and review Dana Suppliers' Business Conduct Guide please utilize the following Link **https://www.dana.com/suppliers/working-with-dana/ethics-and-business-conduct/**

iii. Supplier Registration

All suppliers of production goods and materials must be registered to Dana 1 Source (aka LiveSource or D1S) https://dana.livesource.com/ to provide Dana with critical contact and organizational data. Registration is required for each Supplier location that does business with Dana. Suppliers should work with their Dana Buyer to register and receive the required log-in credentials and password. Once registered, the Supplier will be required to supply additional data in the system. Suppliers are expected to keep their data up-to-date and current including, but not limited to the following:

- All quality and environmental system registration certificates
- All applicable AIAG CQI assessment documents are the most recent versions issued,
- Current contacts for all key roles within the Supplier organization, and
- Supplier data card.

1. Performance Objectives

Dana has the following performance objectives:

A. Quality
- Zero Quality Incidents
- Zero Customer Pass Through or Warrant Incidents
- Zero Quality Defects Per Million Parts (PPM)

B. Delivery
- 100% On Time

C. Lean Manufacturing and Lean Processing
- Best- In- Class Cost

D. Best-In-Class Technology

E. Well-executed product launches
- Supplier Driven APQP Process
- Achieve perfect PPAP approval on the first submission, delivered on schedule
- 100% Safe Launch Process Compliance (SD110)

F. Business Conduct and Commercial Standards
- Suppliers Guide to Business Conduct
- Capacity / Contingency Planning
- Zero supply termination without prior Dana approval

G. Diversity Hiring and Sourcing Activities when required by Dana or the end customer.

H. Compliance with Dana's Supplier Code of Conduct

I. Full participation in the Technical Review Assessment (TRA) process is required prior to sourcing.

J. Achievement of Strong Supplier Scorecard Ratings
- Quality Performance
- Sustainability
- Cost
- Financial
- Partnership

The above objectives reflect Dana's commitment to excellence, which we expect our suppliers to embrace. Failure to successfully meet the requirements may result in New Business Hold or loss of business.

2. Supplier Assessment Processes

2.1. Supplier Systems Assessment:

The objective of Dana's Supplier System Assessment ("SSA") is to identify potential suppliers who have compatible and complimentary operational systems and controls and to allow Dana to periodically evaluate current suppliers to ensure those systems and controls are being sustained**.** Dana's customers may have additional requirements beyond what is described below. Dana's suppliers and sub-suppliers are expected to satisfy these additional requirements when requested.

The purpose of the SSA is to identify potential performance or supply risks to Dana or its end customers prior to sourcing. Key system factors evaluated include quality, health and safety, environment process, logistics / packaging, APQP, design, change management, people, leadership, cost, special processes modules and AIAG Supplier Self-Assessments critical to producing Dana product. The special processes addressed include casting, aluminum high pressure die casting, software development, functional safety, machining, stamping, tubing mill, forging, formed gears, taper roller bearings, steel and aluminum mill processing, fasteners, Cyber Security, PCBA, Connectors and Wiring Harnesses. AIAG Supplier Self-Assessments are to be completed annually and include Heat Treat (CQI-9), Plating (CQI-11), Coating (CQI-12), Welding (CQI-15), Soldering (CQI-17), Plastic Molding (CQI-23), Casting (CQI-27), *Brazing (CQI-29) and Rubber Processing (CQI-30).* All AIAG CQI Assessments must be to the latest released version, that can be found at https://www.aiag.org/quality/special-process-assessments. Suppliers must ascertain an Approved Status to the base assessment, all applicable special process modules and upload all applicable AIAG Supplier Self- Assessments to their profile page at **http://dana.livesource.com** to become an approved supplier to Dana.

Dana's Supplier Assessment Process applies to Tier 1 suppliers to Dana however Dana expects its Suppliers to enable Dana to conduct assessments of the Supplier's sub-suppliers upon request. Steel Mills, Aluminum Mills and Raw Casting suppliers may require a Dana SSA prior to sourcing.

Typically, SSA's are reviewed prior to sourcing. Suppliers whose Quality Performance, as shown in our Supplier Performance Feedback System, has conformed to Dana's performance targets, will be required to complete and submit a self-assessment. Self-assessments are re-evaluated on an annual basis.

2.2. Process Audit:

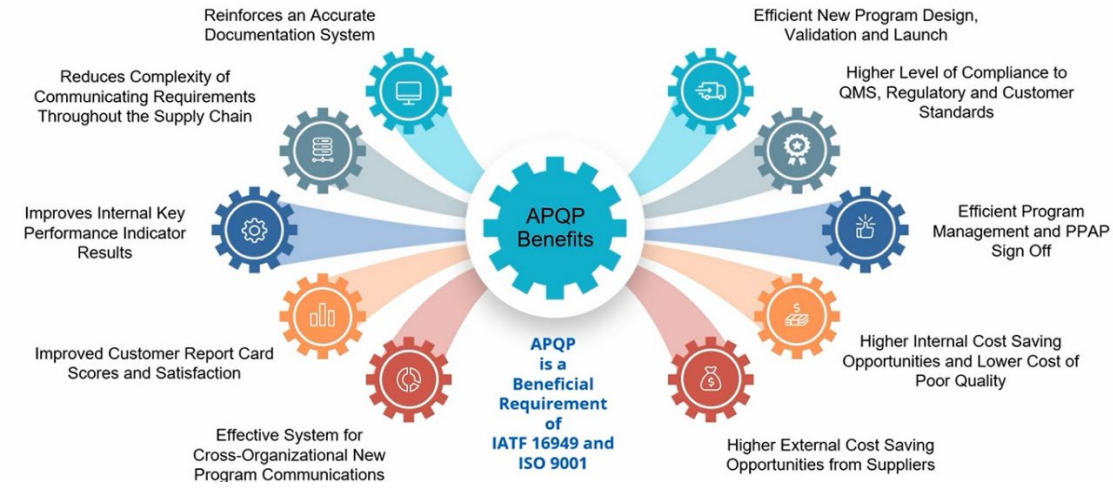
Dana may conduct a process audit at its discretion to minimize risk to Dana and Dana's customers. The purpose of a process audit is to obtain a focused analysis of a single production line or product/part family. This is achieved by means of a thorough review of a supplier's capacity, special characteristic capability, process controls and associated documentation to ensure the Supplier's product(s) complies with Dana's drawings and specifications requirements and the required capacity.

3. TRA and APQP Processes

Dana's Technical Review and Assessment (TRA) process exists to review and provide a clear understanding of Dana's expectations for all purchased products, including clarification on part requirements and specifications, critical characteristics, and timing. By going through this process, potential risks to both Dana and our suppliers are reduced prior to a formal business award.

Suppliers are required to submit documentation demonstrating full compliance with all elements of the latest edition of the AIAG APQP Manual ("APQP Requirements") prior to of a new or significantly modified production product to Dana. The latest official version of the APQP Requirements is located at http://www.aiag.org.

To complete APQP process, the Supplier must use the **e-APQP module in D1S portal**. Suppliers that are unfamiliar with the e-APQP module should refer to the **e-APQP training manual** e-APQP_Suppliers Manual V6.doc.



3.1. Technical Review and Assessment (TRA) Process

The meeting will be hosted and led by the Dana Buyer and can be held at either the Dana or potential supplier location, or on a conference call. All relevant drawings and specifications must be provided to the supplier for their review prior to the meeting, by the buyer, who obtained them from the Product Engineer or relevant PLM system at the time the request for quotation was sent.

It is expected that the Supplier and Dana teams will devote enough time to the TRA to ensure the feasibility of the part design, leaving little to no open issues at the time a sourcing decision is made.

The output of the meeting is assurance to Dana that the potential supplier has a clear understanding of Dana's requirements and can deliver product to those requirements at the quoted price. Additionally, suppliers should work through their process and timing and identify any problems or exceptions leading to a supplier change request. The buyer will then make the appropriate sourcing decision for a component, after each supplier quoting on that component has been involved in a Technical Review.

There are multiple triggers that will cause a Technical Review to be completed. Those triggers are as follows:

- If the products being sourced are new part-

- If the products are new to the supplier being considered for sourcing.
- If there are any customer attachment points or pass-through characteristics on the supplier product
- If new or proprietary technology to Dana is being used
- If the parts being sourced are defined as safety related components
- If the supplier being considered has a history of pass-through defects
- If the supplier is new to Dana
- If an existing Dana supplier and the current 6-month PPM is above the commodity target
- If the part or assembly is being sourced or resourced across international borders

The phased technical review was developed for parts that are new, unique, different, or difficult (NUDD) and require early development conversations for design for manufacturing, feasibility, technology, and cost feedback ahead of full design release. The commodity team will specify which phase TRA should be completed.

3.2. Supplier APQP Process Initiation:

To be able to use the e-APQP, the Supplier organization and Supplier APQP responsible contacts must be registered in Dana 1 Source ("D1S"). If supplier is already existing account in D1S but the APQP responsible contact is not a registered user, they can be added by the supplier's D1S administrator.

The Dana Supplier Development Engineer ("SDE") Project Coordinator will initiate the APQP in D1S to the Supplier's organization. To initiate the APQP documentation, the Supplier must review the performance milestones and acknowledge them in the draft APQP document. Any potential delays identified by the Supplier must be reported in e-APQP Supplier Acknowledgement section of the draft APQP document.

3.3. Supplier APQP Process Execution

The Supplier is required to follow the APQP process by completing all elements of the APQP document and publishing each section for SDE approval. All published APQP elements and associated tasks are reviewed to assure satisfaction of program requirements. Supplier's published APQP data will be either approved or rejected by the Dana SDE. Rejected elements must be corrected by the Supplier and again published for approval.

If an APQP requirement is inconsistent with Dana specifications, then the Supplier must submit the Supplier_Change_Deviation_Request.xls. Suppliers must receive Dana's approval for requested change/deviation prior to shipping product to any Dana facility.

3.4. PPAP and Supplier Safe Launch

After APQP elements are satisfactorily completed, the Supplier will submit PPAP documentation package in the D1S e-PPAP module. A PPAP request with the required PPAP level will be generated by the Dana receiving plant's quality representative.

Upon PPAP submission in e-PPAP module, the Supplier will come back to e-APQP module and confirm that PPAP is submitted. PPAP approvals granted in e-PPAP module shall also be recorded by the supplier in PPAP approval sections of e-APQP.

Safe Launch is required at initial sample submission, including Prototype samples, regardless of part maturity level. Safe Launch process preparation is embedded in e-APQP module and supplier shall conform to the Safe Launch requirements outlined in the procedure **SD-110 Safe Launch_External Suppliers.xlsx**.

3.5. System Improvement

One of the goals of the APQP process is to improve Supplier's operating systems over time. The effectiveness of the APQP process is measured by Supplier's ability to meet the goal of successful launches. The efficiency of the APQP process (i.e. the effective use of resources) to successfully launch a new product will be improved, through suggestions and findings of its participants. At any stage in the APQP process, your organization may submit improvement ideas through your assigned SDE ("Supplier Development Engineer").

4. Dana Specific Requirements

4.1. Quality System: Dana's commitment to quality is the cornerstone of our supplier relationships. We view this as a partnership built upon trust, rigorous standards, and unwavering transparency.

All suppliers are required to achieve and maintain either IATF 16949 or ISO 9001 quality management system certification. Suppliers must provide documentary evidence of their certification status in their D1S profile, including any relevant AIAG Supplier Self-Assessment documents, such as:

CQI-9 Heat Treat	CQI-15 Welding	CQI-27 Casting
CQI-11 Plating	CQI-17 Soldering	CQI-29 Brazing
CQI-12 Coating	CQI-23 Molding	CQI-30 Rubber Molding

The AIAG Self-Assessment documents must be included in the suppliers' internal audit programs and must be performed annually. Suppliers who are unsure about the applicability of specific CQI documents should contact their designated Dana representative for guidance.

Suppliers must immediately notify Dana of any changes to their third-party quality certification status, including notification if a supplier's certification is withdrawn or canceled. This ensures Dana maintains accurate records of supplier quality standing.

Suppliers are responsible for documenting their processes to ensure that all products, processes, and services supplied to Dana comply with current applicable statutory and regulatory requirements.

Suppliers must also adhere to any Dana end-customer specific requirements.

Off Highway Driveline Technologies – Where applicable, refer to the Off-Highway Product Group Specific Requirements GQG-022 available from assigned Dana Supplier Development Engineer.

4.2. Supplier's Quality Manuals: Suppliers must maintain a Supplier Quality Manual for their sub-suppliers. Dana may review this manual at any time upon request and with appropriate confidentiality protections in place.

4.3. Engineering Specifications: Dana provides engineering specifications during new business quotations, current business updates, and within and on product drawings. Suppliers are responsible for communicating with Dana to ensure that they possess and fully understand all engineering specifications related to the products supplied to Dana.

4.4. Record Retention: All records related to the manufacture of products supplied to Dana must be retained for the life of the applicable vehicle program plus ten (10) years (15 years for safety-designated items) or such longer periods as may be required by Dana's end customer. These obligations are in addition to any other record retention obligations existing in the applicable supply agreement.

4.5. Special Characteristics: Any special characteristics defined on Dana drawings and/or in Dana engineering specifications shall conform to the "**Dana Special Characteristics"** requirements found in Special_Characteristics_Definitions.doc

Suppliers shall produce evidence that statistical process control is being continuously used in the manufacture of products it supplies to Dana, to ensure stable and capable processes.

4.5.1. Off Highway Driveline Technologies – Where applicable, refer to the Off-Highway Product Group Specific Requirements GQG-018 available from assigned Dana Supplier Development Engineer.

4.5.2. Prototype Sample Special Characteristics

All prototype samples furnished by Suppliers shall conform to the following requirements

Each prototype product manufactured must be serialized and traceable on a non-critical surface (consult with Dana Engineering for non-critical surface identification). Any exceptions need to be approved by Dana Engineering prior to submitting samples. The preferred identification is Part Number and Consecutive Dash Number. (Example: Part Number -1, -2, etc.).

An inspection report is to be furnished for each serialized prototype product for all critical / significant dimensions, as designated on either the Dana drawing or engineering specification.

At minimum, the inspection report shall include the date inspected, Inspector's signature, part and serial dash number, revision level, part name, purchase order number, part dimension/tolerance and actual dimensions. Gage Repeatability and Reproducibility ("GR&R") reports for all inspection tools may be required to be utilized. If a Coordinate Measuring Machine ("CMM") is used to measure the samples, Supplier must submit a copy of the current CMM calibration certificate.

The inspection report shall be in pdf file format and identified with the Dana Program, Part Number and Date. (Example: Program Name_ Part Number_ Month-Day-Year.pdf). Dimensional inspection results are to be submitted per AIAG Dimensional Test Results format or equivalent. The inspection report must contain, at a minimum:

- Dana specification/requirement keyed to the drawing
- Serial number(s) measured
- Specification limits
- Inspection results
- OK/NOK judgement
- Date and signature

The inspection report and copy of the applicable purchase order must be shipped with the

prototype samples. Prototype samples received without accompanying documentation will be rejected.

Any Metallurgical/Heat Treat/Physical Test results available for the prototype parts must be included with the inspection report when submitted.

Any additional inspection requirements, outside of those listed above, will be delineated on the prototype request for quotation and/or purchase order.

In all cases, prototype samples that do not conform to either the Dana drawing or engineering specifications shall not be shipped prior to receipt of an approved engineering change or approved deviation from Dana Engineering. A copy of the approval document from Dana must be included with the prototype shipment.

Additional requirements for EV Prototypes. In addition to all other requirements, Supplier must provide:

- Minimum of five-piece full dimensional samples
- 100% inspection of all special characteristics (SC/CC/CAP etc) for all samples regardless of part pedigree.
- All specific test results specified on the drawing or engineering specifications, i.e. any electrical requirements (component dependant)
- All samples must be numbered, and the corresponding inspection reports supplied with every prototype sample provided.

4.6. Embedded Software and Related Hardware: For suppliers of product-related embedded software, or products containing embedded software, Dana requires that the Supplier establish and maintain a software/hardware quality assurance process. Additionally, the Supplier must also maintain, a software/hardware development capability assessment methodology and related documentation.

These quality assurance requirements also apply to related electronic hardware where it is involved with the functionality of the software. The above quality assurance requirements must also be implemented in cases where the electronic hardware is being developed by the Supplier for use with embedded software developed by Dana or other entities.

The above activities are in addition to any functional safety or cyber-security requirements separately communicated to Supplier by Dana.

During sourcing evaluations or otherwise, Dana may review and audit Supplier's processes and systems to determine if Supplier's practices satisfy the above requirements, and Dana's Software/Hardware Quality Assurance Standards which include conformance to CQI-34, AIAG Software Assurance Approval Process.

4.7. Product Safety: The Supplier shall maintain documented processes (including, where applicable, chemical management) for the manufacture of product-safety related products which shall include, but not be limited to the following, where applicable:

a) identification and notification to Dana of statutory and regulatory product-safety requirements
b) when directed by Dana, special approval by Dana Quality is required for control plans and Failure Mode and Effects Analysis ("FMEA")s
c) identification of product safety-related characteristics.

d) identification of and controls for safety-related characteristics of product at the point of manufacture.
e) reaction plans and an escalation process when acceptance criteria, such as product performance or product specifications are not met;
f) defined responsibilities, and process flow for information, including top management, and Dana notification;
g) training identified for Supplier personnel involved in product-safety related products and associated manufacturing processes as established by the Supplier and/or Dana and its customer(s);
h) flow-down of requirements with regard to product safety throughout the supply chain, including Dana-designated sources;
i) product traceability by manufactured lot (at a minimum) throughout the supply chain, acceptable to Dana;
j) lessons learned for new product introduction.

NOTE: All changes in products or processes affecting products supplied to Dana must be evaluated for potential effects on product safety and approved by Dana prior to implementation in accordance with the Change Management section of this Supplier Manual.

4.8. Production Part Approval Process (ePPAP). Dana requires all Suppliers to conform to the latest edition of the AIAG Production Part Approval Process Reference Manual, located at **http://www.aiag.org.** All suppliers must submit PPAP documentation to Level 3, in the English language, unless otherwise specified in the governing supply contract. PPAP submission is at the Supplier's expense.

If Supplier provides products to the Dana Off-Highway Product Group, such products shall conform to the PPAP requirements outlined in the Dana Off-Highway Specific Requirements GQG-022 available from assigned Dana Supplier Development Engineer.

The PPAP shall include a Run@Rate analysis of at least 8 hours. The analysis must include required changeovers and unplanned downtime. In a Run@Rate analysis lacking changeovers, scrap, or unplanned downtime, the supplier must reduce the available production time to reflect expected losses, using historical changeover, scrap, and downtime data from similar processes. Suppliers must ensure that required volumes can be supported within existing production equipment and facility resources.

Where specific packaging requirements are not specified in the applicable Contract or on the Dana product drawing or engineering specification, Suppliers must document their proposed packing method on the Supplier Packaging Form Rev.2.xls or using such specific format as agreed upon by the receiving Dana plant or end customer. The packaging plan must satisfy the APQP/PPAP requirements and be included as part of the Supplier's PPAP submission. The packaging specification must be approved by Dana receiving facility Quality Manager.

Dana receiving facilities are the sole authorized approver of all Supplier PPAP's with the exception that PPAP's for gears must be approved by a corporate Dana Engineering representative. Contact your Receiving Dana Facility Quality Manager for guidance.

Suppliers must submit a current Level 3 PPAP to all Dana Facilities and any new Dana receiving sites, receiving previously PPAP approved carryover parts. If revalidation submission has been validated within one year, those elements may be included in the Level 3 PPAP submission. The Supplier furnishing the carryover part will be advised when this requirement applies by the respective Dana Facility.

Suppliers of products being PPAP'd for the first time and shipped to multiple Dana facilities must submit the complete Level 3 PPAP to the Dana facility designated on their Purchase

Order. IMDS submission is required for all products and all communication shall reference Dana's IMDS # 2259. For the remainder of the Dana ship to locations, supplier may be required to provide a separate PSW, packaging form and capacity verification for signed approval, prior to shipping any production parts to those locations. The additional Dana receiving locations will contact the Supplier if a separate PSW is required.

If a supplier is authorized by Dana to ship the same product from multiple manufacturing sites, Supplier must submit Level 3 PPAP from each manufacturing site and obtain the PPAP approval of each of the Dana Receiving Facilities, in addition to Dana Engineering and Dana's end customer where applicable.

Dana reserves the right to request the submission of a new Level 3 PPAP at any time.

4.8.1. Annual Production Part / Process revalidation: All processes for production and service provisions shall be reviewed annually, including all pertinent documentation (e.g. Dimensional, FMEA, Control Plan, Process Flow, etc.) unless a previous written agreement is submitted upon PPAP revalidation request. This review includes all Dana end-customer specific requirements, IMDS etc. All the AIAG specified special process assessments shall be submitted annually along with all quality and product certifications.

Where Dana end customers require specific/additional annual updates beyond the elements Dana requests annually, the supplier shall submit updated warrants with the pertinent supporting documentation at the required frequency. Contact the Quality Department at the Dana facility receiving your product for guidance in relation to the applicability of this requirement.

Dana requires annual revalidations of approved PPAPs to be submitted to ensure process capability and capacity are maintained. The annual revalidations must be performed by Supplier at no additional cost to Dana.

4.9. Approved / Designated Sources: The use of Dana or Dana's end customer directed sources, including tool / gauge suppliers, does not relieve your organization of the responsibility for ensuring the quality of the source's products or compliance with all other supply agreements

4.10. Sub-Tier Supply Chain Control: Supplier is responsible for and must manage the performance of its sub-supplier(s) including, but not limited to, quality and delivery. This obligation extends to suppliers directed by Dana or Dana's customers. Upon request, any Dana supplier must provide evidence of its sub-tier approval and performance monitoring process.

4.11. Supply Capacity: Suppliers must manage deliveries to Dana according to the release / forecasts supplied by Dana. When releases / forecasts exceed a Suppliers' manufacturing or labor capacity, the Supplier must immediately notify their Dana Purchasing representative. The Supplier's notification to Dana does not relieve the Supplier of its obligation to deliver products in accordance with the applicable contract requirements and related delivery schedules. Suppliers must maintain an updated capacity verification/planning process to satisfy this obligation.

4.12. Dana Owned Tooling and Equipment: Dana owned tooling, and equipment shall comply with the terms and conditions of your Contract as well as marking/tagging and documentation requirements delineated in the Supplier Tooling Guidelines included in this Manual.

Suppliers must complete a **Requested Funds Appropriations (RFA) Itemized Tooling**

Breakdown for refurbished and new tools which must include:

- An itemized tooling breakdown including quantities / labor cost,
- An explanation of the tool and its specific physical location
- Pictures of refurbished tooling illustrating the wear and tear of the tool, with the refurbished area highlighted,
- Physical location of our tool

Suppliers must complete and maintain the D1S tooling information field and upload photo(s) showing completed tooling and complete the final itemized tooling breakdown forms. To release the final payment, we require all tooling information in D1S to be accurate and complete, and the product to be PPAP approved by Dana.

4.13. Dana End-Customer Owned Tooling: Suppliers shall comply with all Dana end customer tooling requirements and documentation requirements. Supplier must complete the Dana end customer's customer paid tooling ("CPT") form(s) and upload them into D1S. Final tooling payment will not be authorized until all tooling information in D1S is accurate, complete and approved by Dana's end-customer.

4.14. Global Casting Requirements: In addition to all drawing and engineering specifications, all casting suppliers are required to satisfy the **Dana Global Casting Quality Requirements**.

4.15. Environmental Protection and Sustainability, Health and Safety. In addition to the obligations set forth in the Dana Supplier Code of Conduct, Suppliers must also comply with the following obligations:

4.15.1. Sustainable Environmental Practices: Suppliers must create and implement a written Environmental Policy as the basis for their environmental management and sustainability program. This policy must include commitments to:

4.15.1...1. **Legal Compliance:** Adhere to all applicable local environmental laws and regulations, including a process for compliance review and corrective action.

4.15.1...2. **Environmental Management System (EMS):** Establish and maintain an EMS with clear objectives, targets, and improvement plans to minimize environmental impact. Key areas of focus include:

- **Air Emissions Reduction:** Minimize on-site air emissions through process improvements, material substitutions, reduced fuel combustion, and effective filtration.
- **Greenhouse Gas (GHG) Emissions Reduction:** Reduce Scope 1, 2, and 3 GHG emissions across facilities and the value chain, with a communicated reduction target and timeline. Dana encourages science-based targets.
- **Water Consumption Reduction:** Minimize water use, especially in water-stressed regions, through conservation and reuse programs.
- **Waste Reduction:** Implement the 4Rs (remove, reduce, reuse, recycle) to minimize waste generation.

- **Material / Substance Composition:** Supplier products must not contain banned or restricted substances, including those classified as hazardous for health (e.g., carcinogenic, mutagenic, toxic for reproduction), as defined by:
  - Customer-specific requirements.

- Applicable laws and regulations.

4.15.2. Registration, Evaluation, Authorization and Restriction of Chemicals (REACH):

- All substances in proposed chemical products must be reviewed and approved by the EHS department.
- Supplier products must not contain substances hazardous to health or banned substances, including those on the REACH Candidate List. Refer to the latest CAS classification at: https://echa.europa.eu

4.15.3. Compliance with Other Regulations and Lists:

- Suppliers must comply with substance restrictions outlined in:
  - Annex 14, Annex 17, and the End-of-Life Vehicle (ELV) directive, as defined in the Global Automotive Declarable Substance List.
  - Substances of Concern in Articles or Products (SCiP) reporting requirements.
  - Toxic Substance Control Act (TSCA) for imported toxic substances.
  - Per and Polyfluoroalkyl Substances (PFAS) restrictions.
  - Restriction of Hazardous Substances directive (RoHS).
  - California Proposition 65.
  - Asbestos is strictly prohibited in all products.

4.15.4. Conflict Minerals:

- Suppliers must identify and inform Dana about any products containing "Conflict Minerals" as defined by U.S. law, including the origin of raw materials.
- Use the latest Conflict Minerals Reporting Template (CMRT) and Extended Minerals Reporting Template (EMRT) found at: https://www.responsiblemineralsinitiative.org/reporting-templates

For further guidance see www.mdsystem.com and / or your Dana Engineering contact. All communication shall reference Dana's IMDS # 2259

4.16. Supplier Material Planning and Logistics: In addition to any material planning and logistics at a Dana plant level, Supplier must adhere to the Dana Material Planning and Logistics Supplier Manual found at Supplier MPL Manual. If there is a discrepancy between the manual and the Dana receiving plant instructions, please contact your Dana account representative fo guidance.

4.17. Warranty Management: Warranty claims will be managed through the Contract and Dana's NCMR process.. If a Supplier's product(s) fails to meet the warranty obligations of the Contract, then Supplier will be responsible for resulting costs and damage as established by the Contract and applicable law. Upon request by Dana, Supplier must provide evidence of root cause analysis of any performance failure or deficiency identified by Dana, its customer(s), or applicable government authorities, along with corrective action and containment of the affected product(s) as appropriate.

5. Change Management

All changes in product design, process, source, location, material, as well as equipment moves and/or deviation requests to the current PPAP approved level **must** be submitted to Dana for formal approval through a Supplier_Change_Deviation_Request.xls. This requirement is in alignment to the latest version of AIAG PPAP manual, Section 3. This obligation includes all changes and/or deviations at Supplier's location and including sub-suppliers. This requirement also applies to any change resulting from any process or product improvement activity or processing changes related to any previous product nonconformance.

Suppliers **must** obtain written approval from Dana **prior** to implementation of any requested change or shipment of any product manufactured after implementation of any change or containing deviation to Dana specifications. It is important to submit change requests early, as some changes will require Dana and/or customer testing and often lengthy customer review and approval processes. While change requests are pending, Supplier is responsible to maintain existing quality and delivery obligations.

Suppliers will be responsible for the costs of any testing required by Dana or Dana's end customer(s) to validate the change / deviation, requested by the Supplier. Suppliers must also ensure that the proposed change will not negatively impact the performance of Dana or Dana's end customer's product. Any testing costs related to the Supplier's requested change / deviation incurred by Dana and / or Dana's end customer(s) will be communicated to the Supplier by their Dana Purchasing Representative and will be paid by Supplier in accordance with Dana terms.

Upon receipt of written Dana approval of a Supplier change request, Supplier is required to submit a new Level 3 PPAP unless the written approval from Dana specifies otherwise. The receiving Dana facility will advise if they require a PTR (Production Trial Run) and / or any change management lot control or identification. No production shipments shall begin until Supplier has received the approved PSW from the receiving Dana facility.

Upon receipt of written Dana approval of a Supplier deviation request, Supplier is required to notify the receiving Dana facility's Materials Department that it will be shipping deviated product. Shipments of deviated products to a Dana facility must have the deviation number clearly identified on each individual container as well as the shipping documentation.

Suppliers are responsible for all damage or costs incurred by Dana and/or Dana's end customers for a Supplier's failure to comply completely with the Dana Change Management requirements. In **addition, *failure to follow the Dana Change Management process may result in New Business Hold or loss of business***

6. Non-Conforming Materials Requirements: Suppliers are responsible for regularly checking D1S for NCMRs and engaging with Dana to address corrective actions and cost recovery.

6.1. Non-Conformance Determination: A non-conformity is defined as a non-conformance in any products received by Dana to satisfy one or more of the following requirements -

- Material Specifications.
- Print Dimensions
- Material and Substance Specifications (including 4.15 requirements above).
- Engineering Specifications.
- Packaging Specifications.

- Mixed / wrong parts within a shipment.
- Improper identification of parts.
- Failure of a part to perform during the warranty period Dana has extended to their end customers due to a supplier created discrepancy.

Interruption to Dana's or its customers scheduled production, due to non-conforming or late shipments, will result in the issuance of an NCMR and full cost recovery along with an administrative fee.

6.2. Non-Conforming Material Parts Per Million (PPM) determination: The PPM assigned to a Supplier for non-conforming quantities of Products is determined by the number of discrepant pieces contained within a product shipment to a Dana facility with the following clarifications –

- One or multiple discrepancies on a product constitutes one defective piece.
- "Bulk Material" discrepancies are classified in the units the material is ordered (kg, Liters, lbs., etc.).
- Labeling issues are defined as one defective piece per incorrect label.
- Mixed products will be defined as the number of wrong products found in each correctly labeled container.
- The entire shipment quantity of deviated products parts will be considered discrepant unless the Supplier has sorted the shipment to identify the number of products to be covered by an approved the deviation.
  - If a Supplier notifies Dana of a defect, prior to its receipt by Dana, and requests the shipment be returned, then none of the products will be considered defective.
  - If the approved deviation results in a change to a Dana print, then none of the deviated parts will be considered discrepant.
- If discrepant products are sorted, the rejection quantities will be updated based on the sort results at Dana or supplier facility.

6.3. Supplier Notification of a Non-Conformance: When a Supplier non-conformance has been identified a Non-Conforming Material Report (NCMR) will be generated via Dana 1 Source which will assign NCMR/LS # for tracking. This notification will include the requirements for containment, material, response timing and the appropriate documents if a Dana end customer format for containment results is required. It is the Supplier's responsibility to proactively review Dana 1 Source for NCMRs assigned to the Supplier and to engage with Dana on timely response and remediation.

6.4. Supplier Initial response to a NCMR: Suppliers are required to respond to each NCMR within 24 hours of notification. The initial response must include the Supplier's containment actions, current production controls, dock audits as well as all other Dana or Dana end customer specified containment requirements.

6.5. Restricted Shipping: Where restricted shipping is required, the receiving Dana facility will initiate the restricted shipping Process by means of a restricted shipping notification letter which will delineate the Supplier's responsibilities and the criteria that must exist to exit the process.

6.5.1. Restricted Shipping Level I ("RS1") means that a Supplier must establish an additional 100% containment process at the supplying location to contain specific and / or specified product non-conformances. The Supplier must protect Dana from the receipt of non-conforming material. The additional 100% containment must be performed by the Supplier's employees, unless an alternative approach is approved by Dana, and must be in addition to the Supplier's normal production process controls.

Criteria for Application of RS1

Any nonconformance may result in the initiation of RS1 based on level of risk as assessed by the affected Dana facility. RS1 status may be established if the Supplier's current controls are deemed by Dana to be insufficient to ensure conformance to product specifications and requirements. Situations may include:

- Lack of, or inadequate response to product issues
- Repeat issues
- Pass-through defects that impact the customer
- Defects on significant or critical characteristics
- Defects related to safety or customer interface points
- Defects contributing to customer warranty

6.5.2. Restricted Shipping Level II ("RS2") is a requirement that a Supplier implement a certified third-party (approved by the initiating Dana facility) containment process to contain for a specific Product non- conformance condition, while simultaneously implementing a root cause and corrective action problem solving process. The root cause identification and implemented corrective action must be verified as effective by the certified third party. The third-party containment is in addition to your normal production process controls as well as RS1 containment activities.

Criteria for Application for RS2

RS2 may be instituted at any Supplier that meets any of the following criteria:

- Failure for RS1 to effectively contain the discrepant product
- Significant repeat CAR, DMR and/or NCMRs, Major delivery or production disruptions (severity, quantity and duration of the issue may all be considered),
- Major quality problems (i.e. safety-related defects, pass-through defects, customer complaints, warranty, etc.).

6.6. Root Cause(s) and Solution Identification: It is the Supplier's responsibility to confirm the root cause(s) of the discrepancy identified ASAP, with a target of three business days and to identify effective solutions to eliminate the true root cause(s). Suppliers shall demonstrate root cause validation on the required NCMR response within 10 days of NCMR notification. Dana may review the Supplier's root cause analysis. If Dana concludes that the Supplier's root cause measurement and analysis does not clearly validate the potential root cause(s), Dana may reject the Supplier's response to the NCMR and Supplier will be required to continue its investigation.

Where root cause(s) have been effectively validated, as determined by Dana and / or the end customer, Supplier must propose a remediation plan to implement permanent solutions and verify their effectiveness. Where proposed changes impact the design or the PPAP approved processing of a product a ***Supplier Change / Deviation Request*** must be generated, referencing the NCMR/LS number. (Reference the Change Management requirements section of this Manual).

The Supplier's remediation plan must be approved by Dana. If the plan is rejected, the Supplier must develop an alternative plan to address the problems identified in its root cause analysis to ensure that it can consistently supply conforming products.

6.7. Permanent Solution Implementation: Once Supplier's proposed remediation plan is approved, it is responsible, at its sole cost, to implement the plan. The relevant NCMR(s) must be updated by Supplier to indicate progress towards plan implementation. Dana will monitor the progress based on

milestones established for the planned activities. Where assistance is required to achieve the plan, the plan cannot be implemented as defined or it is determined that the plan will not solve the original problem, Supplier must notify Dana immediately.

6.8. Permanent Solution Effectiveness and System Changes: Supplier is responsible for providing evidence of the effectiveness of its remediation plan to prevent or control the root cause(s) on the non-conformity within thirty days of NCMR notification. This evidence shall be included in the relevant NCMR(s) response. If Dana concludes that the evidence does not clearly indicate satisfactory resolution, Supplier will be notified to include additional or more comprehensive evidence.

Suppliers must include appropriate updates to their Control Plan and FMEA as part of the evidence in its NCMR response. In addition, Supplier should deploy corrective actions to similar products and processes to minimize the potential for other non-conformities and quality problems.

6.9. Non-Conformance Costs: Suppliers are responsible for all damage and costs incurred by Dana and/or Dana's end-customers because of Suppliers' supply of non-conforming goods, including a reasonable administration fee to be determined by Dana. All actual charges will be documented in the NCMR and/or related debit memo(s).

6.10. **Supplier Improvement Action Plan:** Suppliers with poor performance (including but not limited to requirements outlined in this Manual) are required to develop a detailed corrective action plan in accordance with criteria established by Dana to address their performance deficiencies. The corrective action plan must be completed in accordance with Dana's established deadlines and submitted for Dana's review and approval prior to implementation of proposed corrective action.

Failure to successfully prepare and implement an acceptable correct action plan may result in Supplier being ineligible for new business or implementation of other rights or remedies by Dana.

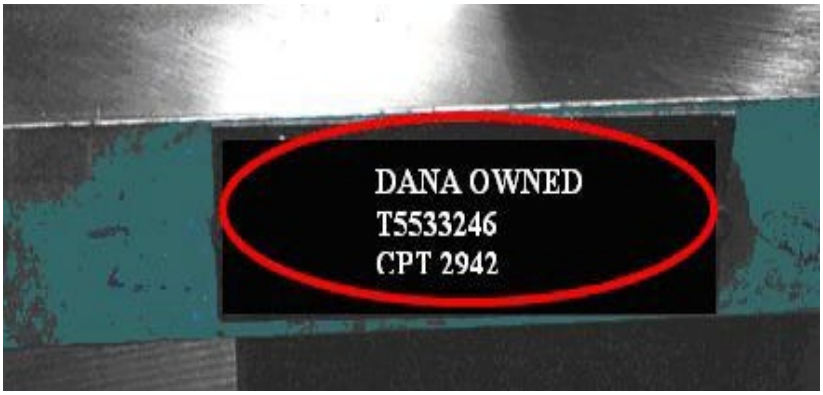
I. Supplier Tooling Guidelines

In addition to the requirements identified in the Buyer's Contract, the following provisions also apply to all Dana or Dana's Customer-owned Tooling provided by the Supplier.

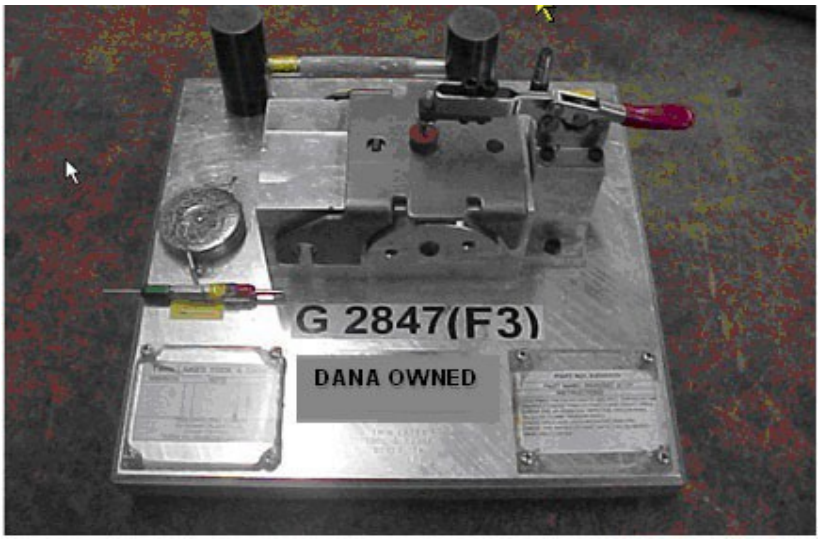
a. Tooling Marking and Identification

All tools must be permanently marked as specified by Dana. Permanent marking includes metal tags, etchings or stampings. Dana will provide proprietary tags when required by Dana or Dana's customer.

Suppliers must submit acceptable photographs which clearly illustrate the Tool ID # and the tool's function/part configuration. Photos must be uploaded to http://dana.livesource.com. Photos should include a close-up of tool ID number and function/part configuration as illustrated below. Photos must be labeled with the tool description as indicated in the Buyer's Tool Specification Form.



Tooling ID Tag #

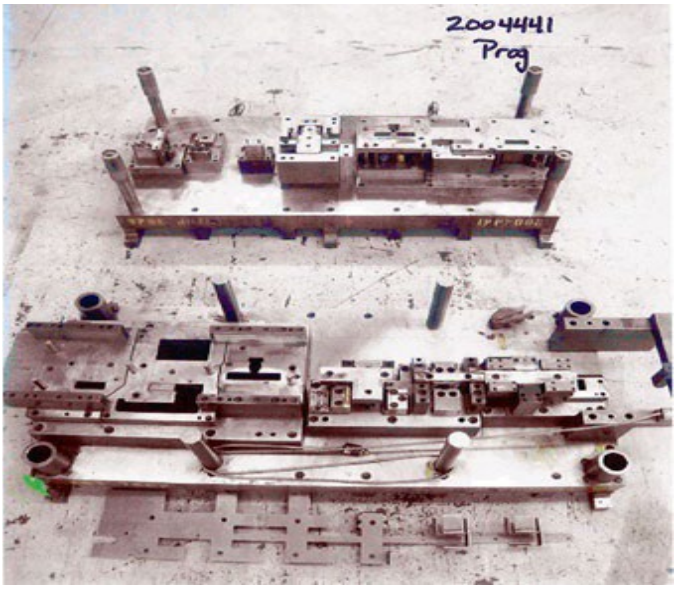


Description of Tooling Function or Part Configuration

In addition to the required tooling documentation identified above, the following Tooling Documentation must also be submitted when:

1. Tooling located at a supplier, submit an approved PSW (Part Submission Warrant)

2. Tooling includes dies, photo above must be in an open position (see below)



Tool # in Open Position

3. Tooling includes multiple quantities of the same tool; each individual tool must be included in a single photograph. (see below)

Tool # Detail Description and Quantity

4. Tooling includes final inspection gages, each gauge must be supported by a part

print identifying the dimensions being checked by the gage and a print of the gage, if requested by Dana.

Please contact your Supply Chain Management Representative if you have any questions regarding these requirements.

b. Tooling Reimbursement

Where Dana has agreed to pay for tooling and / or tooling installation, the Supplier must submit its actual cost for the tooling including detailed invoices and satisfactory supporting documentation at http://dana.livesource.com

Dana Owned Tooling

If Supplier possesses Dana owned tooling, it must ensure the integrity and usefulness of the tool in respect to safe storage. Storage of all the tools must be kept in a dry location within your facility and stored off the floor. At no time shall the tooling be stored outside or exposed to outside weather conditions. Climate controlled areas are preferred but not mandatory.

At no time is the Supplier permitted to scrap, modify or destroy Dana owned tooling without written consent from Dana.

All Dana owned tooling in Supplier's possession is held by Supplier on a bailment basis and Dana may, at any time, require Supplier to release such tooling to Dana upon reasonable notice. All Dana owned tooling must be identified and marked as the property of Dana and, to the extent possible, segregated from property of Supplier or other third parties. Supplier is responsible for maintaining appropriate insurance on Dana tooling in its possession and to allow Dana access to inspect and take inventory of such tooling at any time upon reasonable request.

II. Dana Global Casting Quality Requirements

It is the Supplier's responsibility to meet these requirements, in addition to any requirements identified in Dana Engineering Specifications identified on the Dana approved product drawing or included as a part of the Contract.

Casting Development Requirements:

a) The Supplier shall utilize 3D modeling software for casting development.

b) All casting development runs are to be sectioned, analyzed and documented. X-Ray is preferred method, however sectioning a minimum of 3 parts per cavity of the parts produced in any developmental run to clearly establish the location and level of any internal characteristic that may be evident in ongoing production runs and ensuring the product is within all functional and specification requirements.

c) The Supplier shall utilize in-house non-destructive test capability for the validation of all casting integrity during the product development stage. If the supplier does not have the in-house capability, they shall contract an ISO / IEC 17025 (or national equivalent) certified external source, which shall need Dana approval.

d) The Supplier shall conduct on the 1st Production Run:
   i. A minimum of one piece (3 samples total) from the beginning, middle and end of the production run must be x-rayed or sectioned, analyzed and documented to validate process stability and consistency with the development runs and within specification limits. Any exceptions to this requirement must be approved by the Dana receiving facility prior to submission.

e) When notified and required by Dana, one additional sample from the initial production must be x- rayed and documented evidence supplied with the PPAP Submission that shows the results correlate with all development modeling, pre-PPAP analysis or the PPAP will be rejected.

f) When notified and required by the Dana, the PPAP submission must be based on data taken from the initial production run and must include:
   i. A copy of the solidification modeling results, Photos of the sectioning or x-ray results conducted in the development runs and initial production run.

   ii. X-Ray report and films from the part evaluated in the 1st production run.

No production parts from the initial production shall be shipped to Dana prior to the Supplier receiving a signed PSW indicating PPAP approval has been issued by the Dana using location.

Ongoing Production / Process Change:

a) The Suppliers PPAP approved Control Plan must include specific on-going process integrated checks per the material specifications, at a minimum from the beginning, middle and end of each production batch to ensure the process is maintained under control to ensure internal casting quality integrity as demonstrated in the development stage through PPAP and this plan shall be approved by Dana.

b) Any process change must be approved by Dana prior to implementation verified by the Supplier starting with the first production run of the change. The PPAP must be updated and approved before any product can be shipped to a Dana receiving location.

c)

III. Website and Document Links

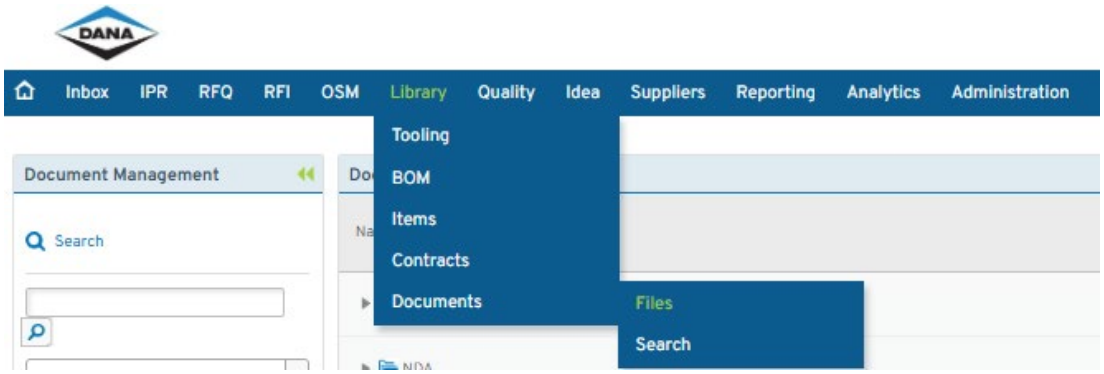
Title: Supplier Code of Conduct Link: https://www.dana.com/suppliers/working-with-dana/ethics-and-business-conduct/

Title: Supplier Registration Link: http://dana.livesource.com

Title: AIAG Website, Advance Product Quality Planning, Production Part Approval, Continuous Improvement Training and Tools
Link: http://www.aiag.org

Title: Dana End Customer Specific Requirements Link: http://www.iatfglobaloversight.org

The Following documents can be found in LiveSource after logging into your supplier profile under Library/Documents/Files as displayed below



Title: Supplier Material Planning and Logistics Manual File: Dana MP&L Manual

Title: Supplier APQP Training: e-APQP_Suppliers Manual V6.doc

Title: Supplier Change / Deviation Request File: Supplier_Change_Deviation_Request.xls

Title: Supplier Packaging Form and Label File: Supplier Packaging Form Rev.2.xls

Title: Special Characteristics File: Special_Characteristics_Definitions.doc

Title: Safe Launch Process (SD110) File: SD-110 Safe Launch_External Suppliers.xlsx

IV. Revision History

Aug, 2025

i. Introduction – Minor verbiage changes…added Purchasing Vision.

Added **Table of Contents**

ii. Business Conduct – Changed hyperlink

iii. Supplier Registration – Added last paragraph

1 Changed "Quality Objectives" **to "Performance Objectives"** – Minor verbiage changes. Added Participation in TRA Process, Supplier Scorecard Ratings and last sentence in section

2.1 Supplier Systems Assessment – Minor verbiage changes and updated Special processes and added CQI-29/30/34, mandated supplier sections and last sentence in the section.

2.2 Process Audits – Changed Series Review to Audit & minor verbiage changes

3 APQP changed to TRA & APQP Processes – Added introduction to TRA & APQP process. Added paragraph about e-APQP and APQP graphic

Added sections **3.1 TRA Process, 3.2 Supplier APQP Process Initiation and 3.3 Supplier APQP Process Execution**

Rewrite of combined **PPAP and Supplier Safe Launch into Section 3.4** as it pertains to APQP

3.5 System Improvement – Minor verbiage changes

4.1 Quality System – rewrite and format changes

4.2 Supplier Quality Manuals – Minor verbiage changes
4.3 Engineering Specifications – Minor verbiage changes

4.4 Record Retention – Minor verbiage changes

4.5 Special Characteristics - Minor verbiage changes, Added requirements for EV Prototypes

Added section **4.6 Embedded Software and Related Hardware**

Added section **4.7 Product Safety**

4.8 Production Part Approval Process (ePPAP) – Minor changes to reflect ePPAP process and added last sentence in section, Added Off-Highway Specific Requirements

Added section **4.8.1 Annual Production Part / Process revalidation**

4.10 Sub-Tier Supply Chain Control – Minor verbiage changes

4.11 Supply Capacity – Minor verbiage changes

4.12 Dana Owned Tooling – Substantial additions on RFA documentation requirements

4.13 Dana End Customer Owned Tooling - Additions on CPT documentation requirements
4.14 Global Casting Requirements - Minor verbiage changes

Added section **4.15 Environmental Protection and Sustainability, Health and Safety**

4.16 Supplier Material Planning and Logisitics - Minor verbiage changes

Added section **4.17 Warranty Management**

5 Change Management – Minor verbiage changes and added last sentence in section

6 Non-Conforming Materials Requirements – Minor verbiage changes and added last sentence in section

6.1 Non-Conformance Determination - Minor verbiage changes and added last sentence in section

6.2 Non-Conforming Material Part Per Million (PPM) Determination - Minor verbiage changes

6.3 Supplier Notification of a Non-Conformance - Minor verbiage changes and added last sentence in section

6.4 Supplier Initial Response to a NCMR - Minor verbiage changes, NCMR was SCAR

6.5 Restricted Shipping – Minor verbiage changes

6.5.1 Restricted Shipping Level 1 – Minor verbiage changes and Added Criteria for Application

6.5.2 Restricted Shipping Level 2 – Minor verbiage changes and Added Criteria for Application

6.6 Root Cause(s) and Solution Identification – Minor verbiage changes

6.7 Permanent Solution Implementation – Minor verbiage changes

6.8 Permanent Solution Effectiveness and System Changes – Minor verbiage changes

6.9 Non-Conformance Costs – Minor verbiage changes

6.10 Supplier Improvement Action Plan – Process changed to Action Plan, Minor verbiage changes and added last sentence in section

I Supplier Tooling Guidelines – Minor verbiage changes, reformatted pictures and moved content into subsection **I.a. Tool Marking and Identification** and added subsection **I.b.Tooling Reimbursement**

II Global Casting Quality Requirements - Minor verbiage changes

III Website & Document Links – moved from section 7.0

IV Revision History – updated and moved from section III

March, 2020

Introduction – added Last paragraph.

Section 1 – quality objectives – Successful Product Launches was Flawless Product Launches

Section 2.1 revised.

Section 3 – added reference to Program Technical

Review. Section 3.2 – first sentence revised.

Section 3.3 – first sentence revised.

Section 4.1 – 2nd, 5th & 6th paragraphs revised.

Section 4.7 – last sentence revised.

Section 4.17 - new addition referencing the MP&L

Manual Section 5 – 1st paragraph revised.

Section 6.1 – 1st sentence revised.

Section 6.6 – 1st sentence of paragraphs 1 & 2

revised. Section 6.8 – 1st paragraph revised. Added

last paragraph.

Section 7 – Added AIAG Website Link

– Added Supplier Material Planning & Logistics Manual Link

Supplier Tooling Guidelines – added Dana Owned Tooling statement at the end.

January, 2017

Section 1 - Quality Objectives was updated.

Section 2 - Supplier Assessment Process – updated paragraph 2.1

Section 3 - APQP – updated paragraphs 3.1 and 3.3

Section 4 - Dana Specific Requirements – Updated paragraphs 4.1, 4.5, 4.5.1, 4.7, 4.8, 4.9 & 4.15 & added 4.16

Section 6 - Non-Conforming Material Requirements - updated paragraph 6.3

September, 2015:

Revised iii. Supplier Registration.

Supplier Assessment Process moved up to

Section 2 APQP - renumbered and revised

paragraphs 3.1& 3.3.

Dana Specific Requirements – Renumbered the section and added a new paragraphs 4.6 and 4.13, revised paragraphs 4.4, 4.7 & 4.12

Renumbered Change Management.

Renumbered Non-Conforming Material Requirements and revised paragraphs 6.1 & 6.6.

Section 7.1– Supplier Development Document Library was Supplier Document Center. Revised the Instructions in the Supplier Change / Deviation request.

Dana Global Casting Quality Requirements – Revised paragraphs e) & f) in the Casting Development Requirements section.

Supplier Tooling Guidelines – Revised and rewritten.