AM GENERAL QUALITY DEPARTMENT PROCEDURE REVISION RECORD

PROCEDURE NO. **2AP7002 - SUPPLIER QUALITY REQUIREMENTS**

APPROVAL AUTHORITY **Quality Director**

DESCRIPTION of CHANGE	APPROVAL	DATE
New Procedure.		4/9/09
Annual Review		10/11/11
Annual Review		6/10/2013
Review and revise to conform to the current Quality Department, Plant, and Company roles and responsibilities: “Supplier Quality Engineer” changed to “Quality Engineer”, “AM General Commercial Automotive” changed to “AM General Commercial Assembly Plant”, eliminated references to QS9000, revised/updated Supplement 3 and section 4.5 to conform to current weld practices, eliminated Manufacturer’s Identification Symbol Listing Requirement, reference to “VPG Audit Standard” changed to “AMG General Audit Standard”		11/10/2014
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AM General	STANDARD PROCEDURE 2AP7002
Originator: QE Manager Approved By: Quality Director	**SUBJECT:** 2AP7002 – SUPPLIER QUALITY REQUIREMENTS **DEPARTMENT:** Quality Engineering **DATE ISSUED:** 4/9/2009 **DATE REVISED:** 11/10/2014

RESPONSIBILITY	**PROCEDURE**

0.0 PURPOSE

0.1 The purpose of this procedure is to document the interface between the AM General Commercial Assembly Plant Quality Department (Quality D ept.) and the AM General Supply Chain Management Department (SCM).

1.0 SCOPE

1.1 This procedure is intended for use with purchases of material and parts used in the production of AM General products for sale to AM General's commercial automotive customers. This procedure establishes controlled documents that are maintained by the Quality dept. and "flowed down" through SCM to suppliers of production material.

2.0 GENERAL

2.1 RECORDS

2.1.1 The current revision of the Supplier Quality Requirements FM 5184 is attached to this procedure as Exhibit 1. SCM should have a link to this manual available for each Supplier.

3.0 DEFINITIONS

3.1 Non-Standard part: a part that has been designed specifically for the product, AMG has design authority over these parts

Standard part: a part that has been designed for other products and is available off the shelf, AMG has no design authority over these parts

4.0 PROCEDURE

QUALITY DEPT. DIRECTOR	4.1	The Supplier Quality Requirements FM 5184 has been developed and is maintained by the Quality Dept. It is shown in its' entirety at the end of this procedure.
QAULITY ENG. MGR/BUYER	4.2	This document will be forwarded to the Supply Chain Management and IS&S Department for electronic inclusion into the appropriate packet which is sent to suppliers with the Purchase Order.
SCM MGR./BUYER	4.3	A direct electronic link to the Supplier Quality Requirements and other applicable Quality Requirements (Supplier Performance Manual) should be incorporated in the body of the Purchase Order/Contract.
QUALITY ENGINEER	4.4	As indicated in FM 5184 Supplier Quality Requirements, Supply Chain Management is authorized to "automatically" flow down to suppliers of production material the quality system requirements of ISO 9000 series or other nationally or internationally recognized standards, as applicable. The supplier's quality system may be reviewed by AM General.
	4.5	FM 5184 and its supplements for hardware, fasteners, welding and painting shall be reviewed at regular intervals and updated as required. A record of these reviews will be maintained by the Quality Engineering Manager.
QUALITY ENGINEERING MGR.	4.6	RECORD RETENTION
	4.6.1	Record retention will be maintained in accordance with AM General's Commercial Assembly Plant Document, Data and Record Control Procedure 2AP0033.
	EXHIBITS:	
	EXHIBIT 1 – AM General Supplier Quality Requirements	
	Commercial Assembly Plant (CAP)	

Exhibit 1
Supplier Quality Requirements
Follows this page.

SUPPLIER QUALITY REQUIREMENTS MANUAL

COMMERCIAL ASSEMBLY PLANT (CAP)

AM GENERAL FM 5184

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AM GENERAL, LLC
SUPPLIER QUALITY REQUIREMENTS MANUAL
AM GENERAL FM 5184

1.0 General Information

This Supplier Quality Requirements Manual (the "Manual") establishes quality requirements for procurement by AM General LLC and its affiliates (together, the "Customer") of goods for Commercial Assembly Plant (CAP) programs. This Manual applies to all Suppliers that provide parts or materials to the Commercial Assembly Plant that are components of the final product produced at CAP (each a "Supplier"). The purpose of this Manual is to define Supplier responsibilities for ensuring that purchased items conform to customer drawing, specification and procurement requirements.

This document is incorporated by reference into the Customer's purchase orders. Any inconsistencies between this document and the purchase orders will be governed by the purchase orders. Customer reserves all of its rights under the applicable purchase orders. Customer may make changes to this document at any time and in any manner**.**

It is the Supplier's responsibility to read and comply with the requirements set forth in this document. Please contact your Customer Supply Chain Management representative if you have any questions about this document.

2.0 Quality System

2.1 The Supplier must maintain a Quality System that ensures that all items furnished to the Customer are inspected or tested (prior to shipment) and conform to the Customer's drawing, specification and procurement documents. This Quality System must conform to ISO9001 or TS16949 standards. The Supplier must ensure that its sub-tier suppliers also conform to Customer's quality requirements.

2.2 As the basis of its quality plan, the Supplier must have and use written procedures that provide for the control of quality of all parts produced or assembled within the Supplier's plant or procured by the Supplier from other sources. These procedures must include, without limitation: (i) standards defining work quality, process controls, and acceptance-or-rejection criteria, and (ii) a description of the receiving, in-process and final inspections, control of non-conforming material and calibration system in place. All inspection results must be documented. The procedures are subject to review and approval by the Customer's Quality Department Representative.

2.3 If the Supplier elects to use a sampling plan for acceptance of any material, at receipt, in process or at final acceptance, such plan must be documented, reviewed and approved by your Customer Quality Department Representative. Examples of acceptable sampling plans are MIL-STD-105, zero-based sampling plans, or American Society for Quality (ASQ) adopted sampling plans.

2.4 The Supplier must maintain a documented calibration system in accordance with ISO9001 or TS16949 Calibration System Requirements to control the accuracy of devices used to measure, gage, test, inspect or otherwise examine items to verify acceptability of materials or services. All standards used for this calibration system must be traceable to national or international standards.

2.5 The Supplier must maintain a measuring-equipment system in accordance with ISO9001 for managing confirmation and use of measuring equipment, including measurement standards, used to demonstrate compliance with specified requirements.

2.6 A distributor, at a minimum, must maintain a Quality System that meets Customer FM-5184 and that ensures material supplied to Customer conforms to the requirements of this procurement. Unless otherwise specified, the distributor is responsible for material acceptability and performance.

2.7 Regulated or Critical Safety Item Characteristics Requirements

For any part designated as having Government or Critical Safety Item or Key Product characteristics, the Supplier must submit to Customer Quality Engineering:

- PPAP to the AIAG Fourth Edition guidelines dated March 2006. Default level is 3.
- PPAP Submission will meet the detailed Customer Requirements in section 4.0.
- Dimensional submission will be based on signed CRT package (see Supplement 1 to this Manual).

2.7.1 The Supplier must maintain a First-In/First-Out (FIFO) material rotation system for all parts with Government regulated or safety characteristics for:

- ✓ Finished goods shipment
- ✓ In-Process material

2.7.2 Parts with Government regulated or safety characteristics cannot be changed or modified in any respect without approval of Customer Product Engineering and re-submittal of samples and data for approval by Customer Quality Engineering prior to delivery of product.

2.8 Specific Requirements for Fasteners and Hardware

Fasteners must meet all the requirements of the fastener drawing. These requirements apply to any Supplier furnishing any product with fasteners included as part of the purchased part.

2.9 Statistical Process Control (SPC)

The Supplier is encouraged to have a Statistical Process Control (SPC) program in effect in their facilities with applicable procedures developed**.** Customer's Quality Engineering Group may conduct SPC audits as part of their normal Quality Engineering quality systems technical visit and/or source-control audit to ensure compliance with Customer procedures should you elect to use an SPC program. Certain characteristics such as major classification characteristics on the assigned CRT / Control Plan, Critical Safety Items or Regulated items should be considered candidates for SPC.

2.10 Non-conforming Product or Service

2.10.1 The Supplier must have a documented procedure for control of non-conforming material. This procedure must provide for implementation of appropriate action to correct recurring or repetitive nonconformities. The Supplier must take prompt and effective action to correct conditions that have resulted or could reasonably be expected to result in the submission of items in a defective or non-conforming condition.

2.10.2 Report of Discrepancy – Upon discovery of any deviation from drawings, specifications or procurement requirements, Supplier must immediately: (i) notify Customer Quality Engineering and Supply Chain Management; and (ii) implement containment procedures.

2.10.2.1 Disposition of any nonconforming material other than by reworking to conformance with the applicable requirements or by scrapping the nonconforming material at the expense of the Supplier must be approved in writing by Customer.

2.11 Quality Records

The Supplier is responsible for maintaining quality records of inspections and outgoing product quality of all lots of material shipped to Customer**.** These records include but are not limited to inspection records, certificates of conformance and control test reports. The Supplier is required to maintain these records for ten (10) years after completion of the purchase order (the "Record Retention Period")**,** unless otherwise relieved by contract. Upon expiration of the Record Retention Period, the Supplier must give written notice to Customer of any intended disposition of such records. The Supplier must impose this requirement on any sub-Suppliers.

2.12 Changes

The Supplier must obtain approval from Customer Supply Chain Management, in writing, by Purchase Order Change (POC), before any change can be made such as those listed in Section 4.2 of this Manual. A PPAP to the AIAG PPAP manual 4th edition must be submitted when any non-record only change is implemented. All change requests must be submitted to Customer Supply Chain Management in writing or via e-mail. Additional testing may be required to ensure changes have no impact on intended use or long-term durability. This testing may be above the technical-data package requirements (drawings and other quality provisions) in your possession but may be deemed necessary to ensure satisfaction of Customer's requirements. These requests may also require submission of parts manufactured to the requested change configuration before production of the parts is implemented.

2.13 Part Identification and Packaging Requirements.

2.13.1 Identification requirements are as follows for shipment: Part Number, Rev. Level, Part Name, Manufacturer's Identification, Lot or Date Code, Material

Handling Code, and Quantity. This information must be included on shipping paperwork and package labels. Individual parts are to be identified in accordance with drawing requirements unless exempted by purchase order. The complete details are covered in the Supplier Packaging/Labeling Manual.

2.13.2 Identification of Shelf Life Material

Supplier must identify the shelf life of material for each item, package or container. Such identification must include the standard identification requirements and the cure or manufacture date, expiration date and special storage and handling conditions.

2.13.3 Marking of Tools, Molds and Test Equipment

Supplier must mark Customer-owned tools, molds and test equipment with the applicable part number, dash and revision number as stated on the purchase order. If a mold contains more than one cavity producing the same part number, each cavity must be numbered.

2.13.4 Packing and Packaging

Supplier is responsible to ensure that all items are adequately packed and packaged to prevent damage or contamination.

2.13.4.1 Parts with developed and approved returnable containers must be packed in the returnable container at the full standard pack quantity.

2.13.4.2 Parts should never be packed in a broken or damaged returnable container. Supplier should tag the container as bad and contact Customer for instructions.

2.13.4.3 Parts that have no returnable container will be packed in Customer-approved expendable containers at standard pack quantity.

2.13.4.4 Parts requiring returnable containers that are not available can be packed in an approved back-up expendable container at standard pack quantity. Provided that Supplier obtains Customer permission.

2.13.5 For more detailed packaging and labeling information use the Production Control Supplier Packaging/Labeling Manual.

3.0 Access to Supplier's Facilities

3.1 Each Supplier's Quality System is subject to periodic audits by Customer Quality Department Representative(s). The records and documentation described in this Manual must be made available for review by Customer and/or its customer representatives, as applicable, upon request:

- Evidence of inspection to assure adherence to applicable drawings and/or specifications and revisions thereto.

- Periodic calibration of inspection equipment and control of certification records per ISO9000 or TS16949 Series.

- Test data records or all qualifications and acceptance tests performed.

- Certification of personnel and processes such as heat treating, plating, anodizing, magnetic particle inspection, etc., when required by specification or contract.

- Failure analysis and corrective action reports.

3.2 Customer and/or its customers may send a representative to Supplier's facilities to perform any of the following activities:

- Source Inspection (Mechanical or Visual Inspection)
  All items are subject to inspection at the Supplier's facility by Customer Quality Department personnel before shipment.

- Source Inspection (Test)
  All items are subject to test at the Supplier's facility for witnessing by Customer Quality Department personnel before shipment.

- Source Surveillance
  All items are subject to surveillance by Customer Quality Assurance personnel. This may include review of the Supplier's inspection system, procedures and quality or test records during the production run to ensure conformance to drawing, specification and Supplier procedure requirements.
  NOTE: Supplier's proprietary products and processes are not subject to this provision.

4.0 Production Part Approval Process

4.1 PPAP is required for all parts, whether standard or non-standard.

4.2 The guidelines for Production Part Approval Process will be the AIAG PPAP Manual, Fourth Edition (March 2006) (the "PPAP Manual").

4.2.1 Standard parts require Level 1 PPAP per the table in section 4.1 of the PPAP Manual.

4.2.2 Non-Standard parts require full PPAP under the PPAP Manual.

4.2.2.1 The default is Level 3 PPAP per the table in section 4.1 of the PPAP manual.

4.2.2.2 Customer or its customers have discretion to choose appropriate PPAP level, based on risk assessment.

4.2.3 PPAP Submission Content

4.2.3.1 All requirements listed on the Drawings and Purchase Order will be submitted within the guidelines of the PPAP manual. All elements of the PPAP manual will be submitted. Elements that are not applicable will have a page stating not applicable.

4.2.3.2 Dimensional submission is governed by the CRT package. CRT package will be defined by Supplement 1 of this Manual.

4.2.3.2.1 Dimensional on 6 Pieces per CRT package, out of the 100 piece run. Multi -cavity tools will have at least 4 pieces per cavity.

4.2.3.3 Capability studies will be no less than 30 pieces, out of the 100 piece run, for all level 4 points listed in the CRT package (CRT package defined in Supplement 1 or AMG 2AP7001).

4.2.3.3.1 Requirements are 1.67 PPK or greater, or as agreed upon in the signed feasibility agreement.

4.2.3.4 Sectional Layouts as required for interior and exterior trim and suspension castings.

4.2.3.4.1 These are physical sections of the part, representing all sections on the drawing.

4.2.3.4.2 2 sets are required 1 for Supplier retain, 1 handed to AMG for PPAP and retain.

4.2.3.5 Suspension castings may be required to pass radiographic analysis. The evaluation scale and pass criteria be established by the DRE.

4.2.4 PPAP submissions will be sent to your AMG Quality Engineer, 12900 McKinley Hwy, Mishawaka, IN. 46546. Level 5 PPAP will require an AMG full copy on site.

4.3 Seller-Controlled Products

One legible and reproducible copy of applicable approval, specifications and drawings must accompany the PPAP.

4.4 Coating and Other Finish Requirements

Verification that all cleaning and coating requirements specified on drawings, specifications or other documentation must be supplied with the PPAP in accordance with Supplement 4 of this Manual.

4.5 Welding Requirements

The Supplier must meet the requirements of the weld drawings. The weld validation as well as the quality of the production welds will meet a generally accepted automotive-industry specification. Examples would be GM 14057 for resistance welds, or GM 14058 for arc or an equivalent.

The Supplier will have documented evidence of weld validation that was agreed upon with the AMG QE and PDT.

5.0 PROTO TYPE / PILOT SUBMISSIONS

5.1 Prototype and Pilot submissions will have full dimensional data that was agreed upon in the CRT package, level 1 points and above.

5.2 Points out of specification should be listed on an Interim Approval worksheet with a work plan for the next build event. The worksheet should have the DRE and Commodity QE's signature prior to shipment.

5.3 Pilot Capability of level 4 points and above should be quantified. CPK of 1.33 or greater is acceptable. Any point less than 1.33 would be listed in the work plan. Capability run size would be limited to what is on release for a particular build event.

6.0 PPAP / Proto Type / Pilot submission timing.

6.1 Timing will come from Program Management and Supply Chain Management.

6.2 Data availability and submission should be targeted for 30 days prior to build event. Official timing will come from Program Management and Supply Chain Management.

SUPPLEMENT 1 TO AM GENERAL FM-5184

COMPONENT REVIEW TEAM

1.0 SCOPE

This section explains the CRT process within the PDT process for the AM General Commercial Assembly Plant.

1.1 Definition

Component **R**eview **T**eam is a cross functional group within the PDT. It is lead by the DRE. Participants at a minimum are Tooling Engineer, AMG Quality Engineer, AMG Manufacturing Engineer, and at the appropriate time Supplier representative. This Team reviews and agrees on the measurement points to validate a part through the development process into on going production. This process is fully detailed with examples in procedure 2AP7001.

1.1.1 Level 1 points are measured on base parts to verify design intent. They are the maximum number of points on a subcomponent. They verify design and are used in production tool buy off. They are not for production.

1.1.2 Level 2 points are the minimum points measured to verify design intent. They do not include features not used by end customer or manufacturing. Example stiffening ribs weight reduction holes. They are a subset of Level 1s. They verify the design not process. They are used for percent of points in tolerance.

1.1.3 Level 3 points are the minimum points used to verify capability of the manufacturing / assembly process. These points will be measured ongoing until acceptable capability has been proven. These points are a sub set of level 2s. They verify process not design. They are used to establish and verify capability of a production process.

1.1.4 Level 4 points are the minimum number of points measured to demonstrate process control. Once control of level 3s has been established control plans can downgrade to these points as a minimum ongoing. These points are a subset of level 3s. They are significant features that will be measured ongoing to demonstrate process control. They are used in PPAP to demonstrate capability.

1.1.5 Level 5 points are points measured to give immediate feedback and adjustment in production. They are part features measured with simple hand tools. Control limits could come from level 3 data. Production components only. They monitor process stability. They might be different than points measured earlier.

1.2 Documentation

1.2.1 Non-standard parts at the discretion (based on risk assessment) of the Product Development Team (PDT) will have a CRT package. The package has a math data pictorial that shows the part and GD&T.

1.2.2 All level 1-4 points will be identified on the pictorial or in specific sections. The points will have an XYZ value. The pertinent direction will be specified and the tolerance included. All points will have an identifier / serial number.

1.2.3 There will be a table that lists by identifier all the points grouped by levels. It will have their nominal and tolerance. It will specify whether they are KPCs.

1.2.4 The last page will be a signature block. It will list the Design Release Engineer (DRE), Quality Engineer (QE), Production Engineer (PE) and supplier.

1.3 CRT Process

The DRE with input from the QE and PE of a given part provides a proposal of the points needed to validate the part/tools, points relevant to capability, points for ongoing SPC. When the plan is agreeable to these parties they sign the document. This document can be revised during the launch process after which it will be signed by the same parties. Revision can be based on positive or negative build / capability data.

1.4 Supplier Review

1.4.1 The supplier can have input on the CRT package through their involvement in the PDT. Input in the package can be during compilation or after agreement.

1.4.2 For purposes of early quoting prior completion of the CRT package it should be assumed that Non-Standard parts will have at least 2 ongoing SPC points. This may be adjusted up or down during the component review and based on build events.

SUPPLEMENT 2 TO AM GENERAL FM-5184

FASTENER QUALITY ASSURANCE REQUIREMENTS

1.0 SCOPE

This Supplement delineates the requirements for threaded fasteners.

1.1 This Supplement establishes quality assurance requirements for all threaded steel metric or standard fasteners (as defined by SAE-J1199) that are to be used in assembly for Commercial Automotive and in incoming sub assemblies.

1.2 Fasteners will meet all requirements on the fastener drawing.

1.3 Suppliers subject to this Supplement shall implement and maintain a fastener quality assurance program which:

1.3.1 Assures the homogeneity of fastener lots. A homogeneous fastener lot is defined as a lot in which all of the fasteners are of the same size, type, grade, plating and manufacturer.

1.3.2 Retains objective quality evidence that the fasteners furnished to AM General meet all technical requirements, and can provide this evidence upon request.

1.4. The Supplier is to determine the conformance of the fastener lots with the homogeneity and identification requirements, a sample from each lot of fasteners will be taken in accordance with MIL-STD-105, dated 10 May 89, Inspection Level II, AQL 1.0, or equivalent, except that lots shall be accepted with zero (0) defects (c-0) and rejected with one or more defects. Each sample shall be examined for the following:

1.4.1 The grade and manufacturer symbol (logo) for each bolt in the lot sample shall be the same.

1.4.2 Threads shall be examined to assure conformity to requirements.

1.4.3 Plating (when specified) shall be examined to assure complete coverage.

1.5 Objective quality evidence that fasteners meet all technical requirements shall consist of either:

1.5.1 Favorable chemical, core hardness, plating and tensile test data provided by the manufacturer or supplier of a fastener lot which is directly traceable to that lot. Chemical tests shall include, as a minimum, percent by weight of the following elements: carbon, manganese, phosphorus and sulfur; or

1.5.2 Favorable results of chemical and core hardness tests performed by the contractor or subcontractor on sample(s) taken from the lot. Sampling for

chemical, plating and core hardness testing shall be in accordance with MIL-STD-105, Level S-2, AQL 1.0 or equivalent. Chemical tests shall include, as a minimum, percent by weight of the following elements: carbon, manganese, phosphorus and sulfur.

1.6. Commercial items, defined as an end item or component of an end item whose sales volume to the general public is greater than 50% of the items produced, will be deemed to meet the requirements of this Supplement if the supplier has a current supplier control policy with regard to fasteners which has been approved by AM General Quality Department.

1.7 The supplier shall establish written procedures at receiving inspection to verify quality of fasteners, to include:

1.7.1 Review of purchase order-required documentation.

1.7.2 Identification and segregation of received material by homogeneous lots for inspection and test.

1.7.3 Segregation and control of material to preclude use until verification inspection and testing are performed. (NOTE: Verification of fasteners on subassemblies shall be accomplished by documentation review and inspection for manufacturer logo and bolt head markings. (Disassembly is not required.))

1.7.4 Selection of sample size for the Statement of Objective Quality Evidence for each lot, prescribed by the appropriate Appendix Table. The following acceptance criteria shall be utilized: (NOTE: Sample selection shall be randomly drawn from the widest dispersion of containers for each homogeneous lot.)
- Accept lot with 0 defects
- Reject lot with 1 defect

1.8 Establish methods to periodically audit suppliers to ensure and validate continued credibility.

1.9 Require verification of proper head logo and grade markings by supplier's source inspectors.

1.10 Ensure the use of an independent accredited laboratory or its equivalent whenever test/inspections are performed to gather objective quality evidence. Laboratory accreditation shall be accomplished by independent evaluation using criteria set forth in recognized industry/Government standard

SUPPLEMENT 3 TO AM GENERAL FM-5184

AM General LLC Commercial Assembly Plant

Supplier Weld Procedure Requirements

This submittal requirement is applicable to all types of welds required by the design documents (ex-MIG weld, TIG weld, Resistance Spot Welding, Drawn and Arc fasteners, etc) installed by the source.

PRIOR TO PRODUCTION, or when drawing or welding procedure revisions are made, all of the applicable Weld Standards shall be identified and the requirements shall be defined in the APQP process.

All CLASSES and TYPES of welds shall be identified and submitted to the designated Quality Engineer (QE) for approval.

The following requirements are mandatory for the PPAP process for each produced part that includes weldments:

1. Weld Process Qualification

1.1 Each Weld Process (MIG, TIG, RSW, etc) shall be Qualified for each specific part produced and maintained for the model year plus one year.
1.2 Qualification consists of sets of process parameters, work instructions, programs, and materials that have been proven to produce the required level of weld quality.
1.3 After the Qualification is completed the records are placed under change control and used for requalification when required.
1.4 Documentation of the process Qualification shall be attached to the PPAP submission

2. Weld Validation – test results records

2.1 A Weld Validation shall be performed for each installed weld to prove that the Qualified Weld Process is capable of producing welds at the required quality level and that the qualification process was successful.
2.2 Weld validation can be performed by means of destructive or nondestructive methods (weld destruct, cut and etch, ultrasound, Rx, etc) by the supplier or a certified third party.
2.3 The acceptance criteria for weld quality shall be identified on the design documents (weld standards, weld drawings, engineering specifications) and shall be approved by the AM General QE.
2.3 Results of the Weld Validation shall be recorded and attached to the PPAP submission

3. **Weld Process Control Plan, including destructive and non destructive weld inspection records and Nonconforming Reaction Plan**

3.1 Weld Process Control Plans shall be developed and implemented to insure that the processes and products are maintained at the same level of quality agreed upon Weld Process Qualification.
3.2 Records of weld inspection (destructive, nondestructive) shall be maintained for the model year plus one year.
3.3 Reaction Plans shall be developed and implemented upon AMG QE approval, in order to prevent the shipments of nonconforming product.
3.4 Repair procedures shall be developed and approved by AMG QE and Product Engineering.
3.4 The repair procedures shall be used to contain the entire known lot of suspect nonconforming product. The supplier shall notify AM. General for every shipment containing repaired products.
3.5 The repair operation shall be performed only by certified welders/welding operators using the approved repair procedures and qualified equipment.
3.5 The Weld Process Control, records of weld inspection, Reaction Plans shall be attached to the PPAP submission.

4. **Welder/Welding Operator Qualification - Records**

4.1 Manual weld operations shall have the welders/welding operators certified for the type of welding performed and shall maintain the certification for the duration of production.
4.2 Certification of the welders/welding operators may be attained through an internal certification program or using an approved third party source.
4.3 Records shall be provided with the PPAP submission and maintained at the source for the duration of product plus one year.

5. **Requalification procedures.**

5.1 Requalification procedures shall be developed and applied for any changes that impact the initial qualification (new welders, new equipment)
5.2 At any time when weld quality issues are identified by AM General, the suspect welding procedure(s) or welder(s)/welding operator(s) shall be requalified and a subsequent Weld Quality Audit may be performed.

SUPPLEMENT 4 TO AMG FM-5184

AM General
Supplier Paint Procedure Requirements

PAINT PROCEDURE GUIDELINE

1.0 SCOPE
This supplement outlines the requirements for all painted parts.

2.0 End item customer visible painted parts will require a 2 stage appearance approval report.

3.0 References

3.1 The customer drawing will be the controlled list of applicable specifications and requirements for painted surfaces for appearance and performance.

3.2 Painted appearance parts will be expected to meet a generally accepted automotive standard, example GM4348M or an equivalent representation of automotive standards.

3.3 Painted parts performance will be expected to meet a generally accepted automotive standard, example GMW3005 or an equivalent representation of automotive performance standards.

3.4 Appearance **zones** and requirements will be defined by AM General and support the AM General Audit Standard 2AW0034.