

Early Production Containment Global GP-12

NOTE: GP-12 “Early Production Containment” (GM-1920) has been incorporated into the General Motors Specific Section of the “Production Part Approval Process” procedure. Reference the Global Supplier Quality Manual (GM1927) – APQP Task 14.

1.0 SCOPE: GP-12 is to be used for all pre-production, production, service and accessory part requirements that;

- Require Production Part Approval Process (PPAP)
- Represent significant risk to the customer facility as mandated by GM

2.0 DEFINITION AND PURPOSE:

GP-12 Early Production Containment requires a Pre-Launch Control Plan that is a **significant** enhancement to the supplier's production control plan and raises the confidence level to ensure that all products shipped will meet GM's requirements. The pre-launch control plan will also serve to validate the production control plan. The Pre-Launch Control Plan should take into consideration all known critical conditions of the part as well as potential areas of concern identified during PPAP.

The purpose of GP-12 is to:

- Validate the supplier's production control plan
- Protect our assembly and manufacturing centers and service part warehouses from quality non-conformances during critical periods
- Document the supplier's efforts to verify control of its processes during start-up, acceleration, after revisions to the manufacturing process, or when manufacturing runs are separated by 3 months or more
- Ensure that any quality issues that may arise are quickly identified, contained, and corrected at the supplier's location
- Increase involvement and visibility of supplier's top management

3.0 SUPPLIER RESPONSIBILITY: The supplier shall:

- A. Validation Process: Establish a validation process that contains the following elements:
 1. Identify the staff person responsible for ensuring the development and implementation of the verification process.
 2. Implement GP-12 with entry date, exit criteria, and exit date as defined by the customer
 3. Establish GP-12 containment stations, which must be off-line, separate, and independent check from the normal manufacturing process and located at end of process. Additional, or when more effective, in process containment stations may be utilized and must be documented and approved by the customer/Supplier Quality Engineer (SQE).
 4. Identify additional inspections, testing, and dimensional checks required at the GP-12 containment station based on Key Product Characteristics (KPCs), Part Quality Characteristics (PQCs), critical measurement points, high RPN and/or issues identified during product and process development.
 5. Train personnel relative to the standardized work performed at the GP-12 containment stations.
 6. Establish a reaction plan for single defect.
 7. Implement an audit process of the GP-12 containment utilizing levels of management (layered audit), including site leadership, to insure conformance to the Pre-Launch Control Plan.
 8. Include subcontractor (Tier 2) in the validation process.
 9. Submit data to GM for all KPC's, PQC's, and critical measurement points per the requirements defined in GM11011.
- B. Plan Development: Development of a Pre-Launch Control Plan which is a significant enhancement to the production control plan and also consisting of additional controls, inspections, audits, and testing to insure conformance and capability of the manufacturing process. The plan needs to consider:
 1. Increased frequency/sample size as stated in the Production Control Plan.
 2. Verification of packaging and label requirements – including service and accessory part requirements, which may include country of origin labels on parts.
 3. Verification of the effectiveness of error proofing.

Early Production Containment Global GP-12

4. Immediate implementation of containment and irreversible corrective action when non-conformances are discovered in the GP-12 containment area or at the receiving location.
- C. Documentation: Document the Pre-Launch Control Plan using the Control Plan format referenced in the AIAG Advanced Product Quality Planning and Control Plan Reference Manual or other customer approved Advanced Quality Planning reference manuals. The Pre-Launch Control Plan is not a substitute for the Production Control Plan but, is an addition to the Production Control Plan and is used to validate it.
1. Document additional inspections, functional testing, and dimensional checks required at the GP-12 containment station or in process check stations on the Control Plan Special Characteristics form referenced in the AIAG APQP Manual – Supplement K and reference said document in the Pre-launch Control Plan as a specific operation.
 2. Document inspection work instruction for the GP-12 containment station to insure standardized work.
 3. Document evidence of execution and validation of the control plan utilizing the I-chart (GM1927-66) or other format agreed upon by the customer. The data must be readily available for review by the customer/SQE.
 4. Document problem solving for both internal and customer quality concerns utilizing customer acceptable format; including problem description, root cause, irreversible corrective action with break points and update FMEAS and Control Plans as appropriate. The 3 x 5 Why Analysis (GM1927-84) for root cause and Read Across (GM1927-69) to apply lessons learned are to be utilized.
- D. Duration of GP-12: GP-12 must be implemented for a period of time or quantity of parts as specified by the customer or until the Production Control Plan has been validated, whichever is longer. If time or quantity is not specified, GP-12 will remain in effect through acceleration or a minimum of 2 weeks, whichever is longer.
- GP-12 inspection is mandatory for 100% of all parts required through the GP-12 period. Based on documented acceptable performance, which includes no issues identified at GP-12 or by the customer, the customer/SQE may approve a reduction of the 100% inspection requirements after manufacturing validation builds by the customer. This must be documented and approved by the customer/SQE.
- Additional measurement and testing requirements must be identified by the supplier and/or customer/SQE and approved by the customer/SQE.
- Again, for manufacturing validation builds, 100% inspection is a minimal requirement. Exit criteria noted below.
- E. Identification: To indicate compliance with the GP-12 requirements, attach to each shipping label a green circular, sticker, approximately 25mm in diameter, signed by the staff person accountable to insure proper implementation of GP-12.

4.0 EXIT CRITERIA: Supplier will be eligible to exit GP-12 after validating the effectiveness of Process Control Plan and meeting the criteria listed below. If the supplier is unable to meet the exit criteria or the supplier's GP-12 plan continues to identify non-conformances the supplier shall continue the necessary containment measures to insulate the customer until the quality concerns have been resolved to the satisfaction of both the supplier and the customer and the supplier's Production Control Plan is validated.

- A. Ship the number of pieces required to meet production requirements as specified by the customer for the GP-12 period with no problems identified in GP-12 or by the customer. If time or quantity is not specified, the period of time is through acceleration or 2 weeks whichever is longer.
- B. If a problem is identified, in GP-12 or by the customer, GP-12 must remain in effect for a minimum of 2 weeks after implementation of corrective action or through the original GP-12 period, which ever is longer.
- C. If the GP-12 plan continues to identify non-conformances, the GP-12 plan must be kept in place until process controls and capabilities have proven effective and the Production Control Plan is validated.

5.0 CONSEQUENCES OF SHIPPING NONCONFORMING MATERIAL:

- A. Failure to execute GP-12 will result in Controlled Shipping Level 2 and other possible consequences.
- B. Shipment of non-conforming material will result in Controlled Shipping Level 2.