

NOTE: Applicable Section # is shown in parenthesis.

AIAG - Automotive Industry Action Group

BOUNDARY SAMPLE: (Section 18) Physical pieces representing current process capability which establish a sensory standard when the characteristic is difficult to define or communicate by any other method. They may be temporary or permanent and must define acceptable limits and are to be used only when absolutely necessary.

ATTRIBUTE DATA: Characteristic, evaluated as “GO” or “NO GO”

BURN TEST REPORT: (Section 12) - Form used to report to TMI actual burn test results for flammability

CALIBRATION: (Section 8) -The test used to fix, check, or correct the graduations of a measurement tool

CAPABILITY INDEX (e.g. Cpk, Ppk, etc.): A mathematical calculation which takes into account process location and variation to predict the probability of process output to conform to specifications. Capability indices have meaning only for processes exhibiting statistical control.

CHECKING FIXTURE: (Section 8) - A unique device used to verify the dimensional integrity of a specific finished product.

CHECKING FIXTURE (C/F) TRIAL: (Section 8) - Installation of measured parts to a part or an assembly checking fixture for the purpose of identifying part or part to part problems.

CONFIRMATION RUN: (Section 3) - A production run of saleable vehicles, or parts for those vehicles, for the purpose of confirming process capability at volumes typical of mass production.

CONTROL CHART: (Section 10) - A graphic representation of a measured (attribute or variable) characteristic showing process generated control limits and data values as plotted points.

COUNTERMEASURE: (Section 16) - Action(s) taken to resolve a problem and prevent recurrence.

CRITICAL CHARACTERISTIC MATRIX: (Section 22) - Document used by supplier to identify any and all critical or special characteristics related to part being supplied to TMI

DEFECT: (Section 16) - Nonconformance / Any state of unfitness for use or nonconformance to specification.

DESIGNATED CONTROL CHARACTERISTIC: (Section 7) - Part characteristics that have a significant effect on performance, fit, function, or workability on the completed vehicle and therefore require application of statistical measures for capability assessment and control.

DIRECT RUN GOOD PART: (Section 15) - A manufactured part which meets all drawing and inspection standard requirements without the need for repair.

DUE DILIGENCE: (Section 22) - The degree of attention or care expected of the supplier to apply adequate and proper self recognition and control of all characteristics based upon internal product / process knowledge and history

ENGINEERING CHANGE (ECI / ECR): (Section 6) -

- a) ECI (Instruction) - Document used by TMI Engineering Department to inform the supplier of a change to the design drawings.
- b) ECR (Request) - Document used by the supplier to request from TMI Design Group a change to the design drawing

FINAL APPROVAL: (Section 14) - Acknowledgment by TMI Plant QC that supplier has provided acceptable quality parts under mass production conditions

FMVSS / CMVSS REGULATION ITEM DATA SUBMISSION: (Section 12) - Form used by supplier to report to TMI conformance to any governmental regulations (such as flammability status) for part(s) supplied to TMI

GAGE: (Section 8) - A generic device or tool used to verify the dimensional integrity of a any finished product

GAGE REPEATABILITY AND REPRODUCIBILITY (GRR): (Section 8) - A mathematical study of repeatability and reproducibility showing error or percentage of tolerance and/or total variation

HIGH VOLUME PRODUCTION TRIAL: (Section 4) - A limited production trial at the supplier's location intended to identify and countermeasure any quality or productivity problems prior to start of production by simulating mass production conditions

IMDS (International Material Data Sheet): (Section 26) - Document used to provide substance breakdowns necessary to safely recycle vehicles at the end of their useful lives.

INITIAL SAMPLE: (Section 15) - The number of sample parts to be inspected at the beginning of one lot or the identification of 1<sup>st</sup> piece sample resulting from change instruction

IN-PROCESS CHECK FIXTURE GAGE: (Section 8) - Similar to check fixture, but typically used during manufacturing (e.g. used to check subassembly vs. final assembly)

INSPECTION STANDARD: (Section 7) - A supplement to the production drawing which contains information and requirements for supplier verification of products (i.e. tolerances and frequencies of testing)

KAIZEN: Formalized activity leading to overall general improvement

LEVEL ONE PART: A part or component which is assembled directly on to the vehicle at TMI's customer's vehicle assembly plant

LONG TERM PROCESS CONTROL: (Section 8) - The ongoing control of a process through the use of statistical tools aimed at variation reduction and nominal targeting

LOT: A homogenous quantity of product as agreed upon by TMI Purchasing



## SECTION 30: GLOSSARY

Ref: TM-QA-DO-06-329-E

Revision Level: 4

Date: 12/15/04

Page: 3

MANUFACTURING QUALITY CHART / CONTROL PLAN (MQC / CP): (Section 10) - A document which follows the process flow and details the parameters and characteristics which must be controlled and the means of controlling them to assure output quality

MASS PRODUCTION PART: (Section 3) - Parts made using mass production methods, machines, materials, and personnel which have been provisionally approved

MASTER PART: A part manufactured and certified to drawing nominal which is to be used for problem solving

MASTER SCHEDULE: (Section 3) - TMI's vehicle development schedule

MASTER STANDARD (COLOR MASTER OR COLOR STANDARD): (Section 13) - Standard for color, grain, or fabric issued to the supplier by TMI

MID SIZED SAMPLE: (Section 12) - The number of samples to be inspected in the middle of one lot

MID SIZED TRIAL: (Section 15) - A production trial run of multiple pieces used to determine manufacturing capability of a proposed engineering change

MODEL CODE: The TMI customer / TMI project development code found under "Model" in the drawing title block (typically 3 numbers followed by 1 letter - 300N)

MANAGEMENT QUALITY REVIEW: (Section 17) - Method used by TMI to confirm supplier management awareness, involvement, and reaction to reported critical or persistent customer issues related to quality and delivery which will lead to resolution and continued improvement

OFF PRODUCTION PROCESS: (Section 3 and 14) - A production process based on mass production level inputs, including personnel, material, method, and machine

[Pc]: (Sections 7, 10, 12, and 22) - Symbol used on an inspection standard to identify each designated control characteristic which requires process control measures

PACKAGING PROPOSAL FORM: (Section 23) - Document used by supplier for proposing and receiving TMI Purchasing approval for production level packaging

PART EVALUATION PLAN: (Section 4 and 11) - The supplier's plan for testing and verifying parts / components meet all drawing and inspection standard requirements

PILOT (Phase 2) PARTS: (Section 3 and 14) - Parts manufactured using production level personnel, materials, tooling, and processes prior to provisional approval

POKAYOKE: Mistake proofing through use of devices to prevent defect occurrence

PROBLEM FOLLOWUP SHEETS (PFS): (Section 16) - A record of quality and / or design problems, countermeasures, and follow-up items

**PROCESS:** Any business aspect that uses a combination of people, machines, methods, materials, and environment to produce output - or - the product or service resulting from this combination.

**PROCESS AUDIT:** (Section 20) - An on site evaluation of a supplier's process to stated quality criteria for confirmation or problem solving purposes

**PROCESS CAPABILITY:** (Section 3, 7, and 22) - Level of uniformity a process is capable of producing for a specified characteristic (e.g. dimension, color, weight, etc.)

**PROCESS CAPABILITY STUDY:** (Section 3, 4, and 22) - A preliminary statistical study of process output on a limited population of parts

**PROCESS CHANGE REQUEST:** (Section 15) - Written supplier request to make any change to their manufacturing process or sub-supplier after receiving provisional approval

**PROCESS CONTROL:** (Section 7 and 22) - Preventing the manufacturing of nonconforming products through data collection, analysis, and feedback to the process

**PROCESS FAILURE MODE AND EFFECTS ANALYSIS:** (Section 3 and 9) - An analytical tool used to assess the overall risks of potential failures in design and/or process.

Related terms:

- (S) Severity - An assessment of the severity of the effect of the failure
- (O) Occurrence - How frequently the failure cause is projected to occur
- (D) Detection - An assessment of the probability that the proposed process controls will detect the failure mode should it occur.

**PROCESS FLOW DIAGRAM:** A diagram that depicts the flow of materials through the process including rework, repair, and audit functions

**PRODUCTION TOOLING:** (Section 3 and 5) - Tooling capable of producing parts that meet production drawing and inspection standard requirements at mass production volumes (i.e. for salable vehicles)

**PROTOTYPE (Phase 1) PART:** (Section 3) - A component or part produced to establish manufacturability and to validate design adequacy

**PROTOTYPE (Phase 1) TOOLING:** (Section 3 and 5) - Tooling capable of producing parts that meet drawing and inspection standard requirements at low volume quantities only and used typically for part / product evaluation and testing purposes

**PROVISIONAL APPROVAL:** (Section 3) - A document signifying acceptable submission of sample parts (produced off tool/ off process using mass production materials) which have met all applicable quality requirements

**QAPP (Quality Assurance Project Plan):** (Section 25) - The tool used by and issued by TMI to identify supplier requirements for launching new programs and to establish the target timeline for these submissions

**QUALITY ASSURANCE SCHEDULE:** (Section 3 and 4) - A total manufacturing and quality program schedule designed to ensure quality parts for mass production

QUALITY IMPROVEMENT REQUEST (QIR): (Section 16) - A method for communicating to the supplier a request for any change which will improve the fit, function, or workability of the part and is applicable to those situations where the supplier is meeting specification or where the inspection standard is unclear / A method for communicating part nonconformance during pilot production

QUALITY PROBLEM REPORT / QUALITY PROBLEM INFORMATION (QPR / QPI): (Section 16) - A method used for reporting quality nonconformances and requesting countermeasure information from suppliers

QUALITY SYSTEMS AUDIT: (Section 20) - An on site evaluation to determine the adequacy and performance of a supplier's total quality system

RAW MATERIAL CERTIFICATION STATEMENT: (Section 24) - Document used by supplier to indicate conformance to TMI issued technical standards for any and all raw materials used in finished part supplier to TMI

RDDP: (Request for Design and Development of Part) - Document which details specifications and requirements for any new part and is used to initiate any new part activity (design, development, production)

RECERTIFICATION: (Section 8) - Verification of measurement and test device calibration on a planned schedule

RMA: (Return Material Authorization) - Method (alpha or numeric) used by the supplier to authorize physical returns of nonconforming product by TMI at the supplier's cost

SAMPLE DATA SHEET: (Section 3 and 12) - A record of part evaluation results compared to drawings and/or inspection standard requirements

SHORT TERM CAPABILITY STUDY: (Section 3 and 22) - An evaluation of a process to assess potential capability at any given time

SPECIAL INSPECTION PLAN: (Section 3, 4 and 10) - The method used to define the activities to monitor quality and productivity of a new model / part mass production during the initial mass production stage (from QCS to full production) or after any change related to ECI / PCR with focus on the following:

- a) Special inspection points within the process
- b) Confirmation of countermeasures implemented during pilot production trials
- c) Confirmation of late ECI implementation
- d) Detection of new problems resulting from sustained volume production

STANDARDIZED WORK: Documented step by step method for maintaining productivity, quality, and safety which provides a consistent framework for performing work at the designated takt time and for highlighting opportunities for making improvements in work procedures and forming the basis for kaizen or continuous improvement

SUPPLIER QUALITY ASSURANCE MANUAL (SQAM): Document specifying the fundamental quality elements and minimum control practices and procedures required of suppliers by TMI

TMI OPERATIONAL RISK NOTIFICATION: Document used by TMI suppliers to notify TMI Purchasing of emergency shortages that may affect shipments to TMI facilities

TOOL PROGRESS REPORT: (Section 4 and 5) - Detailed schedule of tooling preparation

VARIABLE DATA: Results of readings taken on features which can be physically measured and reported as numerical values

VEHICLE DEVELOPMENT STAGES: (Section 3) -

- 1) PHASE 1 (formerly designated as PROTOTYPE): Production of parts based on prototype drawings which are evaluated by TMI on the completed product to assure design performance of a new part
- 2) PHASE 2 (formerly designated as PILOT PRODUCTION TRIALS):
  - a) PARTS FITTING: Static evaluation of parts produced from production tooling fitted to the checking fixture and / or body at or with TMI
  - b) ASSEMBLY TRIALS: Both static and dynamic evaluations of parts fitted to the finished product at TMI assembly lines (e.g. 1A, 2A, etc.)