1 PURPOSE:

The purpose of this Supplier Quality Manual is to clearly communicate MPP's requirements and expectations to suppliers, and to serve as an internal reference for MPP personnel regarding supplier-related requirements.

This manual defines the quality, delivery, and purchasing requirements necessary to support consistent performance and standardized processes for supplier management, nonconformance handling, and overall performance evaluation.

The SQM is a companion document to the MPP Supplier Code of Conduct. Both documents are maintained by MPP and are available at www.MPPInnovation.com on the Customers and Suppliers page. Compliance with the latest revision of this Supplier Quality Manual is a mandatory condition of MPP purchase orders, and suppliers are responsible for ensuring adherence to its requirements.

2 SCOPE:

This Supplier Quality Manual defines MPP's quality expectations for all suppliers providing Production, Prototype, and Service parts. While it aligns with the requirements of IATF 16949, ISO 9001, and ISO 13485, its primary purpose is to clearly communicate the specific quality system standards, processes, and performance expectations that MPP and its customers require. This manual serves as a framework for evaluating supplier quality systems and guiding supplier compliance. It is applicable to all MPP divisions and plants, which may also issue site-specific or purchase order-specific supplemental requirements.

3 CONFIDENTIALITY:

All information concerning the relationship between MPP and its suppliers will be respected as confidential. This includes, but is not limited to, purchase specifications, pricing and customer information.

4 DISTRIBUTION:

This document is maintained by MPP and will be available on our website. Compliance to the requirements of this Supplier Quality Manual is mandated on MPP purchase orders. The supplier is responsible for compliance to the most recent version of the Supplier Quality Manual.

5 **DEFINITIONS**:

ASL: Approved Supplier List.

PTC: Pass-Thru Characteristic. A Pass-Thru Characteristic is any product feature or attribute that originates from a supplier upstream of the MPP manufacturing process, is not modified during the MPP manufacturing process, and has the potential to reach the end customer as a nonconformance if not detected.

Run @ Rate: A Run at Rate (R@R) is a planned production run conducted to verify that a manufacturing process can meet customer demand volumes, quality requirements, and process capability standards over a sustained period.

Safe Launch Process: A Safe Launch Process is a short-term containment and verification plan that includes enhanced inspection, data collection, and monitoring activities to ensure that production parts meet customer requirements during the initial phase of mass production as the manufacturing process stabilizes after initial launch.

SDS: Safety Data Sheet. A document that provides detailed information about the hazards and safety precautions associated with a chemical product.

Work Hour: Refers to a 60-minute time period during regular business hours, 8am through 5pm, on any given work day.

6 **AUDIT:**

6.1 MPP personnel and/or customers or the customer's representative has the right to verify at the supplier's premises and at MPP's premises that subcontracted product conforms to specified requirements. A "Supplier Audit" is mandatory for all new Suppliers, meaning any supplier who has never before supplied material to any MPP facility and who is a supplier of high risk or new/key material used. The first phase of the "Supplier Audit" requires the supplier to complete the Supplier Profile form. Based on the information provided, the MPP Purchasing and/or Quality Department will then decide whether or not a facility review will also be required using the Supplier Audit form.

6.2 MPP has the right to conduct periodic visits at any supplier location that currently does direct and indirect business with MPP. These visits will be performed by Supplier Quality, Supplier Development, or Plant/Corporate staff. They will conduct problem visit resolution reviews, APQP/ launch readiness reviews, supplier capacity and overall supplier performance reviews.

7 **CUSTOMER SPECIFIC REQUIREMENTS:**

7.1 **AIAG Standards:**

The Automotive Industry Action Group (AIAG) at www.aiag.org has published several manuals that standardize procedures, technical classifications, and reporting formats, which are required by our customers. Suppliers are responsible to remain current with these standards.

7.2 **AIAG CQI STANDARDS:**

As required by Automotive OEM Customer Specific Requirements or IATF 16949, sub-tier suppliers to MPP are to have CQI-9/ 11/ 12 Assessments for heat treated/ plated/ coated/ components. Suppliers will be responsible to update and submit annual copies of their assessments to MPP. Should Metal Powder Products need to contact you directly regarding a document, it is expected that the newest version document will be provided to the Requestor within 5 business days. Failure to provide the requested documentation within the allotted timeframe will result in escalation which may include: SCAR issuance, New Business Hold, Removal from ASL, etc.

8 **CODE OF CONDUCT:**

Contractors and Suppliers and Contractors are expected to comply with the latest version of MPP Supplier Code of Conduct located at www.MPPInnovation.com on the Customers and Suppliers page.

9 **Third Party Certification Requirements:**

9.1 Suppliers are required to maintain an accredited 3rd party certification to ISO 9001. Suppliers providing goods and services for MPP automotive applications are strongly encouraged to have IATF 16949 certification or be pursuing it.

9.2 Suppliers are strongly encouraged to be pursuing an environmental management system consistent with ISO 14001. Suppliers who gain ISO 14001 certification will be expected to update and submit a copy of their registration certificate to MPP.

9.3 Suppliers who fail a surveillance audit must notify their MPP Buyer immediately. Failure to maintain your IATF 16949 or ISO 9001 certification will result in the removal of a supplier from the Approved Supplier List, which entails re-sourcing any business the supplier has with MPP.

9.4 All external labs used for gage calibration and validation testing must be ISO/IEC17025 certified.

9.5 Should Metal Powder Products need to contact you directly regarding a document (e.g. IATF 16949 or ISO 9001, Profile, CQI, etc.), it is expected that the newest version document will be provided to the Requestor within 5 business days. Failure to provide the requested documentation within the allotted timeframe will result in escalation which may include: SCAR issuance, New Business Hold, Removal from the MPP ASL, etc.

10 **GENERAL:**

10.1 Outstanding quality and delivery performance including adherence to MPP “Zero Defects” and “100% On Time Delivery” goals are required. Cost competitiveness and excellent customer service are also required. Sustained poor performance in conjunction with unacceptable corrective action could potentially result in the removal of a supplier from the Approved Supplier List, which entails re-sourcing any business the supplier has with MPP.

10.2 MPP's Quality Assurance Department in the plant receiving the supplied goods or services will provide assistance to suppliers in the following areas:

- Resolution of critical issues between the supplier and the MPP facility
- Provide direction on MPP policies pertaining to suppliers
- Assist high impact suppliers with improvement activities
- Work with potential new suppliers to bring them to a level to be added to the ASL
- Provide resources for, and where appropriate, conduct specific training when a supplier has a need for additional skills or knowledge

11 PPAP:

Initial PPAP Submission Requirements

11.1 The level of PPAP submission to MPP always defaults to a Level 3 PPAP submission, unless otherwise specified. The language is English parallel translations are acceptable. The PPAP is at no cost to MPP.

11.2 In order to receive full payment related to the specific product being purchased by the MPP plant, the supplier must obtain full PPAP approval from the MPP receiving plant.

11.3 Each supplier must meet all of the PPAP requirements including the promise date of submission to the MPP plant in question. PPAP promise dates are established at product launch meetings with the MPP Launch Teams or Plant Program Management Teams. It will be the responsibility of the supplier to supply an AIAG / OEM compliant PPAP package. The package will be in accordance with the AIAG PPAP Manual and submitted to the receiving MPP plant. The PPAP package will be representative of the final customer format in which the receiving plant will be submitting to its customer. Each of the OEM specific requirements must be in accordance with customer specific requirements and instructions found in the AIAG PPAP Manual.

11.4 With the PPAP submission, the supplier is to include the latest version of the Metal Powder Products PPAP Checklist or relevant end user checklist.

11.5 The MPP receiving plant will inspect the PPAP samples and review the documentation. If the submission is found to comply with all requirements, the Part Submission Warrant (PSW) will be marked approved, signed and returned to the supplier. If discrepancies are found, the submission will be rejected and put on hold until those discrepancies are resolved. The PSW will be marked rejected, signed and returned to the supplier, along with a Supplier Request for Corrective Action form detailing the discrepancies.

Annual PPAP Submission Requirements

11.6 All product characteristics must be measured annually at a minimum to ensure continuing conformance to the drawing, material and specifications for all parts and services provided to MPP.

11.7 Annual validation submissions are to be retained at the supplier location and made available upon request. Current Laboratory Certificates are also to be available upon request. Inability to provide timely annual validation documents when requested will result in the issuance of a

Supplier Corrective Action Report (SCAR). This requirement applies to all drawing, specification and purchase order requirements unless otherwise waived by an approved deviation.

11.8 The results of dimensional inspection, material and functional testing must be documented using the sequence of the ballooned drawing/specification from the initial PPAP submission. Supplier forms are acceptable but must be in English.

Note: Certificates of Compliance (CoC's, CoA's, Material Certs) are not acceptable replacements for an Annual PPAP.
Note: Annual Validation is at no cost to MPP.
Note: Based on MPP's specific customer requirements, additional documentation may be required. If additional items are needed, this will be communicated to the supplier.

12 APQP and SAFE LAUNCH:

12.1 All suppliers shall utilize and maintain the AIAG Advanced Product Quality Planning (APQP) methods at all stages with the goal of problem free, seamless launch. Reference the most recent revision of the following manuals/standards:

- AIAG Production Part Approval Process (PPAP)
- AIAG Statistical Process Control (SPC)
- AIAG Measurement Systems Analysis (MSA)
- AIAG Advanced Product Quality Planning and Control Plan manual (APQP)
- AIAG Potential Failure Mode and Effects (FMEA)
- IATF 16949

12.2 The supplier's product quality team must assess the feasibility of the proposed design during their APQP phase of the program. Customer design ownership does not preclude the supplier's obligation to assess design feasibility. The team must be satisfied that the proposed design can be manufactured, assembled, tested, packaged and delivered in sufficient quantity on schedule at an acceptable cost to MPP. The supplier's consensus that the proposed design is feasible should be documented along with all open issues that require resolution and presented to MPP for their support.

12.3 Pass-Thru Characteristics (PTC)

12.3.1 PTC's are supplier controlled. Once generated, they are not further controlled or functionally tested/inspected during processing at the MPP Plant. Non- conformance in these types of characteristics will be passed on to MPP customers. Suppliers are required to conduct the following:

- Ensure that PTC's are considered during their APQP activities and that relevant controls are identified and applied in the Process Failure Modes and Effects Analysis and Control Plan
- Identify each pass-thru characteristic as PTC on their control plan
- Communicate PTC's to their sub-tier suppliers and require proper control

12.4 All suppliers must utilize a Safe Launch process to include product/material certification during initial production runs. The duration of certification shall be initiated by the supplier

and approved by the MPP plant at time of supplier PPAP. Individual part markings or box labeling shall be as instructed by the MPP plant.

12.5 Run @ Rate/ Capacity Analysis

12.5.1 Suppliers are required to perform a Run @ Rate/Capacity Analysis as part of their PPAP process. The results shall be documented on the Supplier Run @ Rate/Capacity form and submitted as part of the PPAP package.

12.5.2 The purpose of the Run @ Rate / Capacity is to ensure that the supplier's process is capable of meeting PPAP requirements and quoted volumes.

12.5.3 Where equipment and/or processes are shared with other part numbers, the supplier is required to perform a capacity study prior to a Run @ Rate, to ensure that equipment / process capacity is not over sold.

12.5.4 During the analysis, all production tooling must be in place and running at full capacity, using all processes, personnel, gauging and procedures. The process and controls shall be reflected in the supplier's control plan.

12.5.5 The number of components to be produced during the Run @ Rate/Capacity Analysis will be the same quantity required for PPAP, or as specified by the purchase order. The results should then be projected to show the results based on an 8-hour production run. Typically, Run @ Rate duration and quantities should be at least one (1) full production shift at a rate that meets MPP's required daily or hourly production rate (E.g., 200pcs/hour). Enough units or parts should be produced to demonstrate the full-rate capability, 300-1,000 units or parts, depending on takt time and complexity.

12.5.6 Future capacity studies may be requested to the supplier based on volume increases.

13 TOOL ACCEPTANCE:

13.1 Any production tooling/gages that are the property of MPP must have a Tool Acceptance Report submitted as a part of the PPAP process. It is the supplier's responsibility to complete the Tool Acceptance Report.

13.2 The purpose for the Tool Acceptance Report is to have a record of the tools/gages built by the supplier or the supplier's vendor. It will also assist with the approval process for payment of the tooling/gage.

14 PRODUCT ID & TRACEABILITY:

14.1 MPP requires the supplier to establish and maintain procedures for identifying the production lots from receipt of raw material through shipment of final product. This system should permit the segregation of suspect material, and the reporting of quality and production data, based upon lot control for each shipment supplied to MPP.

14.2 All required paperwork such as material certifications, inspection reports, shall be retained by the supplier, and be available to MPP upon request.

15 RECORD RETENTION:

15.1 All required paperwork such as material certifications, inspection reports, shall be retained by the supplier, and be available to MPP upon request.

15.2 Records will be retained at the supplier as follows:

- PPAP: Minimum of 10 years past the life of the program
- Material certification: 3 years
- Inspection reports: 3 years
- All other documents not specified for a minimum of 3 years
- All Medical Device documentation for at least the lifetime of the medical device as defined, but not less than two years from the medical device release by the organization.
- Suppliers must also comply with any additional customer-specific record retention requirements communicated through MPP, if applicable.

16 SUPPLIER PERFORMANCE RATING SYSTEM (SPRS)

16.1 SPRS is used to monitor supplier performance on an annual basis, at minimum. This system will put variable data in a numeric database, which will be used to provide feedback to both the supplier and MPP about ongoing performance. Feedback will be provided to the suppliers on an annual basis.

16.2 At a minimum, the following supplier performance indicators will be taken into consideration when determining the SPRS Scorecard evaluations.

- delivered product conformity to requirements.
- customer disruptions at the receiving plant, including yard holds and stop ships.
- delivery schedule performance.
- number of occurrences of premium freight.

16.3 If provided by MPP's customer, the organization will also include the following, as appropriate:

- special status customer notifications related to quality or delivery issues.
- dealer returns, warranty, field actions, and recalls.

Repercussions for Poor Supplier Performance

16.4 Information from the SPRS will be used to determine future sourcing decisions and supplier development activities. In addition, suppliers that exhibit poor performance or Non/Poor-Responsiveness to corrective actions will be notified by MPP to provide their specific corrective action reports and their overall improvement plan.

16.5 Suppliers who continue to exhibit poor performance or non-responsiveness could be subject to an on-site Supplier Quality Audit by MPP, placed on New Business Hold status, and/or could be resourced and removed from the Approved Supplier List, depending on the severity of the quality issue(s).

16.6 All prior purchase commitments made with a supplier will be considered void if this supplier is removed from the Approved Supplier List due to unacceptable performance.

17 SUPPLIER CORRECTIVE ACTION REQUEST (SCAR):

17.1 SCAR's will be issued when the supplier's product (bulk, raw, component, assembly, etc.) does not meet design/print/functional requirements. Other examples for issuing a SCAR include not meeting the engineering specifications, foreign material present in the product, damaged material, incorrect material shipped, short shipments, mislabeling, packaging, rejected PPAP, failure to maintain annual validation records, safety issues, late corrective action responses, non-responsiveness, etc.

17.2 The origin of the SCAR can occur at any point in the manufacturing process (MPP facility, MPP's customer, or customer warranty). Each MPP plant will issue specific instructions when the supplier's product or service is rejected.

17.3 Suppliers to MPP will be responsible for costs incurred due to the supply of defective material. The supplier is responsible for replacing non-conforming material in a timely manner to meet MPP delivery requirements.

17.4 In the event MPP detects non-conforming purchased product, and production scheduling and inventories prohibit return to the supplier, MPP reserves the right to perform interim containment actions for non-conforming product at the supplier's expense.

17.5 Any additional costs incurred by MPP due to a supplier non-conformance will be charged back to the supplier, see "Cost Recovery" below for additional detail.

17.6 If a SCAR is issued to a supplier, the supplier is expected to complete an 8D Problem Solving Report to document its investigation of the SCAR. Suppliers may use their own 8D form unless explicitly asked to use the MPP 8D Problem Solving form by the receiving MPP location.

17.7 As part of the evidence of the permanent corrective action, ALL Documentation (Control Plan, PFMEA, WI, etc.) shall be up-dated and be provide with the SCAR reply as evidence of change. These documents shall clearly identify the SCAR# on both the Control Plan & PFMEA. If the SCAR is a repeat issue that shall also be noted on the Control Plan & PFMEA. The new RPN # on the PFMEA shall reflect the actions taken utilizing the latest AIAG PFMEA Edition.

17.8 Operator Error is not an acceptable root cause and a SCAR with this reason will be Rejected.

17.9 Stock shall be certified until the Permanent Corrective Action (PCA) is implemented, plus a verification period (as defined by the MPP plant) to confirm the PCA effectiveness.

SCAR Timing Expectations

17.10 SCARs shall adhere to the timing requirements established below. If meeting the expected due date is at risk, a request for a timing extension must be submitted and approved by MPP Quality before the due date has lapsed.

Milestone	Timing Expectation
Acknowledge the SCAR	0-4 Work Hours
Develop and Initiate Interim Containment Actions (D3)	0-24 Work Hours
Complete Root Cause Analysis and Determine Permanent Corrective Actions (D5)	0-15 Calendar Days
Implement Permanent Corrective Actions, Verify Effectiveness, and Implement Preventive Actions. Submit 8D for Closure	0-30 Calendar Days

17.11 If the above timing is not met, MPP may issue a Customer Dissatisfaction SCAR. If a SCAR continues to go unanswered or continues to receive poor responses after ongoing documented attempts by MPP, then MPP Management will intervene and develop next steps (e.g. supplier meeting, New Business Hold, removal from ASL, and/or resourcing of current business).

SCAR Appeal Process

17.12 The supplier may appeal the issuance of a SCAR or specific information contained in the SCAR. To appeal, the supplier shall use the following process:

- The supplier shall provide objective evidence to Quality Manager at the issuing location demonstrating the rationale for the appeal.
- Any request for change or appeal to a SCAR must be submitted within 10 calendar days of issuance of the SCAR. Requests after this time frame will not be reviewed.
- If 10 calendar days are not enough time to determine if a SCAR appeal is needed, then the supplier shall submit a written communication to the SCAR Author requesting additional time.
- If the supplier does not agree on the outcome of the appeal, the supplier may pursue the appeal further within 10 days of the MPP plant decision. The 2nd level appeal should be directed to MPP Purchasing for further consideration.

18 CONTROLLED SHIPPING:

18.1 Controlled Shipping is a MPP-mandated quality containment process initiated when a supplier's standard controls have failed to prevent nonconforming product from reaching MPP or its customer. The process requires the supplier to implement additional inspections and controls beyond normal production quality checks to ensure all shipped product is conforming.

18.2 Controlled Shipping is intended to protect the customer, drive root cause resolution, and restore confidence in the supplier's quality system.

18.3 Entry into Controlled Shipping requires formal notification to the supplier via mail or email, and exit is contingent upon meeting agreed criteria, such as a defined period or quantity of defect-free production and verified implementation of effective corrective actions.

18.4 Controlled Shipping may be required due to repeated nonconformances, ineffective corrective actions, customer line disruptions, or issues involving safety, compliance, or form/fit/function. It is structured into two levels:

18.5 Controlled Shipping Level 1 (CS1): The supplier performs one additional redundant inspection and containment process to perform a 100% certification for a specific defect or multiple defects. CS1 is separate from standard production controls, using trained personnel and documented work instructions. As defined by MPP, the supplier shall clearly identify each container to identify that it has been undergone Level 1 certification. As defined by MPP, each individual part may be required to be marked to show certification.

18.6 Controlled Shipping Level 2 (CS2): Includes all CS1 requirements, plus a second redundant inspection by a MPP-approved third party for independent verification before shipment. The supplier is required to contract a certified 3rd party to certify and inspect off line all products prior to shipment to MPP. Level 2 is imposed on a supplier when level 1 is not successful, early production issues for new launches, or as deemed necessary by MPP.

18.6.1 The third-party sorting company is selected by the supplier, approved by MPP and paid for by the supplier.

18.6.2 In special cases, the Level 2 Controlled Shipping inspection may be required to be performed outside the supplier's facilities at a location defined by MPP. Suppliers are required to notify their registrar when placed on Level 2 containment. As defined by MPP, the supplier shall clearly identify each container to identify that it has undergone Level 2 certification. As defined by MPP, each individual part may be required to be marked to show certification.

18.7 Key Steps of the Controlled Shipping Process

1. An agreement within MPP Quality and MPP Plant management that current controls by the supplier are not sufficient to insulate MPP from the receipt of nonconforming parts/material.
2. Determination by MPP which level of controlled shipping is required and how it is to be implemented.
3. Provide formal written communication to the supplier of action (Level 1 or Level 2) to be taken including an exit criterion.
4. Supplier provides containment status, sort results and effectiveness on a regular basis.
5. Review of the supplier's corrective action plan.
6. Once corrective action is proven to be effective, removal of contained shipping status.

19 CHANGES:

19.1 The supplier is responsible for providing written communication to MPP Purchasing of all manufacturing process changes that affect the material(s) being supplied to MPP. Based on

the specific circumstances, MPP will then evaluate if it can accept the supplier's specification requirements or if re-approval is required. This would include the supplier's inability to meet any parameters listed on the MPP specification. Examples include any changes in product form, any changes in the manufacturing process, a supplier wanting to supply the same product / material from a different manufacturing site that is not already approved, material changes, and/or related changes that may affect fit, form, or function.

19.2 Suppliers are required to notify MPP of any company name, or significant personnel or contact changes within their company. This will not require reapproval. If there are changes in the supplier's manufacturing location a Supplier Audit may be conducted. New SDS sheets with the corrected manufacturer name will be required for products already on the Approved Source List.

20 COST RECOVERY:

20.1 Suppliers shall be responsible for all costs incurred by MPP resulting from supplier-related quality or delivery issues, including but not limited to sorting, rework, line downtime, premium freight, and customer penalties. MPP reserves the right to debit suppliers for such costs upon verification of the issue

21 HEALTH, SAFETY, and ENVIRONMENT:

21.1 Environmental and Social Responsibility

Sustainability

All suppliers must:

- Conserve resources
- Reduce emissions and waste
- Favor recyclable/biodegradable packaging
- Comply with total lifecycle cost analysis

Code of Conduct

Contractors and Suppliers and Contractors are expected to comply with the latest version of MPP Supplier Code of Conduct located at www.MPPInnovation.com on the Suppliers page.

Supplier Diversity

MPP is committed to increasing spend with:

- Minority-owned
- Women-owned
- Veteran-owned
- LGBT-owned
- HUBZone and Small Businesses

Diversity is considered within competitive selection processes.

22 CONTINGENCY PLAN:

Suppliers are required to have well defined business contingency plans in place to ensure continuity of supply in the event of:

- Disruption to their operations and/or supply of materials
- Natural disasters
- Utility or labor disruptions
- Equipment or logistics failures or interruptions
- Disruptions/attacks on information technology systems

These contingency plans shall be reviewed by the supplier on a regular basis. Suppliers shall immediately notify all impacted MPP locations to which they ship product, the moment they become aware of any potential supply disruption. Should production interruptions be of an extended nature, requiring a full or partial stoppage in production, we expect suppliers to conduct and document thorough shutdown and startup procedures. MPP retains the right to request copies of shutdown/startup checklists or audits, as deemed necessary by our own risk mitigation processes.

23 **DOCUMENT CHANGE HISTORY:**

(Log brief descriptions of changes, current revision level, revised by and date of implementation in the table below)

Revision	Description	Originator	Date
1	New – Document Release	D. Smith	01/09/17
2		S. Kahn	02/12/19
3		S. Kahn	10/23/19
4		J. Bower	04/21/23
5		J. Bower	01/05/23
6	Revised the entire manual for clarity, consistency, and grammar. Added content to better define expectations and align with current quality requirements.	A. Cerveniak	06/06/25