



Supplier Quality Assurance Manual

January 2019 Edition

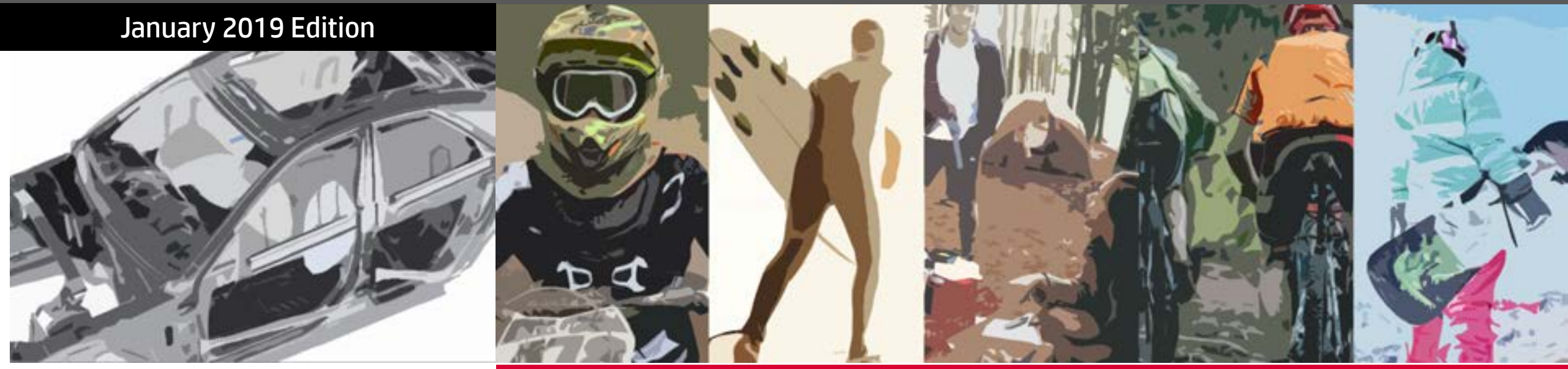




Table of Contents

CONTENTS

Introduction.....	3	Audit & Verification.....	19
JAC Products Global Locations.....	4	Measurement and Calibration Testing.....	20
Sustainability & Community Responsibility.....	5	Control of Non Conforming Product.....	21
Supplier Approval Process.....	8	Review & Disposition of Non Conforming Product.....	22
Management Responsibility.....	9	JAC Consigned Material Disposition.....	23
Quality Documentation/ Procedures.....	10	Sorting & Rework of Non Conforming Product.....	24
Advanced Product Quality Planning (APQP).....	11	Temporary Change Authorization.....	25
Production Part Approval Process (PPAP).....	12	Corrective & Preventive Action.....	26
Process Control.....	13	Packaging, Handling and Labeling.....	27
Preventative Maintenance.....	14	Training & Statistical Methods.....	29
Appearance Items.....	15	Supplier Performance.....	30
Inspection and Testing.....	16	Supplier Performance Rating.....	31
Product Design & Production Validation.....	17	Recommended AIAG Reference Material.....	32
Risk Assessment	18	Glossary of Common Terms	33





Introduction

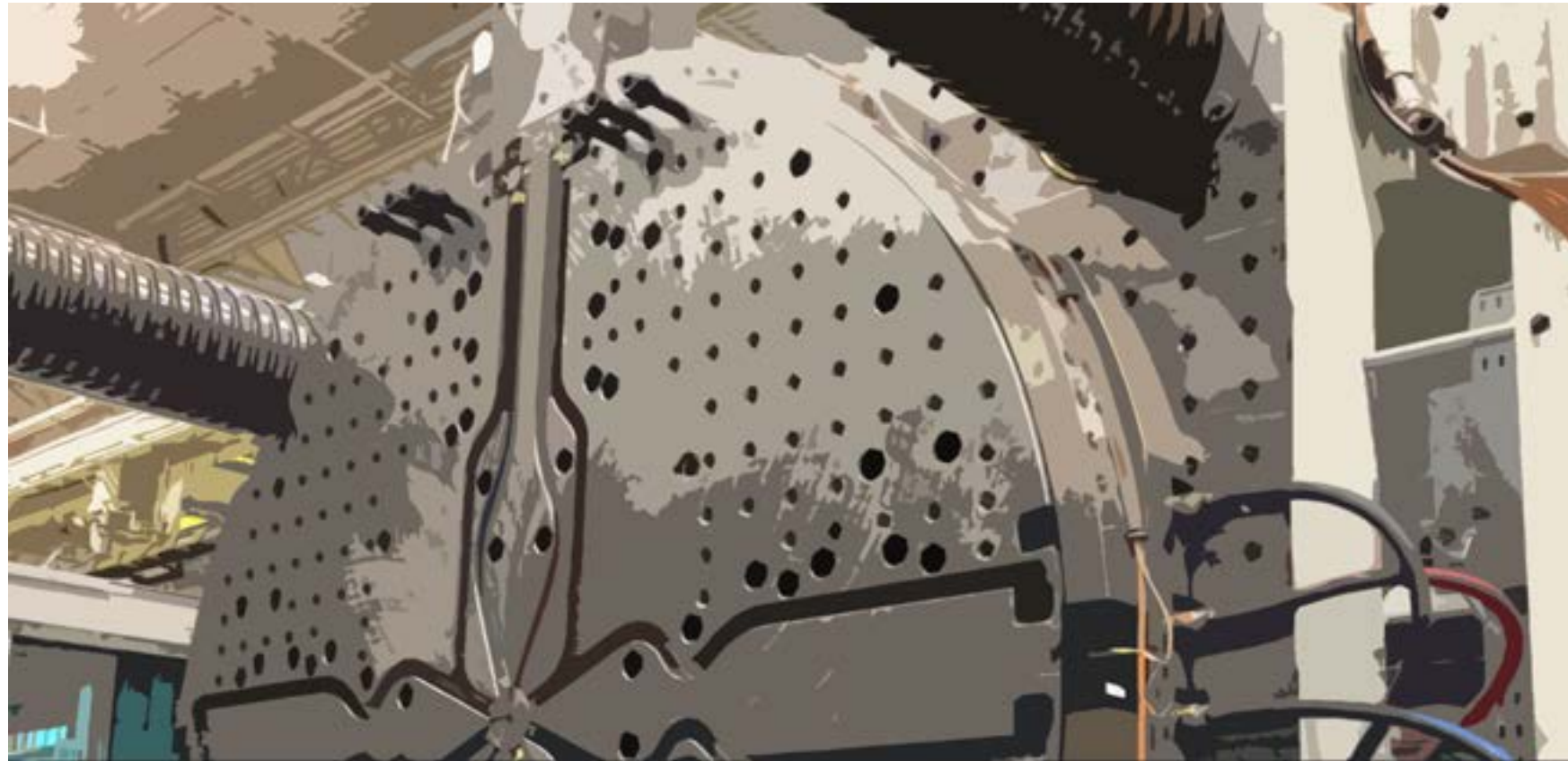
Our customer quality ratings relies heavily on the proficiency of our supply base. Our suppliers must have collaborative quality goals that align with our OEM customers

Our JAC Product SQAM document defines the core requirements for JAC Products quality. All JAC Suppliers must adhere to and maintain these requirements

Correct fulfillment of delivery and quantity requirements must also be ensured by all JAC suppliers.

This Supplier Quality Assurance Manual (SQAM) is intended to supplement IATF 16949 standard requirements by outlining JAC-specific expectations and requirements. JAC expects its' supply base to develop quality systems based on the latest edition of the IATF 16949 standard.

The latest editions of Advanced Product Quality Planning (APQP), Production Part Approval Process (PPAP), Measurement System Analysis (MSA), Potential Failure Mode and Effects Analysis (FMEA), and Fundamental Statistical Process Control (SPC) reference manuals should be followed and can be purchased at www.aiag.org. Suppliers may also be required to comply with OEM, or JAC customer-specific requirements – as applicable.





JAC Products Global Locations

Location	Address	Phone / FAX
JAC GLOBAL CORPORATE HEADQUARTERS AND TECHNICAL CENTER	3937 CAMPUS DR. PONTIAC, MI 48341	Phone: 248-874-1800 Fax: 248-874-1824
JAC CORPORATE OFFICE SALINE	225 S INDUSTRIAL DR. SALINE, MI 48176	Phone: 734 -944-8844 Fax: 734-429-4314
Franklin Plant	266 Mary Johnson Drive Franklin, GA 30217	Phone: 706-675-3341 Fax: 706-675-0209
LaGrange Plant	1570 West Lukken Industrial Drive LaGrange, GA 30240	Phone: 706-675-3341 Fax: 706-675-0209
Napoleon Plant	620 Independence Drive Napoleon, OH, 43545	Phone: 734-944-8844 Fax: 734-429-4314
Portugal Plant	Quinta Da Boa Agua Estrada Nacional N3 Carregado 2580 Alenquer	Phone: +351 263 850 300 Fax: +351 263 851 240
Saline North Plant	151 S Industrial Drive Saline, MI 48176	Phone: 734-429-7401 Fax: 734-429-4314
Saline South Plant	225 S Industrial Drive Saline, MI 48176	Phone: 734-944-8844 Fax: 734-429-4314
Shelby Plant	12000 Shelby Tech Drive Shelby Township, MI 48315	Phone: 586-254-1534 Fax: 586-254-1538
Yuyao Plant, China	No 30 Xingshun Road Sino-Italy Ningbo Ecological Park Yuyao City Zhejiang Province, CN 315400	Phone: +86 574 62089555

THE FOLLOWING IS A LIST OF EACH JAC FACILITY GLOBALLY. PLEASE DIRECT ALL QUESTIONS REGARDING QUALITY ISSUES OR CONCERNS TO THE PLANT QUALITY MANAGER OR APPLICABLE SUPPLIER QUALITY ENGINEER (SQE). IF FURTHER ASSISTANCE IS NEEDED, PLEASE CONTACT YOUR JAC BUYER.

www.jacproducts.com





JAC Products Sustainability Policy Principles

JAC Products is proud of its longstanding business policies and practices that reflect our commitment to a robust Health and Safety Program, Environmental Protection, Equal Employment Opportunity, Satisfying Work Environment, and positive Community Relations.

In 2017 the Executive Leadership Team adopted a formal policy of Sustainability & Social Responsibility that brings together the associated practices within one document. This policy established clear principles that ensure the implementation of best practices supporting sustainability throughout our global business, and from which we will drive continuous improvement in all related activities

It is the goal of our organization to demonstrate genuine care for our employees and their work environment, the natural outdoor environment, and the communities where we work; to partner with key suppliers that promote similar practices, and in doing so, support the goals of our OEM Customers.





JAC Sustainability & Community Responsibility

GENERAL PURPOSE

It is the policy of JAC Products, Inc. to conduct business in a manner that demonstrates respect for all individuals with whom we work, the communities within which we work, and the global environment. In this policy, we identify the principles to be followed to produce the desired outcomes, and the policies and programs that support Sustainability and Social/Community Responsibility. Within this policy, “sustainability” means the explicit drive to ensure the longterm existence of our business, our suppliers’ businesses, our natural resources, the human talent necessary to provide the products and services we provide, the communities within we operate our business, and the intellectual property that serves as the primary source of value within our businesses.

APPLICABILITY

JAC
Products
Employees

JAC
Products
Suppliers

JAC
Products
Partners

POLICY STATEMENT

The JAC Products Company is committed to pursuing the achievement of our vision and mission, and doing so in a manner that ensures our organization is:

RECOGNIZED AS RESPONSIBLE GLOBAL CITIZENS

SUPPORTIVE OF A SUSTAINABLE GLOBAL ENVIRONMENT

PROVIDING A SAFE, RESPECTFUL, AND ENGAGING WORK ENVIRONMENT FOR ALL EMPLOYEES

PROVIDING PAY AND BENEFITS THAT ARE COMPETITIVE AND FAIR

MINIMIZING OUR IMPACT ON THE ENVIRONMENT





JAC Products Sustainability Policy Principles

1. All business is to be conducted within the laws of the communities where we operate our business.
2. The safety and health of employees is paramount and our work environment, systems, and processes are designed for the safety of all employees, our key partners, and the consumer who uses the products we design and manufacture.
3. All global employees are to be treated respectfully and encouraged to be fully engaged in the pursuit of continuous improvement and the achievement of our vision and mission.
4. All working conditions will meet or exceed applicable regulations.
5. All employees are provided with equal opportunity for training, development and advancement.
6. All suppliers will be treated with respect and fairness, and with support for their continuous improvement efforts.
7. Equal opportunity will be provided to all suppliers, and potential suppliers.
8. All business activities are undertaken with the goal of minimizing any negative impact to the environment, to recycle and repurpose when possible, and to continuously seek opportunities to use less materials and produce less waste.
9. Employees are encouraged to donate their know-how and time in support of the communities where we conduct business.
10. We will allow and encourage feedback from any source that our execution of these principles is inconsistent and/or requires improvement.
11. We will seek to do business with suppliers who share our principles and who demonstrate this in their ongoing business processes.





Supplier Approval Process

JAC EVALUATES AND APPROVES NEW SUPPLIERS BASED ON THEIR ABILITY TO MEET OUR REQUIREMENTS. THE SELECTION PROCESS IS INITIATED BY THE JAC SUPPLY CHAIN GROUP. OUR SUPPLY CHAIN GROUP MAINTAINS AND UPDATES OUR APPROVED SUPPLIER LIST (ASL) REGULARLY. JAC PRODUCTS WILL PURCHASE PRODUCTION, SERVICE COMPONENTS AND RAW MATERIALS FROM THOSE SUPPLIERS WHOM ARE ON OUR A ASL.

OTHER WEIGHTED FACTORS

JAC Supplier Assessment Acceptable Rating

ISO 9001 / IATF 16949 status

Delivery Performance

Quality Performance

Financial Stability

Customer Directed

Cost



Management Responsibility

THE SUPPLIER'S MANAGEMENT WITH EXECUTIVE RESPONSIBILITY SHALL DEFINE AND DOCUMENT ITS POLICY FOR QUALITY. THIS POLICY SHALL BE UNDERSTOOD, IMPLEMENTED AND MAINTAINED AT ALL LEVELS OF THE ORGANIZATION

RESPONSIBILITIES FOR PERSONNEL WHO MANAGE PERFORM AND VERIFY WORK AFFECTING QUALITY SHALL BE DEFINED AND DOCUMENTED

A MANAGEMENT REVIEW OF THE QUALITY SYSTEM SHALL TAKE PLACE AT REGULAR INTERVALS TO INSURE ITS EFFECTIVENESS

ADDITIONALLY, A PROCESS FOR DETERMINING CUSTOMER SATISFACTION SHALL BE DOCUMENTED AND SUPPORTED BY OBJECTIVE EVIDENCE





Quality Documentation/ Procedures

JAC Products suppliers shall develop and maintain a quality manual which outlines the supplier's quality operating system. The quality manual must be available in PDF Format.

JAC Products suppliers shall establish and maintain documented procedures that ensure that their products and/or services conform to JAC Products specifications and requirements.

JAC Products suppliers are expected have a document control process that is in accordance to AIAG guidelines. Control Plans, Process Flow Diagrams and PFMEA must also be developed following AIAG recommendations.

JAC Products suppliers must notify JAC Products in the event of any ambiguities in regard to PPAP submissions. It is expected that JAC Products is notified immediately to avoid delays to customer program timing.

JAC Products suppliers must include any key, significant or high impact characteristics that is identified by the supplier, JAC Products or OEM Customers in their Work Instructions, Control Plans and PFMEA.

JAC Products suppliers must insure the use of valid JAC Products documentation. Valid documentation will be of the latest revision levels, without modification from suppliers unless approved by JAC Products





Advanced Product Quality Planning (APQP)

JAC Products suppliers are required to conduct evaluations of processes and products in advance of initial production. Advanced Product Quality Planning (APQP) is intended to identify and correct any potential problems, permit the early selection of appropriate and best processing methods, and involves a participative, cross-functional team approach in launching products. Additionally, suppliers are expected to participate in the Supply Base Review Process which will be used to provide important program information and requirements to suppliers during the development and launch phases.

JAC Products proposes that suppliers follow the AIAG Standard Manual for the APQP (Advanced Product Quality Planning) process. JAC Products suppliers are expected to follow this standard unless another agreed upon process is followed that insures program timing can be attained.

JAC Products suppliers are encouraged use the JAC Supplier Launch Readiness Sheet (SLRS) in order to confirm launch readiness status throughout the APQP process. Please refer to the JAC SLRS for understanding of activities that will be monitor by JAC Products.





Production Part Approval Process (PPAP)

JAC Products suppliers shall submit PPAP's for new or changed products. New product PPAP's will be managed by the appropriate JAC Corporate Supplier Quality Engineer (SQE), while PPAP's for changed products that are already in regular production or service phases will be managed by the JAC receiving plant's Quality Engineer (PQE). The remainder of this section will refer to SQE/PQE to address JAC responsibilities for the PPAP activity depending on whether the product is new or in current production.

PPAP Submissions shall be made in accordance with the Retention Requirements table as identified in the AIAG PPAP manual prior to the processing of any production shipments. Each element as noted in the retention table must be satisfied for full PPAP approval and or review.

PPAP samples or quantities shall be delivered to the appropriate SQE/PQE to the specified JAC location unless otherwise directed. Suppliers may be required to fulfill OEM requirements for CQI and IATF per www.iatfglobaloversight.org.

All submitted PPAPs must have the JAC SQE approval on the Part Submission Warrant (PSW) prior to the shipment of any production parts or services. Deviations or interim approvals will be granted on an as-needed basis.

PPAP Submissions need to meet the latest AIAG Production Part Approval Process (PPAP) publication and JAC Products customers' PPAP requirements, when applicable. Unless otherwise directed by JAC Products SQE, suppliers are required to submit Level III PPAP's.

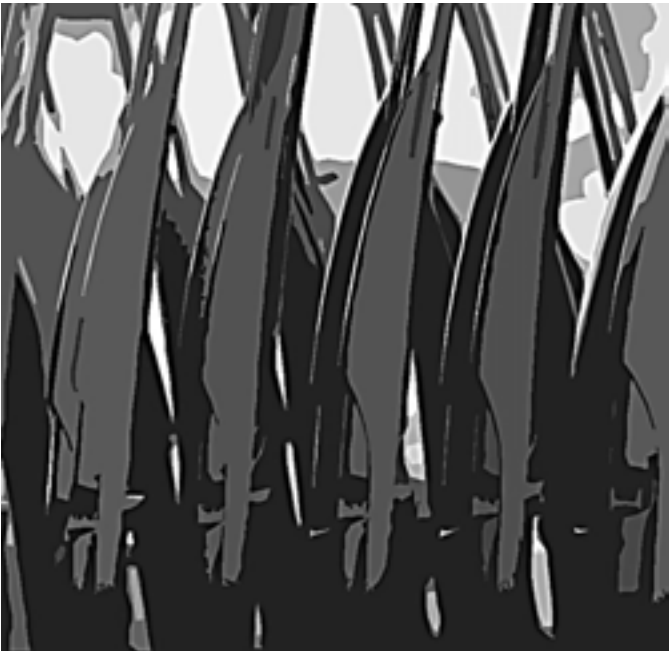
INTERIM PPAP APPROVAL PERMITS THE SHIPMENT OF MATERIAL FOR PRODUCTION REQUIREMENTS ON A LIMITED TIME OR PIECE QUANTITY BASIS. INTERIM APPROVAL WILL ONLY BE GRANTED WITH A DEFINED EXPIRATION DATE AND WHEN THE SUPPLIER HAS:

- A. Clearly defined the root cause of the nonconformance(s) preventing production approval
- B. Prepared an interim approval action plan, agreed upon by the JAC using facility.
- C. Re-submission to obtain full PPAP approval is required.



The supplier shall establish controlled conditions and documented procedures for their production processes, which directly affect product quality. The supplier shall maintain documented process monitoring and operator instructions for all employees that have responsibility for operation processes. Job set-ups shall be verified whenever a set-up is performed.

JAC MUST BE NOTIFIED FOR REGULATION ON APPROVAL REQUIREMENTS FOR ANY CHANGES TO THE MANUFACTURING PROCESS, PRIOR TO THE CHANGE BEING IMPLEMENTED. SOME JAC CUSTOMERS REQUIRE APPROVAL FOR PROCESS CHANGES. THESE REQUIREMENTS MUST BE MET.





Preventive Maintenance

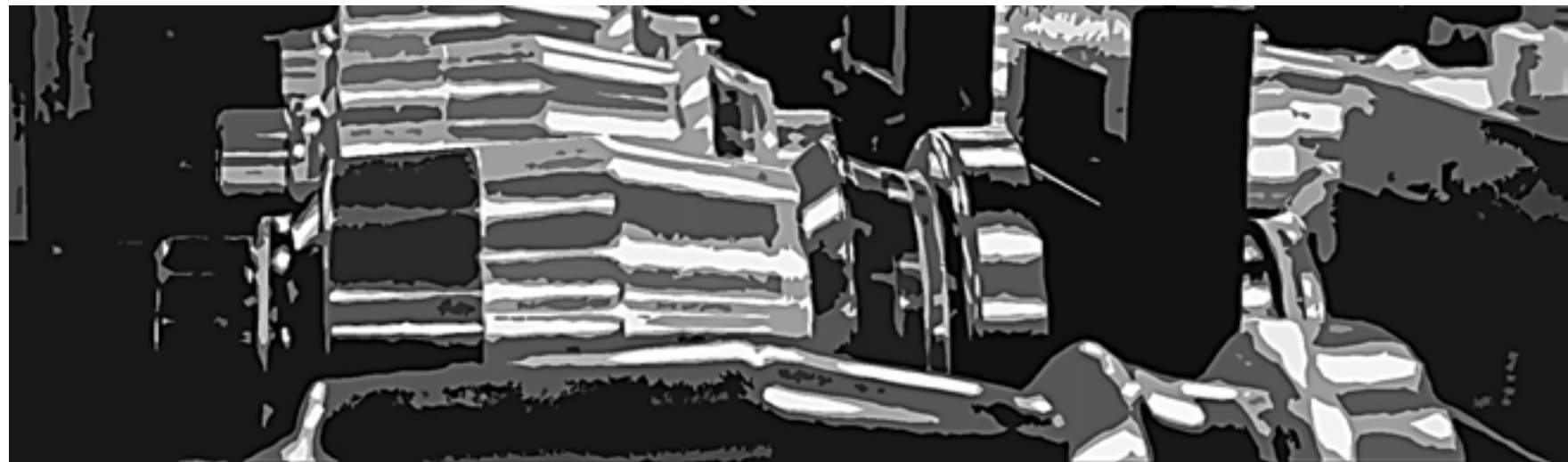
JAC PRODUCTS SUPPLIERS SHALL DEVELOP, IMPLEMENT, AND MAINTAIN A DOCUMENTED TOTAL PRODUCTIVE MAINTENANCE SYSTEM AS OUTLINED IN THE AUTOMOTIVE INDUSTRY STANDARD IATF 16949 CLAUSE 8.5.1.5.

JAC Products suppliers shall document and maintain this program or system and associated records shall be retained at the organization's location, and made available upon request by the JAC Products Supplier Quality Representative.

AVAILABILITY OF REPLACEMENT PARTS FOR KEY MANUFACTURING EQUIPMENT AND OR PROCESSES

IDENTIFY A PROCEDURE THAT DESCRIBES PLANNED MAINTENANCE ACTIVITIES

PREDICTIVE MAINTENANCE METHODS MUST BE DOCUMENTED IN THE TPM PLAN



Appearance Items

JAC PRODUCTS SUPPLIERS THAT PROCESS PARTS WITH APPEARANCE ITEMS AND / OR SIGNIFICANT CLASS A SURFACES SUCH AS PAINT, CHROME, ANODIZING AND BUFFING SHALL PROVIDE THE FOLLOWING.

JAC PRODUCTS SUPPLIERS MUST PROVIDE APPROPRIATE LIGHTING FOR INSPECTION OF PARTS (MIN. 100 FOO-CANDLES). LIGHTING MUST BE VALIDATED AT A DEFINED FREQUENCY.

JAC PRODUCTS SUPPLIERS MUST HOLD AND PRESERVE MASTERS FOR COLOR, GRAIN, GLOSS, TEXTURE, AND OTHER VISUAL FEATURES.

ALL APPEARANCE ITEMS MUST MEET THE JAC PRODUCTS CORPORATE APPEARANCE STANDARD (CAS) FOR THE SPECIFIC SURFACE FINISH AND PROGRAM.

MAINTENANCE/CONTROL OF APPEARANCE MASTERS, BOUNDARY SAMPLES, EVALUATION EQUIPMENT AND APPROPRIATE WRITTEN APPEARANCE STANDARDS

JAC PRODUCTS SUPPLIERS MUST VERIFY THAT PERSONNEL MAKING APPEARANCE EVALUATIONS ARE QUALIFIED. RECORDS SHALL BE MADE AVAILABLE UPON REQUEST.

JAC PRODUCTS SUPPLIER'S FACILITY SHALL MAINTAIN A STATE OF ORDER AND CLEANLINESS APPROPRIATE TO THE PRODUCTS MANUFACTURED.





Inspection and Testing

Sufficient control shall be maintained over manufacturing processes to prevent excessive product variability and to assure conformance of the characteristics of product which can be verified only at the time and point of manufacture.

Characteristics defined by JAC as critical or safety-related shall be closely monitored.

Parts and / or Characteristics identified as pass-through may call for annual layout requirements that will be defined by the JAC Corporate Supplier Quality Engineer during the launch phase or Plant Quality Engineer during normal serial life production.

Written operating instructions shall be accessible at each station.

Routing sheets or shop travelers may be used to control the material flow throughout the manufacturing process.

JAC Products suppliers shall comply with the appearance/inspection requirements provided in the JAC quote package. If no requirements are specified, the JAC Corporate Appearance Standard (CAS) and "Foreign Particle Size Template" shall be used for molded, painted and/or chrome surface components. If needed, see your JAC SQE or plant QE to attain better clarification of appearance requirements and copies of these documents. Inspection standards for other finishes shall be mutually agreed upon between the JAC-receiving plant, JAC SQE (if applicable) and the supplier. When customer-specific appearance standards are available they shall be used and supersede any JAC requirements.

VISUAL INSPECTION AIDS SHOULD BE AVAILABLE TO ALL APPLICABLE PLANT PERSONNEL AND THE REPETITIVE NON-CONFORMANCES SHALL BE HIGHLIGHTED ON THE VISUAL AIDS.



Product Design & Production Validation

ISO/IEC 17025:2017 SPECIFIES THE GENERAL REQUIREMENTS FOR THE COMPETENCE, IMPARTIALITY AND CONSISTENT OPERATION OF LABORATORIES.

ISO/IEC 17025:2017 IS APPLICABLE TO ALL ORGANIZATIONS PERFORMING LABORATORY ACTIVITIES, REGARDLESS OF THE NUMBER OF PERSONNEL.

LABORATORY CUSTOMERS, REGULATORY AUTHORITIES, ORGANIZATIONS AND SCHEMES USING PEER-ASSESSMENT, ACCREDITATION BODIES, AND OTHERS USE ISO/IEC 17025:2017 IN CONFIRMING OR RECOGNIZING THE COMPETENCE OF LABORATORIES.

JAC PRODUCTS SUPPLIERS SHALL USE TESTING AND CALIBRATION LABORATORIES STANDARD ISO/IEC 17025 (2017) ACCREDITED OR CERTIFIED COMMERCIAL LABS FOR ALL JAC PRODUCTS OR OEM DEFINED SPECIFICATIONS.





Supplier Risk Assessment & Contingency Plans

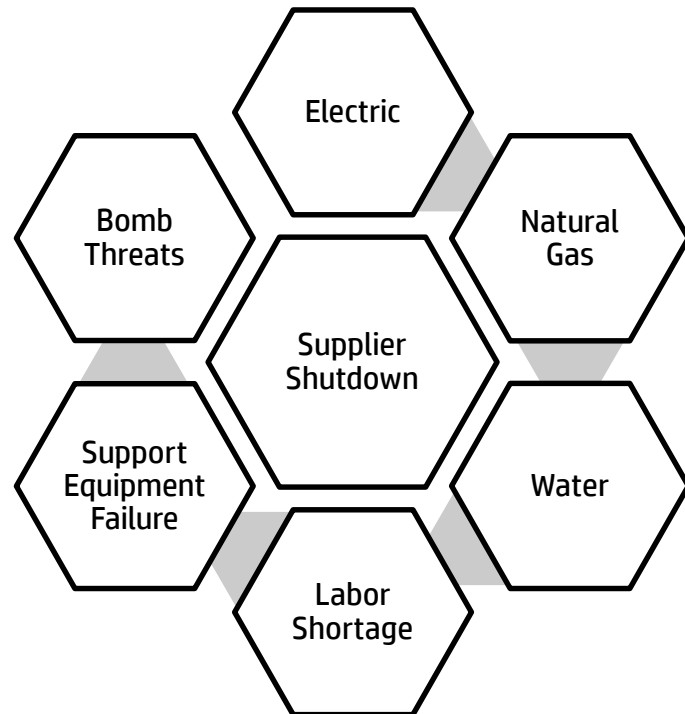
JAC Products Suppliers are encouraged to obtain IATF-16949 Certification when their primary source of business is the automotive industry.

JAC Products Suppliers that have a current IATF16949 certification is expected to have a Contingency Plan, which provides supporting information

JAC Products Suppliers that do not have a current IATF 16949 certification, should at a minimum have a ISO9001 Certification.

JAC Products Suppliers that do not have a current IATF 16949 or ISO9001 Certification shall obtain approval from JAC SQE.

WHILE IT IS UNDERSTOOD THAT NOT ALL JAC PRODUCTS SUPPLIERS WILL HAVE THE AUTOMOTIVE INDUSTRY AS THEIR PRIMARY SOURCE OF BUSINESS. IN THIS CASE THE IATF - **MAQMSR** [MINIMUM AUTOMOTIVE QUALITY MANAGEMENT SYSTEM REQUIREMENTS OF SUB-TIER SUPPLIERS] SHOULD BE USED AS A GUIDE.





Audit and Verification

JAC Products Supplier Quality Engineer will arrange for prospective suppliers to conduct a Self - Assessment using JAC Products file [FD700447 Supplier Assessment Form] This form is based off AIAG CQI-19 [Sub-tier Supplier Management Process Guidelines]. JAC Suppliers using the Rating Criteria that is outlined on this form.

GRADE A = CAPABLE & SOURCEABLE
SUPPLIER GOOD: $\geq 85\%$ (167 POINTS) + EVIDENCE OF ALL AREAS IN PLACE.

GRADE B = SOURCEABLE SUPPLIER WITH DEVELOPMENT NEEDS
ACCEPTABLE: $\geq 50\%$ (98 POINTS)
SUPPLIER NEEDS TO SUBMIT CORRECTIVE ACTION REPORT (CAR) FOR ALL ACTION ITEMS WITHIN 30 DAYS AND CLOSE THE FINDINGS WITHIN 60 DAYS, AN ON SITE VERIFICATION AUDIT WILL BE NECESSARY WITHIN 90 DAYS.

GRADE C = INCAPABLE SUPPLIER, NOT RECOMMENDED FOR SOURCING
INCAPABLE: $< 50\%$ (97 POINTS)
DISQUALIFIED AND NEED TO DEVELOP ANOTHER SOURCE.

JAC Products reserves the right to conduct periodic surveillance audits to ensure that each supplier's Quality Operating System is maintained with integrity. In cases of habitual quality and / or supply chain issues, the supplier shall grant JAC Product's Supply Chain Management Group [Material Management, Purchasing and Supplier Quality] access to their production facility based on a mutually agreed upon date and time. JAC Products suppliers must allow adequate time for surveillance audits and must have qualified personal available.

JAC Products suppliers are responsible for improving any observed weaknesses. The supplier shall provide a PDCA styled action plan for any observed weaknesses found during assessments or surveillance audits. JAC Products reserves the right to audit any sub-tier supplier or processor that is deemed critical to quality and / or delivery.

Measurement and Calibration Testing

A CALIBRATION SYSTEM SHALL BE USED FOR ALL INSPECTION INSTRUMENTS AND TESTING EQUIPMENT. ALL MEASURING DEVICES OR EQUIPMENT SHOULD EXHIBIT AN INDICATOR WHICH VERIFIES THE CURRENT STATUS AND SHOWS THE DATE ON WHICH THE NEXT INSPECTION OR RECALIBRATION IS REQUIRED. CERTIFIED STANDARDS AND METHODS (TRACEABLE TO NATIONAL STANDARDS) SHALL BE USED WHEN VALIDATING OR RECALIBRATING MEASUREMENT DEVICES. RECORDS OF CALIBRATIONS MUST BE MAINTAINED AS NOTED IN APPLICABLE IATF OR ISO STANDARDS.

MEASUREMENT SYSTEM ANALYSIS (MSA) SHALL BE IN ACCORDANCE WITH THE LATEST AIAG MSA GUIDELINES BY PERFORMING GAGE REPEATABILITY AND REPRODUCIBILITY (GR&R) STUDIES THAT SHOW EVIDENCE OF TYPE OF DEVICE. FOR VARIABLE DATA COLLECTION GAGES THE ANOVA GR&R METHOD SHOULD BE FOLLOWED UNLESS OTHERWISE DIRECTED. THIS INCLUDES ACCEPTANCE OR APPROVAL CRITERIA FOR THE COMPLETED GR&R. FURTHERMORE, THE GAGE SHALL BE DESIGNED AND BUILT TO THE JAC PRODUCTS CHECK FIXTURE DESIGN AND BUILD STANDARDS DOCUMENT. REVISIONS TO THE FIXTURE SHOULD BE TRACEABLE TO PART AND DRAWING CHANGES, IF APPLICABLE.

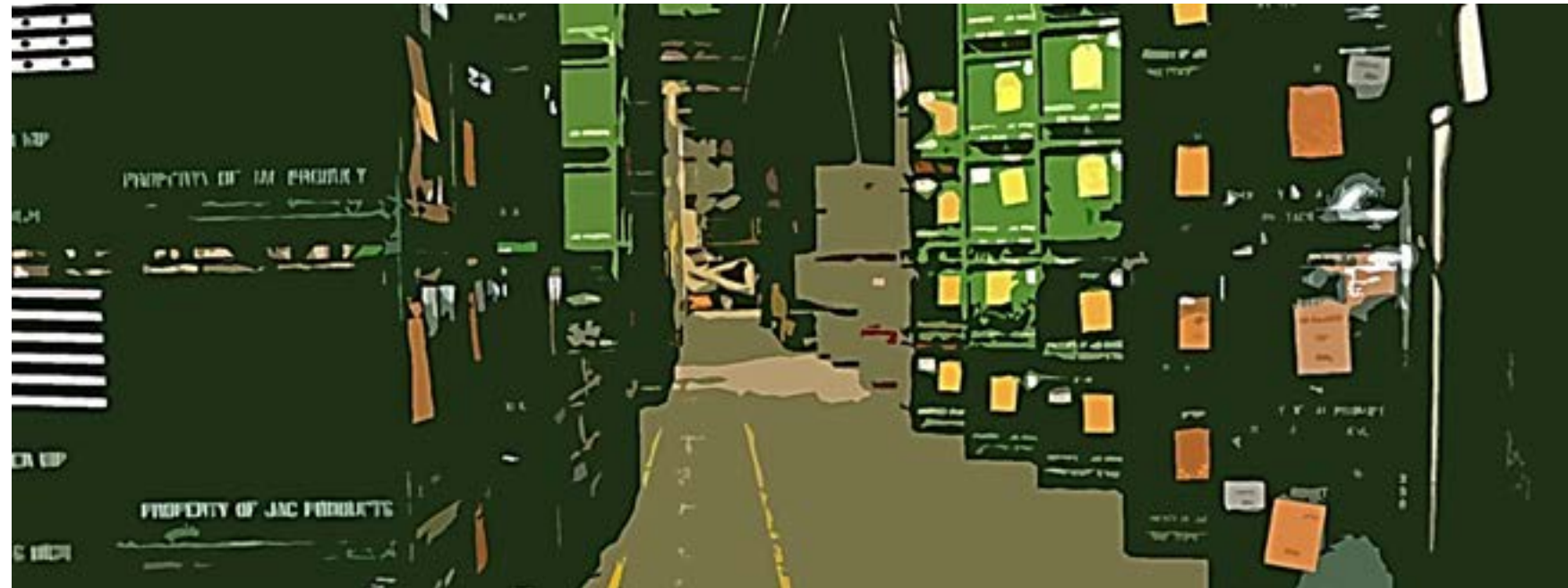


Control of Non-Conforming Product

THE SUPPLIER SHALL PROVIDE VISUAL IDENTIFICATION FOR ANY NONCONFORMING OR SUSPECT MATERIAL/PRODUCT AND ANY QUARANTINE AREAS.

JAC Products suppliers shall establish and maintain a system to ensure that non-conforming product is segregated and quarantined. That nonconforming and suspect product is prevented from unintended use or processing. This system must provide for identification, documentation, evaluation, segregation and disposition of nonconforming product.

IN-PROCESS NONCONFORMING PRODUCT MUST BE APPROPRIATELY TAGGED, SEGREGATED FROM GOOD PRODUCT, AND SHALL BE REMOVED FROM THE PRODUCTION AREA TO A DESIGNATED LOCATION FOR REWORK OR MATERIAL REVIEW.





Review and Disposition of Nonconforming Product

JAC PRODUCTS SUPPLIERS MUST HAVE CONTROLS WHICH PREVENT THE SHIPMENT OF NON-CONFORMING PRODUCT, REGARDLESS OF THE LOCATION IN THE SUPPLY CHAIN (TIER 1 THROUGH TIER N) OF THE MANUFACTURE OF THE PHYSICAL CHARACTERISTIC(S) ASSOCIATED WITH THE CRITICAL CHARACTERISTIC. THE ORGANIZATION RECORDS THE CC CONTROLS IN THE APQP/PPAP EVIDENCE WORKBOOK.

FOR CRITICAL CHARACTERISTICS, JAC SUPPLIER ENSURES THAT SUB-TIER SUPPLIERS HAVE CONTROLS IN PLACE TO PREVENT SHIPMENT OF NON-CONFORMING PRODUCT AT THE LOCATION WHERE THE ASSOCIATED PHYSICAL CHARACTERISTICS ARE MANUFACTURED BY SUB-TIER SUPPLIERS. THE SUB-TIER SUPPLIER CONTROLS FOR THE CRITICAL CHARACTERISTICS ARE IDENTIFIED BY THE ORGANIZATION IN THE APQP/PPAP EVIDENCE WORKBOOK.

JAC SUPPLIERS SHOULD CONSIDER INCOMING INSPECTION WHEN DEVELOPING CONTROL STRATEGIES TO PREVENT THE USE OF NON-CONFORMING INCOMING MATERIAL.

JAC SUPPLIER MUST ENSURE THAT THE 100% INSPECTION METHODOLOGY PREVENTS SHIPMENT OF ANY NON-CONFORMING PRODUCT TO JAC PRODUCTS. THE 100% INSPECTION METHODOLOGY WOULD TYPICALLY INCLUDE ERROR PROOFING, SUCH AS A POKA-YOKE.

JAC SUPPLIERS SHALL HAVE PROCESSES AND SYSTEMS IN PLACE TO PREVENT SHIPMENT OF NON-CONFORMING PRODUCT TO ANY JAC PRODUCTS FACILITY. JAC SUPPLIERS SHOULD ANALYZE ANY NON-CONFORMING PRODUCT OR PROCESS OUTPUT USING THE 8D METHODOLOGY TO ENSURE ROOT CAUSE CORRECTION AND PROBLEM PREVENTION.

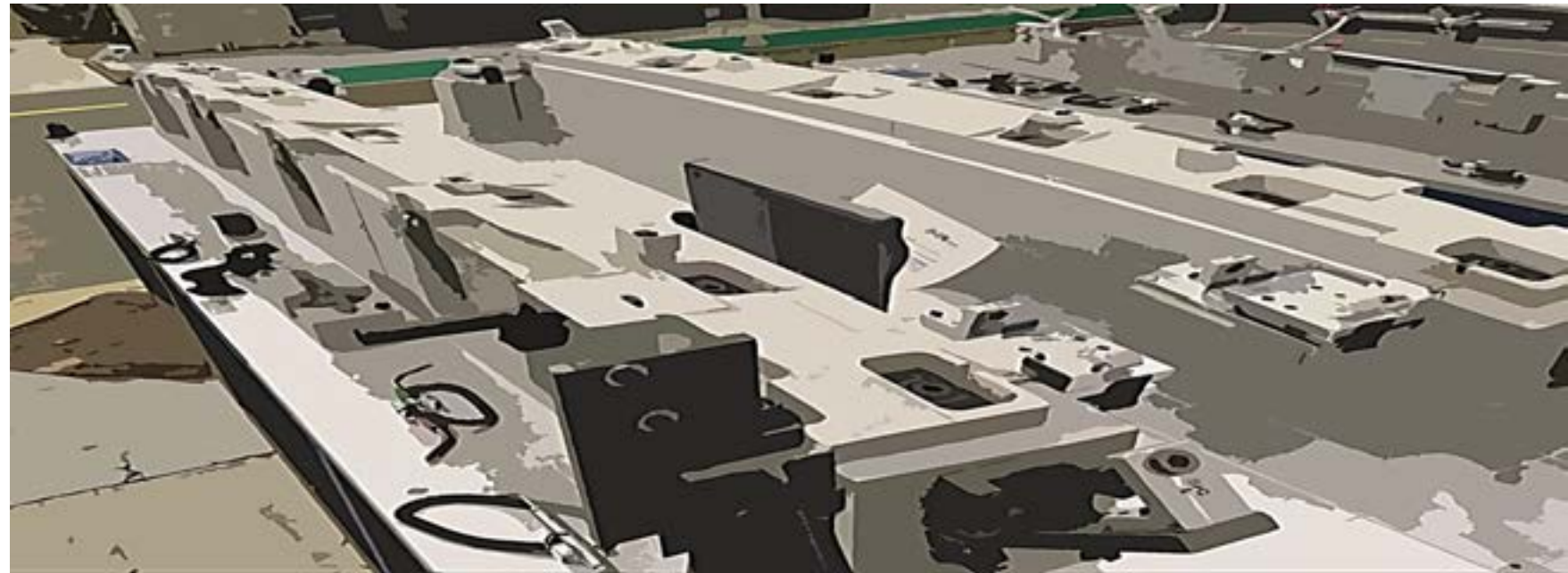




JAC Consigned Material Disposition

JAC PRODUCTS SUPPLIERS PROCESSING JAC CONSIGNED MATERIAL MUST PROVIDE QUALITY DATA DEFINING THE DEFECTS DAILY TO THEIR JAC CUSTOMER PLANT. SUPPLIER MUST OBTAIN THE APPROPRIATE APPROVAL FROM THE APPROPRIATE JAC FACILITY THROUGH A RETURNED GOODS AUTHORIZATION (RGA) FROM THE JAC PLANT. SUPPLIERS MUST RETURN ALL MATERIAL ON THE NEXT AVAILABLE TRUCK FOLLOWING RECEIPT OF THE APPROVED RGA; THIS TIMEFRAME SHOULD NOT EXTEND LONGER THAN ONE WEEK.

ALL JAC PRODUCTS NON-CONFORMING CONSIGNED MATERIAL THAT CANNOT BE REWORKED MUST BE RETURNED TO THE APPROPRIATE JAC FACILITY UNLESS DIRECTED OTHERWISE IN WRITING.



Sorting & Rework of Nonconforming Product

When product must be sorted or reworked, the preferred method is to return product to the supplier for sort and / or rework at the supplier's location. Sort and / or rework completed on JAC's premises requires plant quality department approval. Regardless of the arrangement, the JAC Product's receiving plant quality department needs to be involved. Written instructions for rework or repair are required. The reworked parts must be identified and re-inspected by a JAC Products quality representative to assure conformance to standards.

JAC PRODUCTS WILL INITIATE COST RECOVERY WHEN SORTING AND / OR REWORK BY JAC PERSONNEL IS REQUIRED TO MAINTAIN PRODUCTION COMMITMENTS TO CUSTOMERS. THESE CHARGES WILL BE DOCUMENTED WITH THE COST RECOVERY FORM.



Temporary Change Authorization

The supplier shall not make any changes to material, packaging, processing, or other aspect that may affect product quality, or deviate from original approved specifications without explicit written authorization from the appropriate JAC receiving plant.

REFER TO THE LATEST VERSION OF THE AIAG PPAP MANUAL FOR CHANGES REQUIRING NOTIFICATION TO JAC PRODUCTS. CHECK WITH THE CORPORATE SQE, OR THE APPROPRIATE JAC PLANT QUALITY MANAGER, OR PLANT QUALITY CONTACT FOR PPAP REQUIREMENTS.



Corrective and Preventive Action

WHEN A SUPPLIER IS NOTIFIED OF A NONCONFORMANCE BY A JAC PLANT QUALITY REPRESENTATIVE THROUGH SUPPLYWEB AT [HTTP://SUPPLIERS.JACPRODUCTS.NET](http://suppliers.jacproducts.net) THE FOLLOWING MINIMUM CORRECTIVE ACTIONS NEED TO BE TAKEN:

IMMEDIATELY

- CONTAINMENT
- STOP SHIPMENT OF SUSPECT MATERIAL IN TRANSIT
- PRODUCT AT SUB-TIERS

WITHIN 24 HOURS

- PROVIDE DISPOSITION OF NONCONFORMING AND/OR SUSPECT PRODUCT
- RESPONSE OF INTERIM CORRECTIVE ACTION
- ESTABLISH COMMUNICATION WITH JAC QUALITY DEPARTMENT

WITHIN 10 WORKING DAYS

- DOCUMENTED PERMANENT CORRECTIVE ACTION PLAN
- SUPPLIERS SHALL DOCUMENT CORRECTIVE ACTIONS USING JAC PRODUCTS SUPPLYWEB. WITH THE PRIOR APPROVAL OF THE JAC ISSUING PLANT, OTHER FORMATS CAN BE USED

RETURNED PRODUCTS SHALL BE ANALYZED AND CUSTOMER CONCERN INFORMATION COLLECTED TO EFFECTIVELY DETERMINE THE ROOT CAUSE OF THE PROBLEM AND HOW TO PREVENT IT FROM RECURRING. USE OF STATISTICAL TOOLS SUCH AS, PARETO ANALYSIS, CAUSE AND EFFECT DIAGRAMS AND CONTROL CHARTING SHOULD BE EMPLOYED, AS APPROPRIATE

AS REQUIRED, THE SUPPLIER WILL SEND THE NECESSARY REPRESENTATIVES TO THE JAC RECEIVING LOCATION OR JAC PRODUCT'S CUSTOMER TO PROVIDE SUPPORT IN SOLVING ISSUES RESULTING FROM THE NONCONFORMANCE. ADDITIONALLY WHEN CHRONIC, RECURRING AND/OR CUSTOMER-RELATED ISSUES OCCUR; JAC RESERVES THE RIGHT TO PLACE SUPPLIERS ON 3RD PARTY CONTAINMENT.

PREVENTIVE ACTION APPROPRIATE SOURCES OF INFORMATION FROM PROCESSES AND WORK OPERATIONS WHICH AFFECT PRODUCT QUALITY, AUDIT RESULTS, QUALITY RECORDS, SERVICE REPORTS AND CUSTOMER COMPLAINTS WILL BE USED TO DETECT AND ELIMINATE POTENTIAL CAUSES OF NONCONFORMANCE'S.

PROCEDURES ON PREVENTIVE ACTION, AS A MINIMUM, WILL INCLUDE: DETERMINE ACTIONS NEEDED TO SOLVE ANY PROBLEMS REQUIRING PREVENTIVE ACTION, IMPLEMENTATION OF PREVENTIVE ACTION AND VERIFICATION OF ITS EFFECTIVENESS



Packaging and Handling

PACKAGING REQUIREMENTS FOR ALL COMPONENTS AND RAW MATERIAL SHALL START DURING THE INITIAL QUOTING PROCESS. UNLESS OTHERWISE SPECIFIED, ALL SUPPLIERS ARE REQUIRED TO SUBMIT PACKAGING INFORMATION, WITH THEIR QUOTE, TO THE APPROPRIATE BUYER.

ALL PACKAGING MUST PROVIDE THE APPROPRIATE AMOUNT OF PROTECTION AGAINST DAMAGE, CONTAMINATION, AND ANY OTHER DEFECT THAT WILL CAUSE A REJECTION AT JAC OR OUR EXTERNAL CUSTOMERS. IT IS THE SUPPLIER'S RESPONSIBILITY TO ENSURE THAT PACKAGING HAS BEEN DESIGNED AND CONSTRUCTED TO FULFILL THIS REQUIREMENT AND THAT IT MEETS THE REQUIREMENTS OF JAC PRODUCTS.

IF PACKAGING HAS BEEN DESIGNATED BY JAC, IT IS THE SUPPLIER'S RESPONSIBILITY TO SIGN OFF ON ALL PACKAGING DESIGNS AS FIT FOR USE AND ENSURE THAT THE APPROPRIATE PACKAGING MATERIAL IS UTILIZED WITH THE DESIGNATED PRODUCT. ANY DEVIATION FROM USING THE INTENDED PACKAGING OR CONTAINER SHOULD BE APPROVED (IN WRITING) BY THE JAC RECEIVING FACILITY. IF PACKAGING (DESIGNED BY JAC) IS INSUFFICIENT FOR USE, IT IS THE SUPPLIER'S RESPONSIBILITY TO NOTIFY THE JAC PACKAGING ENGINEER IN WRITING.

ALL PACKAGING CHANGES MUST BE SUBMITTED TO AND APPROVED BY A JAC PACKAGING ENGINEER. AN EXPLANATION OF THE NEED FOR THE CHANGE AND SUPPORTING DOCUMENTATION MUST BE SUBMITTED.





Labeling and Shipping

LABELING MUST CONFORM TO THE JAC PRODUCTS SUPPLIER LABELING GUIDELINES. ALL MATERIAL IDENTIFICATION LABELS OR TAGS MUST REMAIN INTACT FROM THE ORIGINAL POINT OF MANUFACTURE, THROUGH JAC'S RECEIPT AND AT THE AFFECTED RECEIVING LOCATION. ALL LABELS MUST INCLUDE THE JAC PART NUMBER ON THEM. FOR RETURNABLE CONTAINERS, OLD LABELS MUST BE REMOVED OR COVERED TO INSURE THAT PRODUCT IDENTIFICATION IS MAINTAINED.

ALL SHIPMENTS SHOULD BE MADE THROUGH JAC PRODUCTS' 3PL USING THE AGREED UPON MODE AND FREQUENCY. FOR LTL SHIPMENTS, IT IS CRITICAL THAT THE PROPER PRODUCT CLASS, NMFC CODE, WEIGHT AND DIMENSIONS ARE USED.

EACH SHIPMENT MUST BE ACCOMPANIED BY AN ASN WHICH REFERENCES THE SHIPPER NUMBER. THAT SAME SHIPPER NUMBER MUST BE REFERENCED ON THE INVOICE. IF A DISCREPANCY IS FOUND, THE ADJUSTMENT MUST BE DONE USING THE SAME SHIPPER NUMBER AND AN ADJUSTED INVOICE SHOULD BE SUBMITTED TO REFLECT THE CHANGE.

Part Description RAIL SIDE RH SWB BLACK		Eng Size D
PO#Rev/Line P048676 – 59 – 116		Supplier Code P48175
Part Number(s) 26502 – D – 000	Quantity(s) 100	
Serial# 0123456789	Mfg Date 2014 – 05 – 08	



Training and Statistical Methods

The supplier shall establish and maintain documented procedures which identify and provide for the training of all personnel performing activities affecting quality. Suppliers that supply product where appearance items are defined are also required to demonstrate training of personnel performing visual inspection activities to the JAC Products Corporate Appearance Standard (CAS).

AS APPROPRIATE, SUPPLIERS SHALL DETERMINE THE NEED FOR STATISTICAL METHODS REQUIRED FOR CONTROLLING AND VERIFYING PROCESS CAPABILITY AND PRODUCT CHARACTERISTICS. BASIC STATISTICAL TOOLS SHOULD BE UTILIZED, WHEN APPLICABLE, TO MAINTAINING PROCESS CONSISTENCY.





Supplier Performance

JAC PRODUCTS MONITORS SUPPLIER PERFORMANCE IN ORDER TO

- A) DETERMINE THOSE SUPPLIERS WHO NEED ASSISTANCE
- B) RECOGNIZE OUTSTANDING SUPPLIER PERFORMANCE
- C) PROMOTE CONTINUAL IMPROVEMENT THROUGHOUT THE SUPPLY BASE.

JAC PRODUCTS SUPPLIERS ARE RATED BY THE FOLLOWING METRICS: SUPPLIER REPORT CARDS WILL BE ISSUED MONTHLY. WHEN YOU RECEIVE THE REPORT CARD, REVIEW IT FOR ACCURACY AS THESE INITIAL SCORES WILL BE THE BASELINE THAT FUTURE PERFORMANCE WILL BE COMPARED TO. THE FOLLOWING STEPS WILL OCCUR FOR SUPPLIERS THAT RECEIVE “UNACCEPTABLE” RATINGS:

1ST UNACCEPTABLE REPORT CARD

SUPPLIER WILL BE GIVEN NOTICE OF “UNACCEPTABLE” STATUS AND ASKED TO SHOW IMPROVEMENT BY NEXT REPORTING CYCLE.

2ND UNACCEPTABLE REPORT CARD

SUPPLIER WILL BE ASKED TO SUBMIT AN ACTION PLAN ENUMERATING DPR'S/DMN'S ISSUED, HOW THEY'RE BEING ADDRESSED AND HOW THE ACTIONS WILL IMPROVE PERFORMANCE.

3RD UNACCEPTABLE REPORT CARD

A REPRESENTATIVE FROM CORPORATE SUPPLIER QUALITY WILL SCHEDULE AN ONSITE ASSESSMENT OF THE SUPPLIER LOCATION TO VERIFY PRODUCTION WORTHINESS. THIS VISIT WILL INCLUDE AN ACTION PLAN TO BE MONITORED AND FOLLOWED UP ON AND, DEPENDING ON RESPONSIVENESS AND SUBSEQUENT RESULTS, MAY LEAD TO A DECISION TO DE-SOURCE.

AN ACTION PLAN TO BE MONITORED AND FOLLOWED UP ON AND, DEPENDING ON RESPONSIVENESS AND SUBSEQUENT RESULTS, MAY LEAD TO A DECISION TO RE-source TO A MORE CAPABLE SUPPLIER. UNLESS OTHERWISE SPECIFIED, ALL SUPPLIERS LISTED ON THE APPROVED SUPPLIER LIST ARE REQUIRED TO BE ISO 9001 CERTIFIED WITH THE GOAL OF SUPPLIER CONFORMITY TO IATF16949. CONFORMITY TO ISO 9001 IS THE FIRST STEP IN ACHIEVING THIS GOAL. IF DEEMED NECESSARY, JAC PRODUCTS WILL PERFORM AN ASSESSMENT ON ANY SUPPLIER WHICH EXHIBITS RECURRING QUALITY ISSUES.

JAC PRODUCTS MAY DISQUALIFY A SUPPLIER FOR ANY OF THE FOLLOWING:

- POOR SUPPLIER PERFORMANCE SCORES
- RECURRING AND CHRONIC QUALITY ISSUES
- HABITUAL DELIVERY PROBLEMS
- PRICING (NON-COMPETITIVE)
- NON-COMPLIANCE TO GOVERNMENTAL AND/OR SAFETY REGULATIONS
- FINANCIAL INSTABILITY
- POOR RESPONSE TO QUALITY CONCERNS
- CONFLICT OF INTEREST
- ANY CRITERIA THAT DOES NOT SERVE IN THE BEST INTEREST OF JAC PRODUCTS



Supplier Performance Rating

SUPPLIERS ARE RATED BY THE FOLLOWING METRICS:

• 25%

DELIVERY

Number DPR
Issued

• 25%

QUALITY

Number DMN
Issued

• 25%

DELIVERY

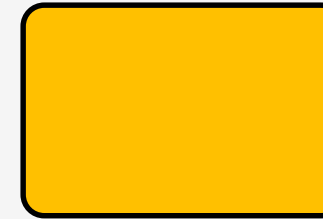
Responsiveness
to DPR

• 25%

QUALITY

Responsiveness
to DMN

RATING SCALE FOR THESE METRICS:



EXCELLENT
>85%

ACCEPTABLE
50% - 85%

UNACCEPTABLE
<50%

Recommended AIAG Reference Material

Key Guidebook

AIAG CQI-19 Sub-Tier Supplier Management Process Guideline

- Pre-Selection Phase 1
 - 1.1 Define Part Requirements
 - 1.2 Supplier Pre-Qualifications
 - 1.3 Develop Bid-List
 - 1.4 Supplier Assessment
- Selection Phase 2
 - 2.1 Review Technical Capability
 - 2.2 Award Business
- APQP / PPAP Phase 3
 - 3.1 Begin APQP with Supplier
 - 3.2 Complete PPAP & Verify Capacity
 - 3.3 Implement Production Control Plan
- Performance Monitoring, Development, and / or Escalation Phase 4
 - 4.1 Performance Monitoring
 - 4.2 Supplier Development [Ref CQI-20, CQI-21]

Other Guidebooks

AIAG M-12 Business Continuity Planning Toolkit for the Automotive Supply Chain

AIAG CQI-8 Layered Audit Process Guideline

AIAG CQI-11 Plating System Assessment

AIAG CQI-12 Coating System Assessment

AIAG CQI-14 Automotive Warranty Management

AIAG CQI-15 Special Process: Welding System Assessment

AIAG CQI-16 ISO.TS 16949-2009 Guidance Manual

AIAG CQI-17 Special Process: Soldering System Assessment

AIAG CQI-18 Effective Error Proofing

AIAG CQI-20 Effective Problem Solving

AIAG CQI-22 Cost of Poor Quality

AIAG CQI-23 Special Process: Molding System Assessment

AIAG CQI-25 SPC Quick Start Guide

AIAG CQI-27 Special Process Casting System Assessment



Glossary of Common Terms

AIAG - Automotive Industry Action Group

APQP - Advanced Product Quality Planning

ASL - Approved Suppliers List

C-TPAT - Customs-Trade Partnership Against Terrorism

CAD - Computer Aided Design

CAS - JAC Products Corporate Appearance Standard

D&B - Dunn and Bradstreet

Design Record - Engineering requirements typically contained in various formats, e.g., engineering drawings, math data and reference specification.

DFMEA - Design Failure Mode and Effects Analysis

EDI - Electronic Data Interchange

Error-Proofing - Actions action applied to the design to prevent errors from occurring. See Mistake-Proofing

Escalation - elevation of unacceptable performance to senior supplier management

FEA - Failure Effects Analysis

FMEA - Failure More and Effects Analysis

FIFO - First In - First Out inventory management system

HALT - Highly Accelerated Life Test

IMDS - International Materials Data System

ITAR - International Traffic in Arms Regulations

JIT - Just In Time

MMOG-LE - Materials Management Operations Guideline-Logistics Evaluation

MSDS - Materials Safety Data

Mistake-Proofing - Actions typically applied to the process to prevent the cause of the mistake, shut the process down if the mistake occurs, or trigger and alarm if the mistake occurs. See Error-Proofing.

MRP - Material Requirements or Resource Planning

MSA - Measurement System Analysis

OEE - Overall Equipment Effectiveness

OEM - Original Equipment Manufacturer

Pass-Through Characteristics (PTC) - Are part characteristics which are not controlled or functionally tested anywhere downstream in the supply chain and would have a significant impact on customer satisfaction and / or warranty. PTCs are ultimately supplier to an OEM customer. A PTC may of may not be a Special Characteristic.

PFMEA - Process Failure Mode and Effects Analysis

PM - Preventative Maintenance

PPAP - Production Part Approval Process

PPM - Parts Per Million

PQE - Plant Quality Engineer

PQM - Plant Quality Manager

Pre-Launch Control Plan - Is a description of the dimensional measurements, materials and functional tests that will occur after prototype but before full production.

Production Control Plan - A comprehensive documentation of product/ process characteristics or manufacturing process parameter that can affect safety or compliance with regulations, fit, function, performance issues that occur after launch.

PSW - Part Submission Warrant

PTC - Pass-Through Characteristics

SPC - Statistical Process Control

Special Characteristic - A product characteristic or manufacturing process parameter that can affect of compliance with regulations, fit, function, performance or subsequent processing of product.

Sub-Tier Supplier - A supplier at tier 2 or lower in the automotive supply chain.

Supplier Development - Remedial actions taken to address supplier performance issues after launch.

SQE - Supplier Quality Engineer

SQM - Supplier Quality Manager

Tier 1 Supplier - As used in this document the Tier 1 supplier is the organization / customer.

Tier 2 Supplier - The organization 's / customer's supplier.

Value-Added Activities - Activities or operations for which a customer would be willing to pay, if given the option.

WIP - Work-In-Process inventory.



Document Revision Event Log

REVISED DATE	REVISION INITIATOR	CHANGE DETAILS
08/26/13	A. GORNEY	INITIAL REGISTRATION
09/25/13 DOCUMENT REV 08/26/13	W. HOUSTON	QUALITY DOCUMENTATION/PERFORMANCE ON PAGE 6 -REMOVED REDUNDANCY BY ELIMINATING 2 ND PARAGRAPH; ADDED REVISION HISTORY TRACKING. THIS WAS CLERICAL ERROR - DOCUMENT REV CHANGE NOT REQUIRED.
5/10/2015	K. TADD	<ul style="list-style-type: none">- PAGE 9 – ADDED REFERENCE TO CAS- PAGE 12 – ADDED REFERENCE TO SUPPLYWEB- PAGE 14 – ADDED JAC PRODUCTS PACKAGING AND LABELING GUIDELINES- PAGE 14 – ADDED REQUIREMENT TO TRAIN TO CAS- PAGE 15 – ADDED “POOR SUPPLIER PERFORMANCE SCORES”
9/01/2015	C. DAWSON	PAGE 15 – UPDATED RATING SCALE FOR OVERALL SCORES
8/11/2017	S. CAMPBELL	<ul style="list-style-type: none">- PG 3 – REPLACED TS16949 W/ IATF 16949- PG. 15 - UPDATED SUPPLIER SCORING METHOD AND REFRESHED SUPPLIER OBJECTIVE FROM TS16949 TO IATF16949.- GENERAL FORMAT REFRESHES INCLUDING HYPERLINK FIXES
10/01/2017	S. CAMPBELL	ADDED CHINA AND PORTUGAL LOCATIONS REFRESHED REFERENCES TO INCLUDE IATF 16949 GENERAL FORMAT IMPROVEMENTS INCLUDING BROKEN HYPERLINKS, ETC.
5/1/18	K. KISH	ADDED SUPPLIER SCORECARD INFORMATION TO SUPPLIER PERFORMANCE SECTION AND MINOR IATF UPDATES.
6/20/18	P. TRAVIS	PAGE 10 - ADDED SUPPLIER REQUIREMENT FOR PASS-THROUGH CHARACTERISTICS.
8/14/2018	P. TRAVIS	UPDATED PLANT AND CORPORATE OFFICES CONTACT INFORMATION, REDUCED CONTENT SIZE PAGE 3 REMOVED / FONT FORMAT CHANGE
10/30/2018	P. TRAVIS	REVISED, REFORMATTED THE ENTIRE DOCUMENT FROM PORTRAIT TO LANDSCAPE. CHANGES ALLOW THE DOCUMENT TO SHARED AS REFERENCE IN POWERPOINT AND PDF FORMATS. THIS ALSO ALLOWS FOR THE SQAM TO BE USED FOR VIDEO PURPOSES. EDITED AND CLARIFIED STATEMENTS THROUGHOUT THE ENTIRE DOCUMENT. ADDED JAC CORPORATE SUSTAINABILITY POLICYS