Section
17

Georgia Specific Requirements

HITACHI AUTOMOTIVE SYSTEMS AMERICAS, INC.--GA

TO SUPPLIERS DEALING WITH HITACHI AUTOMOTIVE SYSTEMS AMERICAS, INC.—GA (formerly Unisia of Georgia Corporation)

Supplementary to the (HIAMS)AM Supplier Handbook, the following applies to your business with (HIAMS)AM-GA. In the event of a conflict between any of the following provisions and the (HIAMS)AM Supplier Handbook, the (HIAMS)AM Supplier Handbook shall govern. If you have any questions, please contact your buyer

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PURPOSE

These standards relate to all parts, raw materials and accessories to be supplied to (HIAMS)AM-GA.

These are the quality standards to be implemented by supplier to assure that (HIAMS)AM-GA quality requirements are met.

SCOPE

These standards shall apply to all suppliers of parts under a transaction with (HIAMS)AM-GA.

QUALITY- PHILOSOPHY, ORGANIZATION AND CONTROL.

(HIAMS)AM-GA's philosophy is that properly selected suppliers are best qualified to establish the quality control plan for its products. Provided with a clear understanding of (HIAMS)AM-GA's quality requirements, each supplier must maintain an effective and updated quality program that will assure quality parts, raw materials and services are delivered to (HIAMS)AM-GA. The system should provide for:

- QUALITY PLANNING
- PRODUCT AND PROCESS QUALITY
- SUPPLIER QUALITY SYSTEM REVIEW
- FIRST SAMPLE APPROVAL

SECTION I – QUALITY PLANNING

1.1 Process Flow Charts

Process flow charts show the sequence of steps in the production operation, along with the control points. Flow charts provide essential information for quality planning tools such as Process FMEA and Control Plan.

1.2 Feasibility Assessment

Feasibility assessment is the suitability determination of a particular design, process, or material for production. All engineering requirements must be met, while maintaining required capability and volume levels. These assessments use planning tools such as FMEA's, control plans, process capability studies, and designed experiments. Manufacturing feasibility should be established prior to the commitment of production tools or facilities.

1.3 Failure Mode and Effects Analysis (FMEA)

The FMEA process assists in the prevention of product quality concerns through a structured analysis of potential failure modes. FMEA'S should be used for both product design and manufacturing process planning. They are required for all new or changed products to be delivered to (HIAMS)AM-GA.

Process FMEA's identify and evaluate the risk of occurrence of potential process concerns, and define the action to eliminate them. Process FMEA's are prepared by a team from the manufacturing activity, prior to the commencement of hard tooling. Representatives from Quality Engineering and the Manufacturing organizations should head a typical team, with input from (HIAMS)AM-GA. Critical and significant product characteristics and process parameters identified on the FMEA's become key input to the Control Plan.

1.4 Control Plans

Control plans are to be developed by supplier for all significant process parameters and critical product characteristics, as determined by FMEA. In addition, all significant characteristics identified on (HIAMS)AM-GA's Notice for Functionally Critical Item sheets must also appear on Control Plans. Control Plans must be prepared and maintained for all new or changed products or upon specific request from (HIAMS)AM-GA. The development of Control Plans by a cross-discipline team similar to FMEA team is recommended. For new or changed products, the Control Plan must accompany the request for Initial Sample Approval.

1.5 Gage Planning

The choice of gaging, measuring and testing equipment is a key element of advance quality planning. Suppliers must provide for variable data measurement wherever possible. Since variable data provides more information than attribute data, opportunities for process improvement are highlighted, and process capability evaluation is simplified. Measurement system assessments (also known as Gage R & R) should be conducted for gages, measurement, and test equipment used for the evaluation of (HIAMS)AM-GA designated significant and critical product characteristics. A program of calibration and maintenance should be set-up for these gages and measuring equipment.

1.6 Preliminary Process Capability

Preliminary process capability studies are short-term studies conducted to obtain early information on the performance of a new or revised process, relative to (HIAMS)AM-GA's requirements.
These studies should be based on as much data as possible, confidence level of 95% or greater is required to obtain sufficient data for informed decision making. A process capability study is required for each critical characteristic designated by (HIAMS)AM-GA.

Data should be gathered and used to develop preliminary control limits. These limits are used to evaluate the stability of the process. Once the process is known to be stable (no evidence of non-random behavior or special causes), preliminary process potential (Cp) and preliminary process capability (Cpk) can be estimated. Attribute data should not be used for preliminary studies.

The minimum acceptable outcome for preliminary capability studies, for normally distributed data is a Cpk of equal to or greater than 1.33 or 1.67 for special characteristics. Preliminary process capability studies being submitted to (HIAMS)AM-GA with initial Sample Approval Request which do not meet this criterion must be accompanied by an action plan with target dates for corrective action.

1.7 Control of Incoming Parts and Raw Material:

In accordance with the International Standards Organization, Unisia of Georgia Corporation has adopted an environmental policy and made conformances to ISO 14001 Standard part of our daily business operating procedures.

(HIAMS)AM-GA has documented and implemented an Environmental Management System (EMS) which is designed to both protect the environment and comply with applicable environmental law.

In accordance with these policies, we require our suppliers to respect and follow our EMS policies/procedures when providing goods or services to (HIAMS)AM-GA.

We encourage all of our suppliers to be as aware and protective of the environment as possible. We strongly support and encourage their individual efforts to adopt/conform to ISO 14001 Standard as part of their environmental policy.

Approved Materials: Materials used in products for (HIAMS)AM-GA are controlled either by industry standard specifications (e.g., ASTM, DIN, ISO, SAE, JIS, etc.) or by (HIAMS)AM-GA specifications.

Suppliers must certify that materials submitted for Initial Sample Approval Request meet all applicable specifications and requirements. Periodic re-certification must include pertinent laboratory data substantiating the certification statement.

Control of Purchased Products and Raw Materials: The supplier is responsible for the control of purchased products and raw materials. Change in sub-supplier sourcing after initial sample approval requires a new sample submission along with the appropriate documentation to (HIAMS)AM-GA.

Key elements of sub-supplier monitoring and control are:

Transmitting information on the intended application and relevant drawings, specifications, and requirements to the sub-supplier.

Ensuring sub-suppliers have acceptable quality systems which comply with TS16949, or ISO 9000/2000.

Obtaining current Control Plans and evidence of their implementation from sub-suppliers.

Ensuring that all sub-suppliers products and raw materials conform to applicable specifications.

Initiating corrective action with sub-suppliers on nonconforming products, and maintaining records of these concerns with the status of corrective actions.

1.8 Process Monitoring and Control Instructions

Suppliers should prepare written process monitoring and control instructions for employees having responsibilities for the operation of processes, in order to ensure that all monitoring and control steps in the Control Plan are carried out. These instructions can be derived from the FMEA and Control Plan, from engineering drawings and specifications, from manufacturing or

quality workmanship standards, or from supplier experience and knowledge of processes and products.

1.9 Package Planning

The choice of packaging material can have a significant effect on product quality, and must be considered during the feasibility evaluation phase. Suppliers must use appropriate packaging, considering the various transportation and shipping methods used, to ensure that products arrive on time, safely, and in a condition suitable for their intended use at (HIAMS)AM-GA. Supplier must also take into consideration the point of end use of their product when selecting packaging materials, so as to minimize multiple handling and re-packing at (HIAMS)AM-GA. All packaging must be approved by (HIAMS)AM-GA utilizing the Supplier Packaging and Data Form which is included in the appendix.

1.10 Ongoing Quality Planning

Ongoing Quality Planning includes action taken to prevent deterioration of processes and products from initial capability levels. These actions should include: ongoing training and certification, periodic review of SPC application and effectiveness, calibration of measuring and testing equipment, and scheduled preventive maintenance. Documented plans for ongoing quality assurance will support the Control Plan.

SECTION II – PRODUCT AND PROCESS QUALITY

2.1 Ongoing Process Capability

Ongoing Process Capability is a long-term measure of process performance relative to specification, for all critical and significant characteristics evaluated using variable data. Ongoing process capability differs from preliminary process capability by using data taken over a long time period. This is done to ensure that all common causes of process variation have been included in the observed data. The actual time period for data collection will depend on time necessary for these sources to vary through their full ranges, but probably not less than twenty production days.

Capability is determined using data from control charts. These charts must indicate a stable and normally distributed process before capability calculations (Cp, Cpk) can be made. (HIAMS)AM-GA requirements for process capability for those dimensions that are designated as critical are a minimum CpK of 1.67, systems with sufficient frequency to ensure the integrity of those systems.

Actions taken can include stability studies, gage R & R, periodic preventive maintenance, and periodic calibration. Trace-ability to national reference standards should be provided ; where no such standards exist, the basis for calibration must be documented.

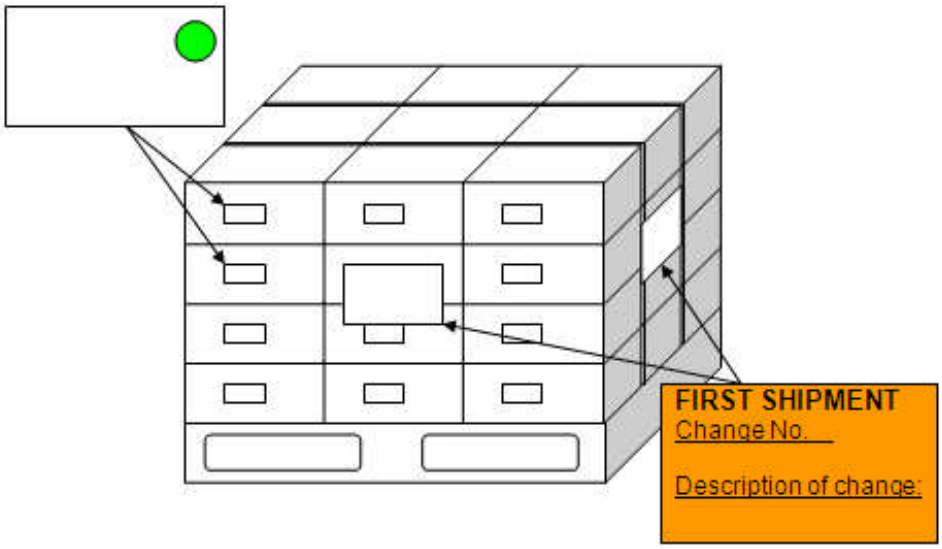
2.5 Material Identification

Supplier must identify the condition and status (accept, reject, hold, sort, rework, etc.) of product. Positive controls should be followed to ensure that unique products for (HIAMS)AM-GA are properly identified and do not become mixed with other products. All identifications should be written in English.

To ship very first production parts after any kind of change (process change, design change and so on), please follow the below instruction:

1) Green dot (ø 20) should be placed on the right corner of each shipping label.
2) Place orange or dark pink paper on the center of shipment in each side of pallet.
3) The color paper should include change number and description of change.

Please see the below sketch.



Advance notification should be sent to (HIAMS)AM-GA before first changed production parts are shipped.

2.6 Reference Samples

Suppliers should retain a portion of production runs submitted for initial sample approval, to provide a reference when full production is initiated. Similarly, when first piece inspection is used to qualify a new production set-up, the first piece should be retained throughout the production run.

2.7 Control of Reworked Products

Rework consists of any action taken on the products, which are not a part of the usual production process. Since any action to repair or salvage a product, which does not originally meet customer requirements, is a source of special cause variation, (HIAMS)AM-GA's goal is the elimination of all such actions.

When rework is necessitated as an interim containment measure, the supplier must develop written procedures for the rework operation. These procedures must provide for relevant monitoring, inspection, and testing steps after rework, in order to ensure conformance to all

applicable requirements. Passing the rework product through the normal production monitoring system, wherever practical, is preferred.

2.8 Return Product Analysis

As an essential area of customer focus, the supplier is responsible for an analysis of parts returned by (HIAMS)AM-GA for any reason. Records of the results of these analyses must be kept and made available to (HIAMS)AM-GA upon request. Supplier should use a Team Oriented Problem Solving method to initiate corrective and preventive action in response to (HIAMS)AM-GA's Corrective Action Request.

2.9 Problem Solving methods

(HIAMS)AM-GA recommends the use of the Team Oriented Problem Solving method to ensure consistent communication of concerns. This approach should be used whenever internal (e.g. process issues) or external (customer report) indicators show that a quality concern exists.

2.10 Scheduled Preventive Maintenance

Routine preventive maintenance can contribute significantly to process stability and repeatability and reduce the frequency of emergency repairs to production equipment. Suppliers must develop and maintain a documented system for the routine preventive maintenance of production equipment.

Manufacturer's recommendations, expected tool wear, and trends indicated by analysis of SPC data should be considered in developing and operating this system.

2.11 Continuous Improvement

Supplier should use the documented process to identify continuous improvement priorities and to provide measurable indicators of progress within the supplier organization. Examples: centering the process on the target value, reducing variation, improved productivity, reducing testing frequencies, and eliminating waste.

SECTION III – DOCUMENTING QUALITY

3.1 Procedures

Suppliers should develop, implement, and maintain written procedures to define all aspects of their quality system requirements for the control and continuous improvement of product quality. Each of the topics in Section I through III of this Standard should be covered in these procedures.

3.2 Records

The supplier must keep adequate quality systems records, including Failure Mode and Effects Analysis (FMEA), Control Plans, operating instructions, measurement system assessments, product test methods, and records of test equipment maintenance and calibration. Quality system records must be maintained for a period of 12 years.

As above the supplier must also keep quality performance records including control charts, test results, and periodic product evaluation results.

3.3 Drawing and Change Control

Supplier must have the latest engineering drawings, specifications, and authorized deviation records and ensure that all relevant personnel are aware of (HIAMS)AM-GA's requirements. The supplier should maintain current copies of all external documents (e.g. specifications) referred to by (HIAMS)AM-GA's drawings and specifications.

Suppliers are responsible for establishing and maintaining a system to ensure the orderly and controlled management of design and process change. Concurrent with the effective dates of authorized product changes, the supplier must ensure that obsolete information is removed from all points of use. The supplier must maintain a record of all (HIAMS)AM-GA authorized changes and their respective effective dates.

3.4 (HIAMS)AM-GA's Deviation Process

When (HIAMS)AM-GA's Engineering or Quality pre-authorizes a Deviation from product or process characteristics, the supplier must maintain records of the quantities deviated and the expiration date of the Deviation.

This to ensure that the conditions of the Deviation are not violated. The Deviation number should be shown on each shipping container. A Deviation form is included in the Appendix.

Suppliers who are requested by (HIAMS)AM-GA to ship product having any nonconformance from specifications must obtain a pre-authorized Deviation for the product or process characteristic in question, prior to shipping. Failure to do so can result in the issuance of an Incoming Rejection, which has a negative impact on the supplier's quality performance rating. All requests for Deviations should be submitted to (HIAMS)AM-GA's Purchasing Department and QA Department.

3.5 Changes in Manufacturing Processes (Change Approval)

Process improvements by (HIAMS)AM-GA's suppliers are highly encouraged, as part of the process of continuous improvement. However, once a supplied product has completed the Initial Sample Approval process, there can be no changes to the processes or materials (including changes of sub-suppliers) used to produce that approved product without prior written change authorization from (HIAMS)AM-GA.

Supplier initiated changes to design or process must have written (HIAMS)AM-GA's approval prior to any tooling modification or product incorporation of process or design changes. Formal Initial Sample Approval may also be required.

3.6 Certified Parts

Parts that are certified by (HIAMS)AM-GA will not have incoming inspection performed on them. Suppliers will be notified by (HIAMS)AM-GA in writing when a particular part or component becomes certified. Certification will occur only after ten(10) successive receiving inspections have been completed on a particular part or component and no non-conformances

were found. (HIAMS)AM-GA will then notify the supplier in writing and instruct that all a future shipments of that particular part or component be labeled " CERTIFIED". Certified parts will be audited as determined by the responsible (HIAMS)AM-GA Quality Engineer.

Any non-conformances found as a result of an audit will result in the part or component being removed from the certified parts list. The supplier will be notified in writing when this occurs. In order to obtain re-certification, the part must pass ten (10) successive receiving inspections.

Due to the critical function of certain parts, not all parts will be considered for possible certification.

3.7 Product Indentification & Traceability

(HIAMS)AM-GA's supplies are required to label all cartons of raw product in accordance with its Packaging Guide Manual.

The Label will at minimum contain the supplier part number, lot number and quantity.

Each receipt of material must contain the supplier's lot code. Material/parts received without the supplier's lot code are subject to rejection.

Any costs incurred by unlabeled product (including production stoppage) will be charged back to the supplier.

SECTION IV – QUALITY SYSTEM REVIEW

4.1 All new (HIAMS)AM-GA's suppliers are subject to a Pre-award Audit. Suppliers may be exempted conducted within 12 months of initial production part receipt. This audit is used to verify that the supplier can meet (HIAMS)AM-GA's quality requirements. Third party audits are not recognized for this requirement. Approved suppliers will be evaluated on a reoccurring basis utilizing a Quality system Process Audit at a frequency determined by (HIAMS)AM-GA. Suppliers that have third party assessments (i.e. QS-9000 or ISO 9000 series) will not be subjected to reoccurring process audits, unless (HIAMS)AM-GA's performance records for the supplier indicate that their quality system is not functioning effectively. A copy of the Pre-award Audit is included in this manual.

Control Number: _____

(HIAMS)AM-GA
SUPPLIER PRE-AWARD AUDIT

(HIAMS)AM-GA VENDOR RATING GUIDELINES

Section	Total Points Available
- Management Responsibility	30
- Quality System	35
- Document and Data Control	10
- Purchasing	15
- Product Identification and Traceability	10
- Process Control	20
- Inspection and Testing	20
- Control of Inspection, Measuring, and Test Equipment	25
- Inspection and Test Status	5
- Control of Nonconforming Product	15
- Corrective Action	20
- Handling, Storage, Packaging, Preservation and Delivery.	20
- Control of Quality Records	15
- Internal Audits	15
- Training	5
- Statistical Techniques	10
Total	**270**

Rating	Criteria
5	Element included in system, very good execution and documentation.
4	Element included in system, adequate execution and documentation.
3	Element included in system and adequate execution, but documentation inadequate.
2	Element included in system, but execution and documentation inadequate.
1	Element included in system, but execution inadequate or no documentation.
0	Element not in system or not executed.

Control Number: _____

SCORE = SUM OF PTS/ 2.70

90- 100 = Excellent*

80- 89 = Good*

70- 79 = Marginal*

Below 70 = Fail

* below applies

VENDOR RATNG SYSTEM

Any elements rated less than a "3" require corrective action. The deficiencies for those elements that are less than a "3" will be communicated to the potential vendor utilizing a Quality Improvement Report and an action plan will be requested from the vendor. The vendor will be notified if the action plan is satisfactory. The corrective action will be verified during the process audit.

Control Number: _____

MANAGEMENT RESPONSIBILITY	RATING
1. Is the quality policy communicated, understood and maintained throughout the organization? • The written policy signed by senior management? • Is a copy of the policy made available to the employees?	
2. Are there clearly defined and documented responsibilities and authorities for all personnel affecting quality? • Do production workers have a written description of responsibility and authority? • Is an up-to-date written organization chart in place?	
3. Is authority delegated to personnel to prevent nonconformity reoccurrence, identify and record quality problems, initiate and verify corrective action, and control further processing? • Are specific responsibilities for review of nonconformity and corrective action assigned? • Have authority and responsibility for stopping work when quality problems are detected been specified?	
4. Is there a periodic top management review of the quality system effectiveness? • Are quality results evaluated by management at least once annually? • Are records of subsequent follow up of corrective and improvement actions included?	
5. Is there an objective process to measure customer satisfaction? • Has the company established an objective method to measure customer satisfaction? • Have goals for improving customer satisfaction been established?	
6. Are cross-functional teams used for the quality planning process? • Does quality planning include representatives from engineering, quality, purchasing?	

Control Number: _____

QUALITY SYSTEM	RATING
7. Is there a quality manual and supporting procedures for each element of the quality manual? • Are adequate supporting procedures in place for each element of the quality manual?	
8. Is the responsibility for quality planning on new products clearly defined? • Describe the responsible organization. • What are the reporting relationships?	
9. Are control plans developed to the subsystem, component, and/or material level? • Are quality control plans developed for the specific product? •	
10. Do control plans include customer's special characteristics, related processes and parameters? Are they identified? • Are special characteristics clearly identified in control plan? •	
11. Are control plans revised when appropriate for product and process changes? • Do procedures provide for the review and revision of control plans when engineering changes are implemented?	
12. Do process FMEA's consider all special characteristics? • Is process FMEA in place to consider all special characteristics?	
13. Is there a procedure for reviewing process and /or process design and/or process changes prior to implementation? • Are FMEA and Control Plans reviewed and updated as part of this procedure? • Is customer approval obtained prior to implementation? • Is there a procedure for updating operator instructions and visual aids for product and process changes?	

Control Number: _____

DOCUMENT AND DATA CONTROL	RATING
14. Are new and revised documents reviewed and approved by authorized personnel prior to issue? • Is a formal document approval procedure in place to specify authorization of all quality related documents prior to use? • Does procedure specify who is authorized to approve documents?	
15. Are all referenced documents available on-site? • Are all required documents available at the point of use? • Is a reference library of all applicable customer engineering standards available on-site? •	
PURCHASING 16. Are subcontractors evaluated and selected on their ability to meet quality system and quality assurance requirements? • Is a formal process used to evaluated and select suppliers and subcontractors? • Does the evaluation process consider quality assurance capability and system?	
17. Are quality records of subcontractors kept up to date and used to evaluate performance? • Are supplier quality performance records maintained? • Is documented supplier performance information used to evaluate suppliers?	
18. Do the purchasing documents contain data that clearly describe the product being ordered? • Do policies and procedures require clear definition of items purchased? • Are customer-defined specifications provided to supplier and subcontractors?	
PRODUCT INDENTIFICATION AND TRACEABILITY 19. Is product identified, where appropriate, at all production stages? • Are appropriate procedures in place for identification of products and materials at all stages of production? • Do work instructions direct operators to verify material identification?	
20. Is traceability maintained and recorded?	

21. Are appropriate actions taken on product when inspection, or measurement is found to be out of specification? • Do the procedures include a risk assessment of all product inspected since the last measurement? • Do the procedures call for notification of the customer in the event of suspected nonconformity?	
CORRECTIVE ACTIONS 22. Are appropriate corrective actions developed to eliminate the causes of nonconformance? • Is a procedure for corrective action in place? • Is the corrective action procedure used to investigate customer complaints?	
23. Does the supplier use a disciplined problem solving method? • Does the corrective action procedure specify a structured problem solving method?	
24. Are the causes of non-conformances investigated and the results documented? • Does the problem solving process effectively determine root causes of non-conformances? • Are records of root cause studies available for review? • Do procedures include analysis of returned parts?	
25. Is the effectiveness of corrective action verified?	
HANDLING, STORAGE, PACKAGING, PRESERVATION AND DELIVERY 26. Does supplier's material handling method prevent product damage and deterioration? • Is handling minimized (where practical) to reduce risk to damage? • Is appropriate internal material handling equipment in place? • Do work instructions and processes provide guidelines where applicable to avoid damage?	
27. Are storage areas appropriate for preventing damage or deterioration of the product?	
28. Are applicable customer's packaging standards available?	

Control Number: _____

PROCESS CONTROL 29. Have documented job instructions been developed? • Are work instructions accessible at the workstation? • Do instructions define all required inspection and testing requirements? • Are the acceptance and rejection criteria clearly documented? • Are sample sizes and frequencies for test defined? • Are visual control provided where appropriate?	
30. Do employees perform operations/inspections according to documented instructions? • Do operators follow documented instructions in performing work? • Are provisions made for operators who may not be literate in the language of the work instruction?	
31. Is SPC utilized for significant and critical product characteristics and process parameters? • What are the SPC methods used? • How are the significant characteristics chosen? • What is the reaction to out of control conditions?	
32. Is there an effective planned preventive maintenance system? • Is a planned preventive maintenance system in effect? • Does the maintenance system include a specific schedule and responsibilities for maintenance tasks?	
INSPECTION AND TESTING 33. Do procedures define control of incoming material prior to use by manufacturing?	
34. Do in-process inspections correspond to the requirements of control plans?	
35. Do procedures include provision for final inspection and test?	
36. Does the supplier maintain adequate records of all inspections and tests?	
CONTROL OF INSPECTION, MEASURING AND TEST EQUIPMENT 37. Has inspection, measuring, and test equipment been provided that is capable of the required accuracy and precision? • Does inspection, measuring, and test equipment have the necessary accuracy and precision? • Do equipment records and specifications indicate equipment accuracy and precision?	
38. Is measurement system analysis conducted (Gage R and R) for all gages, measuring, and test equipment? • Are satisfactory Gage R and R studies on file for all processes?	
39. Is each piece of equipment calibrated at prescribed intervals and in the correct environment?	
40. Are appropriate actions taken on product and process when test equipment is found to be out of calibration?	

• Do the procedures include a risk assessment of all product inspected since the last re-calibration? • Do the procedures call for notification of the customer in the event of suspected nonconformity?	

41. Are inspections, measurement, and test equipment properly handled, preserved, and stored to maintain calibration and fitness for use?	

INSPECTION AND TEST STATUS 42. Is inspection and /or test status suitably identified throughout the production process? • Are stamps, travelers, or similar methods used to positively identify material status? • Do operator work instructions specify the method for operators to verify acceptable status of materials used?	

CONTROL OF NONCONFORMING PRODUCT 43. Is there identification, documentation, segregation(Where possible) to a designated area, and disposition of nonconforming and suspect product? • Are procedures for handling and disposition of nonconforming product provided? • Do the procedures include documentation of incidents of nonconformance? • Are distinct storage facilities used where practical to segregate nonconforming or suspect material?	

44. Are there clear definitions for responsibilities for review and disposition of nonconforming or suspect product? • Are written procedures in effect for the review and disposition of suspect or nonconforming product? • Do disposition procedures specify responsibilities for review and disposition?	

Control Number: _____

CONTROL OF QUALITY RECORDS	RATING
45. Are there records that show effective operation of the quality system, including pertinent subcontractor quality records? • Are written records maintained from quality system operations? • Are suppliers and subcontractors contractually required to maintain records?	
46. Are all quality records legible and readily retrievable?	
47. Are these records stored in a suitable environment to prevent deterioration, damage, or loss?	
INTERNAL QUALITY AUDITS 48. Does the supplier carry out internal quality system audits as planned?	
49. Are the audit results documented and brought to the attention of management?	
50. Are corrective actions timely, recorded, and evaluated for effectiveness?	
TRAINING 51. Do qualifications for jobs affecting quality include identification of appropriate education, training needs, and experience? • Is a formal procedure in place for analysis of training needs for each position affecting quality? • Is education and experience considered in planning training needs? • Are records of training maintained?	
STATISTICAL TECHNIQUES 52. Has the supplier identified the need for statistical techniques for establishing, controlling and verifying the capability of process parameters and product characteristics?	
53. Are there procedures established and maintained to implement and control the application of statistical techniques?	

Control Number: _____

COMMENTS

Supplier Evaluation Results Sheet

Control Number: _____

Supplier Name: _____ Audit Date: _____

Product Name: _____

Product Number: _____

Auditor: _____

Purpose of Audit: _____

Area Surveyed	Weights	Points
Management Responsibility	30	
Quality System	35	
Document and Data Control	10	
Purchasing	15	
Product ID and Traceability	10	
Process Control	20	
Inspection and Testing	20	
Control of Inspection, Measuring and Test Equipment	25	
Inspection and Test Status	5	
Control of Non-Conforming Product	15	
Corrective and Preventive Actions	20	
Handling Storage, Packaging, Preservation, Delivery	20	
Control of Quality Records	15	
Internal Quality Audits	15	
Training	5	
Statistical Techniques	10	
Total Weight	270	
Total Points		0
Total Survey Score		**0.0**

Comments:

SECTION V - SUPPLIER QUALITY RATING SYSTEM

Criteria, Rating points, Weight and Elements

Four criterions, maximum rating points with weighting, and elements of the criterion as shown below are used to determine a monthly rating score for each supplier.

CRITERIA	POINTS	WEIGHT	ELEMENTS OF CRITERIA
SYSTEM SURVEYS	100	20%	Last system survey completed (ie. Pre-award audit, Process audit)
MATERIALS	100	20%	Delivery performance and supplier response to (HIAMS)AM-GA's request.
ENGINEERING	20	100%	Engineering abilities(ie. The ability to make approval drawings, design and fabricate tools and fixtures, and do all testing as required by (HIAMS)AM-GA.)
QUALITY	100	40%	Based on problems incurred during receiving inspections, use of product at (HIAMS)AM-GA, and reports from customers.
TOTAL: 100 Points (After applying weighting)			

Total Quality Rating

The total quality rating is the rating given to the supplier after the points for each criterion has been multiplied by the appropriate weighting and summed together.

DETERMINING RATING SCORES

1. SYSTEM SURVEYS

This criterion uses the Supplier Quality System Survey Report to determine the system survey rating. The most recent Supplier Quality system survey Report is used in determining the rating.

The supplier Quality System Survey Score can be generated from either a Pre-award Audit or a Process Audit performs by a (HIAMS)AM-GA Quality Engineer.

2. MATERIALS

This element assesses the supplier response to (HIAMS)AM-GA's request such as increased volume and delivery performance. The following criteria are used.

Deductions		DESCRIPTION OF DEDUCTION CRITERIA
10%		ASN – advanced shipping notice. The supplier is required to fax a copy of the packing list to (HIAMS)AM-GA on every shipment as soon as it goes out their door.
10%		**PROACTIVITY** – The supplier should alert (HIAMS)AM-GA to all late shipments or potential problems that may cause a late shipment. This early warning system will give (HIAMS)AM-GA the opportunity to rearrange the schedule or in worst case scenario alert our customers.
10%		**PO FOLLOW UP** – Once a month (HIAMS)AM-GA purchasing sends out a purchase order follow letter up which includes all open orders. It is the supplier's responsibility to review this document and advice whether their shipments will be on time or not.
10%		**PACKLIST** – All shipments to (HIAMS)AM-GA should include a packing list complete with no errors.
10%		**BARCODE LABELS** – All boxes should be individually labeled per (HIAMS)AM-GA requirements and the pallet should have a master label.
10%		**PO CHANGES**- All suppliers should be able to respond to the following PO requests: increase, decreases, expedited deliveries and (HIAMS)AM-GA requested delayed deliveries within reason.
25%		**DELIVERY** – late 7 to 14 days = 50% early 15 to 30 days = 50% early 30 days = 90% late 15 to 29 days = 70% late 30 days = 90% wrong parts = 10% wrong labels = 5% If a supplier does not comply with 100% on time delivery, corrective action is required.

3. ENGINEERING

This criterion has a maximum of 20 points. (HIAMS)AM-GA's Engineering Department is responsible for accessing the suppliers engineering capabilities. This judgement is made at the time that the supplier is added to (HIAMS)AM-GA's supplier base. The following questionnaire is used to generate the rating score for this element:

1. Is the supplier capable of making drawings for approval?
2. Does the supplier have the capability of performing all test required in (HIAMS)AM-GA's drawings?
3. Does the supplier have the capability of tool & fixture design? Can they make versus purchase?
4. Is the supplier capable of making prototype parts?
5. Does the supplier have their own engineering change control system and how does it compare to (HIAMS)AM-GA's?

Each of the five questions are graded on a scale of zero(0) to four(4). Zero is not acceptable and four is excellent.

4. QUALITY

The ongoing quality performance of a supplier is measured by an assessment of the quality of its products. Points are deducted for the following occurrences:

- 2 pts Incoming Rejections/problems
- 5 pts Problems incurred on (HIAMS)AM-GA manufacturing lines as a result of supplier's parts.
- 5 pts Problems experienced by customers as a result of supplier's parts.
- 2 pts Failed Initial Sample Request.
- 2 pts Anytime a Corrective Action Request (C.A.R.) is issued.
- 2 pts Failure to answer C.A.R.'s by assigned due date.

SECTION VI -- INITIAL SAMPLE SUBMISSION AND APPROVAL PROCEDURE

An initial sample is a small quantity of parts randomly chosen from a significant production run 300+pcs which are checked to every dimension and test required on (HIAMS)AM-GA part drawing and related specification. Initial sample must be submitted to (HIAMS)AM-GA for approval prior to first production shipments. Initial sample approval MUST be obtained prior to the first production for the following cases:

New Parts
New supplier
Change in Manufacturing Facility
Significant change in Tooling or Process
New or reworked molds or dies(each cavity) (beyond normal maintenance activities).
Engineering Product Change (i.e. drawing, specification, material change, material source changes)

The following elements are required to be submitted each time an Initial Sample Approval is requested:

Initial Sample Approval Sheet
Samples with dimensional data in metric units and corresponding numbered metric drawing.
Material Certifications
SPC Capability Data
Process Flow Chart
Control Plan
Failure Mode and Evaluation Analysis (FMEA)

Each element is described in detail in the following sections.

*NOTE ALL DOCUMENTATION MUST BE IN ENGLISH.

INITIAL SAMPLE APPROVAL FORM

This form will be submitted with the samples each time an Initial Sample Approval is requested. The form in the Appendix can be copied and utilized. The form should be filled out as follows:

Part Name - The drawing name for the part.
Part Number - (HIAMS)AM-GA's part number
Drawing No. - The number on the drawing
Supplier Name - The name of supplier's company
Factory Location - City and State of Factory is manufacturing the part.
Production Lot Size – The total production lot size.

SAMPLE

The samples that are required to be provided to (HIAMS)AM-GA Auto-parts for the initial sample must be produced from production tooling and normal manufacturing processes. (HIAMS)AM-GA must be provided 300 pieces for initial sample approval. 5 out of the 300 pieces must be accompanied with dimensional data (i.e. a complete layout inspection in metric units) for every dimension specified on the part drawing. For multiple cavity dies or multiple machining stations, one part from each stream must be measured and the data provided to (HIAMS)AM-GA.

The specified values (i.e. drawing) should be recorded first and then be followed by the actual measure value. The supplier may use an internal form or may copy the form included in the Appendix of this manual. Each characteristic measured should be consecutively number.

A drawing should be supplemented with the form to show the location for the characteristic measured. Supplier forms or the one included in the Appendix of this manual may be copied and used to record the dimensional data.

The samples are to be shipped in a package labeled with an orange "SAMPLE" tag. A copy of the tag should be placed inside the box as well as outside the box.

MATERIAL CERTIFICATIONS

Material test/certifications should be provided with an Initial Sample Approval Request for new parts and whenever there is a change in materials or material suppliers. Material test must be performed for all parts and product materials when chemical/physical/metallurgical requirements are specified. The supplier must perform the test required by the material specifications.

If the supplier cannot perform the required test, services must be procured from a qualified source. When third party laboratory services are used, the results should be submitted on their letterhead or normal report format. The name of the laboratory that performed the tests must be indicated. Lab must be able to prove certification status.

It is the supplier's responsibility to meet all applicable specifications. Any results that are outside specifications are cause for the supplier not to submit the parts and/or documentation. Every effort must be made to correct the process so that all design record requirements are met. If the supplier is unable to meet any of these requirements, the quality department at (HIAMS)AM-GA is to be contacted for determination of corrective action.

STATISTICAL PROCESS CONTROL (SPC) DATA

SPC must be utilized on those dimensions indicated on (HIAMS)AM-GA's "Notice for functionally Critical Items sheet" for the respective parts number. Control Chart and Process Capability Data will be submitted for those critical dimensions for each Initial Sample Approved request. All critical dimensions require a CpK of equal to or greater than 1.33.

PROCESS FLOW DIAGRAM

A process flow chart(schematic representation of the current or proposed process flow) will be submitted with the Initial Sample Approval Request for all new parts and whenever there is a change in the process.

CONTROL PLAN

A control plan is required with each Initial Sample Approval Request for all new parts and /or whenever process or products are revised and changes in the controls are required. A control plan describes the actions that are required at each phase of the process to assure that all process outputs will be in a state of statistical control. During regular production runs, the control plan provides the process monitoring and statistical methods that will be used to control significant characteristics. Since processes are expected to be continually updated and improved, the control plan must be viewed as a living document. The control plan blank form in the appendix can be copied and used or the supplier may use their own form.

PROCESS FAILURE MODE AND EFFECTS ANALYSIS (PFMEA)

A PFMEA is required with each Initial Sample Approval Request for all new parts and /or whenever processes or products are revised and these changes create opportunities for additional failure modes. A process FMEA involves listing potential failure modes and causes, and uses occurrence and detection probability in conjunction with severity criteria to develop a Risk Priority Number(RPN). The RPN is used to prioritize corrective action considerations. A flow diagram of the process FMEA procedure and example of a Process FMEA are included n the appendix.

CONTROL PLAN COLUMN DESCRIPTION.

1) PROTOTYPE PRE-LAUNCH PRODUCTION		Indicate the appropriate category • Prototype- A description of the dimensional measurements material and performance tests occurring during Prototype build. • Pre-Launch-A description of the dimensional measurements, material and performance tests that will occur after Prototype and before normal production. • Production – A comprehensive documentation of product/process characteristics, process controls, tests, and measurements systems occurring during normal production.
2) CONTROL PLAN NUMBER		Enter the control plan document used for tracking, if applicable. For multiple control pages, enter page number (Page _ of _)
3) PART NUMBER LATEST CHANGE LEVEL		Enter the number of the system, subsystem or component being controlled. When applicable, enter the latest engineering change level and /or issue date from the drawing specification.
4) PART NAME/DESCRIPTION		Enter the name and description of the product/process being controlled.
5) SUPPLIER/PLANT		Enter the name of the company and the appropriate division/plant /department preparing the control plan.
6) SUPPLIER CODE		Enter the identification number ((HIAMS)AM-GA's code) as requested by the procuring organization.
7) KEY CONTACT/ PHONE		Enter the name and telephone number of the primary contact responsible for the control plan.
8) CORE TEAM		Enter the name(s) and telephone number(s) of the individuals(s) responsible for preparing the Control Plan to the latest revision. It is recommended that all of the team member's name, phone numbers, and locations be included on an attached distribution list.
9) SUPPLIER /PLANT APPROVAL/DATE		Obtain the responsible manufacturing plant approval (if required).
10) DATE(ORIG)		Enter the date that the original control plan was compiled.
11) DATE(REV.)		Enter the date of the latest Control Plan updates.
12) CUSTOMER ENGINEERING APPROVAL /DATE		Obtain the responsible engineering approval (if required)
13) CUSTOMER QUALITY		Obtain the responsible quality representative approval (If

APPROVAL/DATE		required)
14) OTHER APPROVAL/DATE		Obtain any other agreed upon approval (if required)
15) PART/PROCESS NUMBER		This item number is usually referenced from the Process Flow Chart. If multiple part numbers exist (assembly), list the individual part numbers and their processes accordingly.
16) PROCESS NAME/OPERATION DESCRIPTION		All steps in the manufacturing of a system, subsystem, or component are described in a process flow diagram. Identify the process/operation name from the flow diagram that best describes the activity being addressed.
17) MACHINE, DEVICE, JIG, TOOLS OR MANUFACTURING		For each operation that is described, identify the processing equipment, e.g., machine, device, jig or other tools for manufacturing, as appropriate.
CHARACTERISTICS		A distinguishing feature, dimension or property of a process or its output (product) on which variable or attribute data can be collected. Use visual aids where applicable,.
18) NUMBER		Enter the cross reference number from all applicable documents such as , but not limited to, process flow diagram, numbered blue print, FMEAs, and sketches (computer generated or otherwise), if required.
19) PRODUCT		Product characteristics are the feature or properties of a part, component or assembly that are described on drawings or other primary engineering information. The Core Team should identify the Special Product Characteristics from all sources. All Special Characteristics must be listed on the Control Plan. In addition, the manufacturer may list other Product characteristics for which process controls are routinely tracked during normal operations.
20) PROCESS		Process Characteristics are the process variables (input variables) that have a cause and effect relationship with the identified Product Characteristic. A Process Characteristics can only be measured at the time it occurs. The Core Team should identify Process Characteristics for which variation must be controlled to minimize product variation. There could be one or more Process Characteristics listed for each. Product Characteristics may affect several Product Characteristics.
21) SPECIAL CHARACTERISTIC CLASSIFICATION		Use the appropriate classification as required by (HIAMS)AM-GA, to designate the type of special characteristics or this field can be left blank for other undesignated characteristics. (HIAMS)AM-GA may require symbols to identify important characteristics, such as those that affect customer safety, compliance with regulations function, fit, or appearance. These characteristics are variously termed, " Critical" "Key", " Safety", or " Significant". Appendix C provides a cross

		reference to these symbols and descriptive
METHODS		A systematic plan using procedures and other tools to control a process.
22) PRODUCT/PROCESS SPECIFICATION/ TOLERANCE		Specification/ tolerance may be obtained from various engineering documents, such as, but not limited to, drawings, design reviews, material standard, computer-aided design data, manufacturing, and/or assembly requirements.
23) EVALUATION/MEASUREMENT TECHNIQUE		This column identifies the measurement system being used. This could include gages, fixtures, tools, and/or test equipment required to measure the part/process/manufacturing equipment. An analysis of the linearity, re-productivity, repeatability, stability and accuracy of the measurement system should be done prior to relying on a measurement system and improvements made accordingly.
24) SAMPLE SIZE/FREQUENCY		When sampling is required list the corresponding sample size and frequency.
25) CONTROL METHOD		This column contains a brief description of how the operation will be controlled, including procedure numbers where applicable. The control method utilized should be based on effective analysis of the process. The control method is determined by the type of process that exists. Operations may be controlled by, but are not limited to, Statistical Process Control, inspection, attribute data, mistake-proofing, (automated/non-automated), and sampling plans. Refer to the example for how typical processes are controlled. The Control Plan descriptions should reflect the planning and strategy being implemented in the manufacturing process. If elaborate control procedures are used, the plan will typically reference the procedure document by a specific identification name and/or number. The method of control should be continually evaluated for effectiveness of process control, for example, significant changes in the process or process capability should lead to an evaluation of the control method.
26) REACTION PLAN		The reaction plan specifies the corrective actions necessary to avoid producing nonconforming products or operating out of control. The actions should normally be the responsibility of the people closest to the process, the operator, jobsetter, or supervisor, and be clearly designated in the plan. Provisions should be made for documenting. In all cases, suspect and nonconforming products must be clearly identified and quarantined, and disposition made by the responsible person designated in the reaction plan. This column may also refer to a specific reaction plan number and identify the person responsible for the reaction plan.

PROCEDURE

1. NAME
   Enter the part or assembly part number and the component/subsystem name.

2. MODEL NUMBER
   Enter the model number and all product line that will be affected by the component/subsystem being analyzed.

3. PLANTS AND/OR SYPPLIER(S) INVOLVED
   List the plants and /or suppliers that are involved in the production of the subsystem being analyzed.

4. DATE
   Show the data the original FMEA was completed on the products, then show the latest revision date.

5. PREPARED BY
   Print and sign the engineer's name who prepared the FMEA.

6. REVIEWED BY
   Print and sign the reviewer's name (s) who reviewed the FMEA.

7. COMPONENT FMEA NUMBER
   The FMEA Code Number used for the component being analyzed appear in the column.

8. PART NAME
   Enter the part name being analyzed. Use the nomenclature and shoe design level as indicated on the engineering drawing.

9. FUNCTION & PROCESS
   A brief description of the function of the part or component under consideration. If the part of component has more than one function list all the functions separately.

10. FAILURE MODE
    List the way in which the part or component could fail to perform its intended function. Every failure mode that part or component can suffer is to appear.

11. CAUSE OF FAILURE
    List every conceivable potential cause of failure assignable to each identified failure mode.

12. EFFECTS OF FAILURE
    Describe the effects of failure in terms of what the customer might experience. List all the effects on the system (local effect) and on the product (global effect).

13. CURRENT CONTROLS
    List all current controls which are intended to prevent the cause (s) of failure from occurring or are intended to detect the cause (s). Do not assume any current controls unless they are specified in the engineering specification. If any other specific controls are considered to be necessary, they must be listed under recommended corrective action.

14. PROBABILISTIC RISK ASSESSMENT (PRA)
    PRA is a quantitative measure to evaluate and/or assess the consequence of the identified failure mode.

    This measure is subdivided into four parts:

    - Probability (chance) of occurrence (P)
    - Seriousness of failure to the product (S)
    - Likelihood that defect will reach customer (D)

- Risk priority measure (R)

15. PROBABILITY (CHANGE) OF OCCURRENCE (P)

Occurrence is how frequently the specific failure cause/mechanism is projected to occur. The occurrence ranking number has a meaning rather than a value.

Estimate the likelihood of the occurrence on a "1" to "10" scale. Only occurrences resulting in the failure mode should be considered for this ranking; failure detecting measures are not considered here.

The following occurrence ranking system should be used to ensure consistency. The "Possible Failure Rates" are based on the number of failures which are anticipated during the process execution. If available from a similar process, statistical data should be used to ensure consistency. In all other cases, a subjective assessment can be made by utilizing the work descriptions in the left column of the table, along with any historical data available for similar processes.

	Probability of Failure	Ranking	Possible Failure Rates		
Very High :	Failure is almost inevitable	10 9	>1in 1in	2 3	<0. 33 ≥0.33
High	Generally associated with processes similar to previous processes that have often failed	8 7	1in 1in	8 20	≥0.51 ≥0.67
Moderate :	Generally associated with processes similar to previous processes which have experienced occasional failure, but not in major proportions.	6 5 4	1 in 1 in 1 in	80 400 2,000	≥0.83 ≥1.00 ≥1.17
Low	Isolated failures associated with similar processes	3	1in	15,000	≥1.33
Very Low	Only isolated failure associated with almost identical processes	2	1 in	15,000	≥1.50
Remote:	Failure is unlikely. No failures	1	<1in	1,500,000	≥1.67

16. SERIOUSNESS/SEVERITY FAILURE (S)

Severity is an assessment measuring the seriousness of an effect and its potential failure mode to the customer. Severity applies to the effect only. Severity should be estimated on a "1" to "10" scale.

Very High: Very high severity ranking when a potential failure mode affects safe vehicle operation and /or involves noncompliance with government regulations. May endanger operator (machine or assembly). (9 with warning, 10 without)

High: High degree of customer dissatisfaction due to the nature of the failure such as an inoperable vehicle (e.g., engine fails to start) or an inoperable inconvenience
Subsystem (e.g., air condition system, power sunroof). Does not involve vehicle safety or noncompliance to government regulations. May cause serious disruption to subsequent processing or assembly operations and/or require major rework.

Moderate: Moderate ranking because failure causes some customer dissatisfaction. Customer is made uncomfortable or is annoyed by the failure (e.g., engine misfire, compressor rumble, sunroof

leaf). Customer will notice some subsystem or vehicle performance deterioration. May cause rework/repair and /or damage to equipment.

Low: Low severity ranking due to nature of failure causing only a slight customer annoyance. Customer will probably only notice a slight deterioration of the system or vehicle performance or a slight inconvenience with a subsequent process or assembly operation, i.e., minor rework action.

Minor: Unreasonable to expect that the minor nature of this failure would cause any real affect on the vehicle or system performance. Most customers will probably not even notice the failure.

17. DETECTION/LIKELIHOOD (D)

Detection is an assessment of the probability that the proposed process controls will detect the failure mode, before the part or component leaves the manufacturing or assembly location. A "1" to "10" scale is used. Assume the failure has occurred and then assess the capabilities of all "Current Process Controls" to prevent shipment of the part having this failure mode or defect. Do not automatically presume that the detection ranking is low because the occurrence is low (e.g., when Control Charts are used), but do assess the ability of the process controls to detect low frequency failure modes or prevent them from going further in the process.

Random quality checks are unlikely to detect the existence of any isolated defect and should not influence the detection ranking. Sampling done using a statistical basis is a valid detection control.

Likelihood the Existence of a Defect will be Detected by Controls Before Next or Subsequent Process, or Before Part or Component Leaves the Manufacturing or Assembly Location

		Ranking
Absolutely Certain of Non-Detection:	Controls will not or can not detect the existence of a defect	10
Very Low:	Controls probably will not detect the existence of a defect	9
Low:	Controls have a poor chance of detecting the existence of a defect	8 7
Moderate:	Controls may detect the existence of a defect	6
High:	Controls have a good chance of detecting the existence of a defect. (Process automatically detects failure)	4 3
Very High	Controls will almost certainly detect the existence of a defect. (process automatically prevents further processing)	2 1

18. RISK PRIORITY NUMBER

The Risk Priority Number is the product of the Seriousness (S), Probability (P), and Likelihood (D) rankings.

PRM = P x S x D

PRM = Probability Rank x Seriousness x Likelihood

This value should be used to rank order the concerns in the process (e.g., in Pareto fashion). The PRM will be between "1" and "1,000". For higher PRM's the team must undertake efforts to reduce this calculated risk through corrective action (s). In general practice, regardless of the resultant PRM, special attention should be given when severity is high.

19. RECOMMENDED CORRECTIVE ACTION (S)

A brief description of the recommended corrective action (s). If a corrective action is not required, indicate by "N.R." in this column.

20. ACTION TAKEN

After an action ahs been implemented, enter a brief description of the actual and effective date.