DISTRIBUTION

President

Design Engineering

Production

Production Engineering

Materials Control

Purchasing

Service

Marketing

Sales

Contracts

Human Resources

Quality Assurance

Quality Control

Production Areas Document Station

Office Areas Document Station

Certification Authority

Approved by:	Date:
Approved by:	Date:

INDEX AND REVISION STATUS

INTRODUCTION

COMPANY NAME Inc. developed and implemented a quality management system to better satisfy the needs of its customers and to improve management of the company. The quality system complies with the international standard ISO 9001, 1994, and its technical equivalent, ANSI/ASQC Q9001. It also complies with QS-9000 requirements published by Chrysler Corporation, Ford Motor Company, General Motors Corporation, and various truck manufacturers. The system covers the design, production, installation, and servicing of the company's products.

The manual is divided into 23 sections corresponding to quality system requirements of ISO 9001 and QS-9000 standards. Each section starts with a general policy statement expressing the commitment to implement the basic principles of the quality system element that is the subject of the section. The general policy statement is followed by more specific procedural policies outlining how the general policy should be carried out, and referencing the applicable operational procedures.

The purpose of this manual is to define and describe the quality system, to define the authorities and responsibilities of the management personnel affected by the system, and to provide general procedures for all activities comprising the quality system.

Another purpose of this manual is to present our quality system to our customers and to inform them what specific controls are implemented to assure product quality.

President _____

QUALITY POLICY

COMPANY NAME Inc. will continuously improve its products and production processes to better satisfy the needs and expectations of its customers; and will deliver to them, on time and every time, defect-free products and services.

President _____

This policy has been formulated by the President of COMPANY NAME Inc. and approved by its board of directors. The policy is explained and discussed at the general orientation training given to all existing and new employees. The policy is also posted in conspicuous locations throughout the company.

Approved by:	Date:
Approved by:	Date:

SECTION 1

MANAGEMENT RESPONSIBILITY

GENERAL POLICY

The executive management is ultimately responsible for establishing, implementing, and maintaining the quality system. Specific responsibilities comprise: formulating the quality policy; defining the organizational structure; assigning authorities and responsibilities; appointing the management representative; periodically reviewing the quality system; and making available the resources and personnel necessary to maintain the system. The management also establishes and maintains a business plan, analyzes company-level performance data, and measures customer satisfaction.

PROCEDURAL POLICIES

1. Management Representative

1.1 COMPANY NAME Inc. appoints as the Management Representative the Quality Assurance (QA) Manager. She or he has the authority and responsibility to ensure that the quality management system is maintained and its efficiency is continuously improved, and that the system always complies with the requirements of QS-9000.

2. Organization

2.1 Interrelation of personnel who manage, perform, and verify work affecting quality is defined in the organizational chart enclosed in this section.

3. Responsibilities

The following list of departmental responsibilities includes only those responsibilities that pertain to the quality system.

3.1 President

- Formulates the quality policy
- Provides resources necessary to maintain the quality system
- Conducts management reviews of the quality system
- Establishes and updates the business plan

3.2 Design Engineering

- Participates in advanced product quality planning
- Prepares design input from customer-specified requirements
- Develops design FMEAs
- Designs products
- Initiates design reviews
- Verifies and tests designs
- Documents design outputs

3.3 Production

- Participates in advanced product quality planning
- Develops process operator instructions
- Controls and monitors processes
- Conducts in-process inspections
- Maintains production equipment
- Ensures compliance with safety regulations

3.4 Production Engineering

- Participates in advanced product quality planning
- Plans production facilities, equipment, and processes
- Develops process FMEAs
- Develops production processes
- Verifies process capability
- Selects methods for process performance monitoring
- Conducts production trial runs
- Develops process set-up instructions
- Coordinates part approval submission (PPAP)
- Coordinates design and fabrication of tooling

3.5 Materials Control

- Schedules production

- Established production work orders
- Receives purchased products
- Marks or verifies material and product identification
- Administrates stockrooms
- Packages products
- Ships products to customers
- Ensures compliance with environmental regulations

3.6 Purchasing

- Selects qualified supplies and subcontractors
- Prepares and approves purchasing documents
- Monitors and assesses subcontractor performance

3.7 Service

- Collects field performance and reliability data

3.8 Marketing and Sales

- Conducts market research to anticipate customer expectations
- Collects and analyzes customer satisfaction data
- Establishes specifications for new products (product briefs)
- Advertises and promotes company's products
- Monitors the quality of competitors
- Carries out contract and order reviews

3.9 Contracts

- Provides customer liaison and service
- Handles customer complaints

3.10 Human Resources

- Defines personnel qualification requirements
- Implements measures to motivate personnel
- Conducts training

3.11 Quality Assurance and Quality Control

- Participates in advanced product quality planning
- Establishes and maintains the quality management system
- Audits implementation and effectiveness of the quality system
- Initiates requests for, and follows up, corrective actions
- Coordinates continuous improvement program
- Conducts measurement system evaluation studies
- Maintains and calibrates measuring and test equipment
- Carries out subcontractor quality surveys and audits
- Performs inspections and testing
- Handles nonconforming products
- Coordinates document control activities

4. Management Review

4.1 Management review meetings are conducted at least once a year. The purpose of the reviews is to assess the effectiveness and continuing suitability of the quality system. The President is responsible for scheduling and conducting the reviews. Conclusions of the reviews are recorded. Detailed rules for scheduling, conducting, and recording management reviews are provided in Procedure AOP-01-03 Management Review.

5. Business Plan

5.1 All managers contribute experience, information, and suggestions to the development of the business plan. The plan covers one-year (short term) and four-year (longer term) goals. At the annual management review meeting Marketing presents progress made toward achieving the business plan goals. Once a year the business plan is updated by the President. Procedure AOP-01-01 Business Plan governs these activities.

6. Analysis and Use of Company-Level Data

6.1 Quality Assurance coordinates collection and processing of company-level data and presents the results at the annual management review meeting. A complete list of quality and operational performance monitoring systems is provided in Procedure QOP-22-01 Continuous Improvement. Reporting of the data and trends to management is documented in Procedure AOP-01-03 Management Review.

7. Customer Satisfaction

7.1 Marketing is responsible for conducting customer satisfaction surveys and for collecting other data indicating customer satisfaction level. Results are presented for management review at the annual management review meeting. These activities are regulated by Procedure AOP-01-02 Customer Satisfaction.

(ORGANIZATIONAL CHART)

Approved by:	Date:
Approved by:	Date:

SECTION 2

QUALITY SYSTEM

GENERAL POLICY

COMPANY NAME Inc. maintains a documented quality management system designed and implemented to fulfill QS-9000 requirements. The quality system is documented in this Quality Manual and in Operational Procedures. The purpose of the quality system is to ensure that design, manufacture, and servicing of COMPANY NAME Inc. products are planned and performed in a well-defined and controlled environment.

A quality plan for a product is defined in the Control Plans. The plans are developed by cross-functional teams using Advanced Product Quality Planning methodology.

PROCEDURAL POLICIES

1. Quality System Documentation

1.1 The quality system is defined in the quality manual, operational procedures, automotive reference manuals, work instructions, standards, product engineering documentation, and control plans.

1.2 These documents collectively define a quality system that complies with QS-9000. Operational Procedures QOP-05-01 Quality System Documentation, and QOP-05-02 Document and Data Control, explain the purpose and the methods for controlling these documents.

2. Quality System Implementation

2.1 All personnel who manage, perform, and verify work affecting quality are responsible for implementing the quality system. Quality Assurance Manager is responsible for coordinating, monitoring, and auditing the system.

2.2 Implementation of the quality system is assessed regularly by way of internal and external audits and management reviews.

3. Quality Planning

3.1 Quality planning is developed using the methodology provided in the Advanced Product Quality Planning (APQP) and Control Plan Reference Manual. Specific techniques and procedures used in quality planning are based on the Potential Failure Mode and Effect Analysis (FMEA) manual, Measurement System Analysis (MSA) manual, Statistical

Process Control (SPC) manual, and Product Part Approval Process (PPAP) manual. The use of these automotive manuals is regulated by Procedure QOP-02-01, Quality Planning.

3.2 The Product Quality Planning (PQP) Team is responsible for developing product-specific Control Plans. Core members of the PQP Team are representatives from Design Engineering, Production Engineering, Production, and Quality Assurance. The PQP Team and its role are defined in Procedure QOP-02-01 Quality Planning.

3.3 Control Plans are developed for design and prototype phase (only when design is included in the contract), pre-launch phase, and production phase. Quality planning for each phase is explained in the following three procedures: QOP-02-02 Design and Prototype Quality Planning, QOP-02-03 Pre-Launch Quality Planning, and QOP-02-04 Production Quality Planning.

SECTION 3

CONTRACT REVIEW

GENERAL POLICY

All contracts and orders are reviewed to assess if customer's requirements are adequately defined and are well understood, and if the company has the capacity to meet the contract requirements.

PROCEDURAL POLICIES

1. Catalog versus Custom Products

1.1 Reviewing orders and contracts, COMPANY NAME Inc. distinguishes between orders for standard catalog products and custom products.

1.2 Standard catalog products are products manufactured from company's own standard specifications and sold from stock without any modification or customizing. Custom products are products designed and/or manufactured to unique customer requirements.

2. Responsibility

2.1 The Order Entry Desk (OED) in the Sales department is responsible for receiving and processing all customer orders. Orders for standard catalog products are reviewed and further processed by the OED. Orders for custom products are reviewed by the Sales Manager. Design Engineering, Production Engineering, Production, Purchasing, and Quality Assurance may be called to assist with the review of orders for custom products.

3. Contract Review

3.1 For both categories of products, the order (contract) reviews comprise verification that the customer's requirements are adequately defined and documented, and have been well understood; and that the company has the capacity to meet the contract requirements. Contract reviews are governed by two operational procedures: MOP-03-01 Contract Review for Standard Products, and MOP-03-02 Contract Review for Custom Products.

3.2 For custom products, submittal of a production part for customer approval is the ultimate verification that the customer requirements have been well understood (PPAP process is explained in Section 21 of this manual).

3.3 For custom products, departmental managers prepare and sign a Team Feasibility Commitment, stating that the company is able to meet requirements for product quality,

delivery schedule, and capital equipment and tool cost (Procedure QOP-02-03 Pre-Launch Quality Planning).

4. Amendment to Contract

4.1 Change orders are received and reviewed by the same functions that are responsible for the review of initial orders. Change orders are communicated to all functions within the organization that may be affected by the change of customer requirements. Procedures MOP-03-01 and MOP-03-02 provide detailed instructions how to process change orders.

5. Record

5.1 Order (contract) reviews are recorded. For catalog products, the review record is established by stamping and signing the customer order. For custom products, it is a copy of the offer and the Team Feasibility Commitment. Establishment and maintenance of contract review records are explained in procedures MOP-03-01 and MOP-03-02, and in Procedure QOP-16-01 Quality Records.

SECTION 4

DESIGN CONTROL

GENERAL POLICY

The design process is planned. Design activities are identified, qualified personnel are assigned specific design responsibilities, and organizational interfaces are defined and controlled. Design input is formally documented and reviewed. The design is verified and, when applicable, is validated with prototype testing. The design output is documented and checked before it is released for production. Design changes are controlled.

PROCEDURAL POLICIES

1. General

1.1 COMPANY NAME Inc. designs its own standard catalog products as well as customer-specified products and modifications. Design Engineering is responsible for design. The quality assurance system for design is defined in Procedure EOP-04-01 Design Control.

2. Design Input

2.1 Design input may be defined and documented in two ways. Design input for company ’s standard catalog products comes from Marketing in the form of a product brief. Custom products are specified by Contracts using a design order. Establishment of product briefs and design orders is governed by Procedure EOP-04-01.

3. Design Planning

3.1 Design Project Engineer is responsible for the planning of design projects, including assignment of design activities and control of organizational and technical interfaces.

4. Design Verification and Validation

4.1 At a minimum, every design is verified by holding and recording design reviews and undertaking qualification tests and demonstrations. For complex new products, and when there is no experience with similar products, prototypes are built and tested. Design verification activities are specified in Procedure EOP-04-01.

5. Design Output

5.1 Design output is documented on two levels: Primary output consists of documents defining the designed product, while secondary output supports the design with

calculations, analysis, etc. Design output documents are checked and approved before they are released for production. Establishment, verification, and release of design output is governed by Procedure EOP-04-01.

6. Design Changes

6.1 Design changes are initiated using Engineering Change Request (ECR) forms. Requests for engineering changes are evaluated internally, and are recommended or rejected, by Design Engineering, Production, and Quality Assurance. When recommended for implementation, design changes are submitted for customer approval. The ECR provides design input for designing the change. Planning, design, and design verification activities follow the same rules that apply to original designs, as documented in Procedure EOP-04-01.

SECTION 5

DOCUMENT CONTROL

GENERAL POLICY

The purpose and scope of quality system documents are defined. All documents are reviewed and approved prior to issue. The quality manual and operational procedures are issued by the Quality Assurance department. Product drawings and specifications are issued by Engineering. Other documents are issued directly by the departments to which they pertain. Appropriate documents are available at locations where they are used. Obsolete documents are removed from points of use. The QA Manager is responsible for coordinating, enforcing, and auditing the document control-related activities.

PROCEDURAL POLICIES

1. Quality System Documentation

1.1 COMPANY NAME Inc. quality system documentation comprises the following types of documents:

- Quality Manual
- Operational Procedures
- Work instructions and process operator instructions
- Automotive Reference Manuals
- Standards and other technical reference materials
- Product engineering documentation (drawings, specifications, etc.)
- Customer engineering documents and changes
- Production and Control Plans

1.2 Purpose, scope, and responsibility for controlling various types of documents are defined in Procedure QOP-05-01 Quality System Documentation.

2. Document Approval and Issue

2.1 Documents and document changes may be initiated by anyone in the organization, but may only be issued by an authorized department. The authorized departments and the rules governing issue of documents are defined in procedures QOP-05-01 Quality System Documentation, and QOP-05-02 Document Control. All documents are reviewed

and approved prior to issue.

3. Document Placement

3.1 Documents are distributed to personnel and locations where they are used. When appropriate and relevant, documents display a distribution list. Document placement is regulated by Procedure QOP-05-02.

4. Customer Engineering Documents and Changes

4.1 Documents received from customers are reviewed and are implemented within five business days. Document implementation dates are recorded.

5. Document Changes

5.1 Document changes are reviewed and authorized by the same function that issued the original document. Revised portions of documents are distributed with a change brief, and obsolete documents are removed. Each department maintains a master list specifying the latest issues and revisions of its documents.

SECTION 6

PURCHASING

GENERAL POLICY

COMPANY NAME Inc. evaluates its subcontractors and purchases only from those that can satisfy quality requirements. Quality performance of subcontractors is monitored, including on-time delivery performance. QS-9000 is used to foster a quality partnership with subcontractors. Purchasing documents clearly and completely describe ordered products, including quality requirements. Purchasing documents are reviewed and approved prior to release.

PROCEDURAL POLICIES

1. Subcontractor Evaluation

1.1 Quality and process capability of all new subcontractors are evaluated jointly by Purchasing and Quality Assurance. Only prequalified subcontractors may be placed on the approved subcontractor list. Customer-designated subcontractors are also evaluated. Existing subcontractors with a satisfactory quality performance history may be exempted from the initial evaluation. Subcontractor evaluation process is governed by Procedure OOP-06-01 Subcontractor Evaluation.

2. Subcontractor Quality Performance Monitoring

2.1 Quality performance of all subcontractors is continuously monitored, including their on-time delivery performance. Subcontractors showing inadequate performance are asked to implement corrective actions, and are discontinued if there is no improvement. The system for assessing and monitoring subcontractors is defined in Procedure OOP-06-01.

3. QS-9000 Development of Subcontractors

3.1 COMPANY NAME Inc. fosters a quality partnership with its subcontractors, based on QS-9000 requirements. Subcontractors are encouraged to implement QS-9000, or at least some of its elements (see procedure OOP-06-01).

4. Approved Supplier and Subcontractor List

4.1 Purchasing maintains an approved supplier and subcontractor list. Orders may only be placed with vendors that are on the list.

5. Purchasing Data

5.1 Purchasing documents are prepared by the Purchasing department. The documents clearly and completely describe ordered products, including precise identification and quality requirements. When toxic, hazardous, or otherwise restricted substances are purchased, suppliers are required to demonstrate that the substances and their packaging comply with governmental regulations. The Purchasing Manager reviews and approves all purchasing documents prior to release.

5.2 Rules applicable to preparation, review, and approval of purchasing documents are provided in Procedure OOP-06-02 Purchasing.

6. Customer Verification of Purchased Product

6.1 COMPANY NAME Inc. customers are normally given the right to verify for themselves that the purchased products conform to specified requirements. Customer verification does not absolve COMPANY NAME Inc. from the responsibility to deliver a quality product. Procedure OOP-06-02 contains further instructions regarding customer verification of purchased products.

SECTION 7

CUSTOMER SUPPLIED PRODUCT

GENERAL POLICY

Customer-supplied products intended for incorporation into the final product are handled in the same manner as other purchased products. When specified in a contract, special handling instructions from customers will take precedent over the company's standard procedures. Customer-owned tools and equipment are marked to indicate ownership. Loss, damage, or unsuitability of a customer's product is recorded and reported to the customer.

PROCEDURAL POLICIES

1. Responsibilities

1.1 The Contracts department is responsible for coordinating with the customer the reception of customer-supplied product.

1.2 Depending on the nature of the product, Materials Control, Production, or Quality Control are responsible for storage, protection, and maintenance of customer-supplied product. Materials Control is responsible for production materials, components and parts, and for packaging materials; Production is responsible for manufacturing equipment and tooling; and Quality Control is responsible for gauges, templates, and measuring and testing equipment used for product verification.

2. Receiving

2.1 Customer-supplied products are received, inspected, and tested in the same manner as other purchased products. Procedure MOP-07-01 Customer Supplied Product contains further instructions in this regard, and references appropriate procedures governing receiving and inspection of purchased products.

3. Marking, Storage, and Handling

3.1 Marking, storage, handling, and preservation of customer-supplied products intended for incorporation into the final product follow the same procedures that apply generally to purchased products. The applicable procedures are MOP-07-01 Customer Supplied Product, QOP-10-01 Receiving Inspection, OOP-15-01 Product Handling and Preservation, and OOP-15-02 Storage Areas.

3.2 Customer-owned tooling and returnable packaging are permanently marked so that ownership of each item is visually apparent.

4. Special Requirements

4.1 When specified in a contract, special handling instructions from customers will take precedent over the company's standard procedures.

5. Loss or Damage

5.1 Customers are contacted in the event of loss, damage, deterioration, or unsuitability of their products.

SECTION 8

PRODUCT IDENTIFICATION AND TRACEABILITY

GENERAL POLICY

Materials, components, parts, subassemblies, and finished products are identified by a part number correlated to corresponding drawings, specifications, and other technical documents. When required by design specification or the customer, traceability of materials and processes is maintained and recorded, and finished products are uniquely identified by serial numbers.

PROCEDURAL POLICIES

1. Purchased Product Identification

1.1 All purchased products are identified with unique numbers, codes, or names. The identification is the same, or is cross referenced with the product designations used in drawings, specifications, bills of materials, parts lists, purchase orders, etc. Purchased products are identified by marking, labeling, or tagging the products or their packaging, or by identification of the area where the products are held.

1.2 Materials Control is responsible for designating product codes/numbers, and for ensuring that products are properly identified.

1.3 Activities related to identification of purchased products are governed by Procedure OOP-08-01 Product Identification and Traceability, and Procedure QOP-10-01 Receiving Inspection.

2. In-House Manufactured Product Identification

2.1 In-house manufactured products, and in particular finished products, are identified in accordance with customer requirements. Identification requirements are specified in customer engineering documents and in QS-9000 Section III, Customer-Specific Requirements. When the customer does not require any specific identification and marking, Design Engineering and/or Materials Control are responsible for specifying finished product identification.

2.2 Activities related to manufactured product identification are regulated by procedures OOP-08-01 Product Identification and Traceability, OOP-15-03 Packaging, and QOP-10-03 Final Inspection.

3. Traceability

3.1 Traceability of materials and processes is maintained when required by contract. When required, materials are traceable to their purchase orders, and thereby to their inspection, testing, or process certification.

3.2 Processing of Special Characteristics is traceable to their process control charts, processing equipment, and operators. All processes are traceable to equipment and operators through the production work order.

3.3 Activities related to establishment and maintenance of traceability are regulated by procedures OOP-08-01 Product Identification and Traceability, OOP-09-01 Production Work Order, and OOP-09-03 Statistical Process Control.

4. Identification and Traceability Records

4.1 Identification and traceability are recorded in engineering documents, bills of materials, parts lists, process control charts, production work orders, and shipping orders.

SECTION 9

PROCESS CONTROL

GENERAL POLICY

Production and individual operations are planned and documented. Personnel performing complex or critical operations are provided with process operator instructions. Processes responsible for Special Characteristics are prequalified and their performance is continuously monitored. Production and process equipment is maintained to ensure continuing process capability. Processes comply with applicable safety and environmental regulations.

PROCEDURAL POLICIES

1. Production Plans

1.1 The general production plan is specified in process flowcharts prepared in the pre-launch quality planning phase. Production plans for specific product runs are documented in production work orders. Work orders list all production and inspection operations necessary to manufacture and verify products. Procedure OOP-09-01 Production Work Order instructs in establishment and use of the work order.

2. Process Operator Instructions

2.1 Operators of processes responsible for Special Characteristics, and processes that cannot be verified by subsequent inspection, are provided with written process instructions.

2.2 At a minimum, the operators are provided with instructions explaining job set-ups, equipment and process operation, in-process inspection and testing program (Control Plans), and statistical process control. Details are provided in Procedure OOP-09-02 Process Operator Instruction.

3. Prequalification and Monitoring of Process Performance

3.1 Preliminary process capability studies are conducted to prequalify all processes responsible for Special Characteristics. Production Engineering is responsible for conducting process capability studies. Process capability must meet customer requirements.

3.2 Performance of processes responsible for Special Characteristics is continuously monitored using SPC methods. Control charts are retained to demonstrate product conformance to specified requirements.

3.3 Statistical Process Control (SPC)Reference Manual techniques are used for prequalification and monitoring of processes. Process control activities are regulated by Procedure OOP-09-03 Statistical Process Control.

4. Preventive Maintenance

4.1 Key process equipment and machines are regularly maintained in accordance with preventive maintenance plan established by Production Engineering. Maintenance is recorded in equipment logs. Maintenance activities are governed by Procedure OOP-09-04 Preventive Maintenance.

5. Environmental and Safety Compliance

5.1 The Production Manager is responsible for work safety and compliance with governmental safety regulations. The Materials Control Manager is responsible for compliance with environmental regulations. The system for ensuring safety and environmental compliance is provided in Procedure OOP-09-05 Environmental and Safety Compliance.

SECTION 10

INSPECTION AND TESTING

GENERAL POLICY

Inspection and testing are conducted at receiving, at significant stages of production, and prior to dispatch of finished products. The emphasis is placed on defect prevention rather than detection. Materials, components, subassemblies, and finished products are prevented from use, assembly, and dispatch until the required inspections are completed. Records of inspections are established and maintained to evidence that products comply with stated requirements.

PROCEDURAL POLICIES

1. Control Plans and Instructions

1.1 Inspection, testing and process control program for a product is documented in Control Plans established by the Product Quality Planning Team. In addition, inspections may be also specified in production work orders.

1.2 For complex inspection operations, operators and inspectors are provided with instructions and/or checklists explaining how to carry out the inspection, what inspection equipment should be used, and how to establish the inspection record.

2. Receiving Inspection

2.1 All purchased products are subjected to either a one- or a two-stage receiving inspection. First, all products are inspected visually by the receiving clerk, and then critical products for which there is no sufficient record demonstrating conformance are subjected to a more detailed and technical QC inspection. Nonconforming products are segregated and are prevented from use in production. Procedure QOP-10-01 Receiving Inspection sets forward detailed rules for performing and recording receiving inspections.

3. In-process Inspections

3.1 In-process inspections are normally carried out for the purpose of collecting process performance data rather than detecting and segregating nonconforming product. The focus is on defect prevention rather than detection. Detection and segregation of nonconforming products are only specified when processes are not capable and/or are not sufficiently stable.

3.2 In-process inspection activities are regulated by procedure QOP-10-02 In-Process

Inspection, and Procedure OOP-09-03 Statistical Process Control.

4. Final Inspection

4.1 All finished products are subjected to the final QC inspection. First, inspectors verify that all specified receiving and in-process inspections have been carried out satisfactorily, and then they perform the remaining inspections and tests necessary to complete the evidence of product conformance. Only products that pass the final inspection can be shipped. Procedure QOP-10-03 Final Inspection regulates these activities.

5. Inspection and Test Records

5.1 All three types of inspections are concluded with establishment of an inspection record. Rules for establishing these records are described in procedures QOP-10-01, QOP-10-02, and QOP-10-03. Filing and maintenance of inspection records are regulated by Procedure QOP-16-01 Quality Records.

SECTION 11

INSPECTION, MEASURING AND TEST EQUIPMENT

GENERAL POLICY

Tolerance of the required measurements is known and appropriate equipment is selected to perform the measurements. Measurement Systems referenced in Control Plans are formally evaluated. All measuring and test equipment used for verification of products is calibrated using calibration standards traceable to the national standard. Calibration certificates are maintained. Calibration status of measuring equipment is identified with calibration stickers. The equipment is well maintained and its placement and use are controlled.

PROCEDURAL POLICIES

1. Controlled and Uncontrolled Equipment

1.1 Measuring and test equipment, comparative references (such as gauges and templates), and test software used for verification of products and for controlling production processes are regularly calibrated and/or checked.

1.2 Equipment used for purposes other than verification of products or control of production processes may be exempted from calibration. Such equipment is labeled with stickers warning that it is not calibrated.

2. Measurement System Evaluation

2.1 All measurement systems referenced in Control Plans are formally evaluated by Quality Control. Evaluation studies are conducted using techniques, procedures, and acceptance criteria provided in the Measurement System Analysis (MSA) Reference Manual.

2.2 At a minimum, a Repeatability and Reproducibility (Gauge R&R) study is conducted. Procedure QOP-11-02 Measurement System Evaluation prescribes specific evaluation procedures and provides criteria for acceptance of measurement systems.

3. Equipment Calibration and Maintenance

3.1 Quality Control is responsible for calibrating and maintaining measuring and test equipment. All active equipment is inventoried in a controlled list, indicating equipment calibration status and location.

3.2 Measuring equipment is calibrated using written instructions, unless calibration is simple and obvious. Only calibration instruments and standards having known relationship to

the nationally recognized standards are used for calibrating the measuring and test equipment.

3.3 Calibration is recorded in a calibration certificate and the calibrated equipment is labeled with a calibration sticker. Condition and actual readings of equipment immediately prior to its calibration are also recorded.

3.4 All calibration-related activities are regulated by Procedure QOP-11-01 Inspection, Measuring, and Test Equipment.

4. Validation of Test Software

4.1 In-house developed test software is validated before it is used for verification of products. Purchased software must also be certified. Software is revalidated or recertified whenever there is a change of conditions for which it was initially validated.

SECTION 12

INSPECTION AND TEST STATUS

GENERAL POLICY

Inspection status of a product is identified to assure that only product that has passed inspection is used, installed, or dispatched. Authority responsible for the release of conforming product is defined.

PROCEDURAL POLICIES

1. Responsibility

1.1 QC inspectors, receiving clerks, and production personnel authorized to carry out inspections and testing are responsible for marking products with their inspection status identification. All personnel handling products are responsible for maintaining the identification.

2. Conforming Products

2.1 Products that pass the receiving inspection are labeled with a yellow sticker or tag.

2.2 Status of an in-process inspection is identified by a sign-off in the work order accompanying the product. Instead, or in addition, products may be tagged, labeled, or placed in designated containers.

2.3 Products that pass the final inspection are identified by a green tag that is signed and dated by the QC inspector.

2.4 Location of product can only be used as inspection status identification when the location is contained and dedicated, and in automated production transfer processes.

2.5 Detailed instructions on how to identify conforming products are provided in Procedure QOP-12-01 Inspection and Test Status.

3. Nonconforming Products

3.1 Products that fail any one of the three inspections are labeled with a red REJECTED sticker or tag, and are segregated and/or quarantined.

3.2 Whenever a nonconforming product is identified, the nonconformance is documented using a product nonconformance report (see Section 13, Control of Nonconforming Product). The pink copy of the report is attached to, and left with, the nonconforming

product.

3.3 Detailed instructions on how to identify nonconforming products are provided in Procedure QOP-12-01 Inspection and Test Status.

4. Authority to Release Product

4.1 QC inspectors performing the final inspection have the authority to release product for shipment. A green tag signed and dated by a QC inspector provides the evidence that the product has been released for shipment.

SECTION 13

CONTROL OF NONCONFORMING PRODUCT

GENERAL POLICY

Nonconforming product is identified, documented, evaluated, and prevented from being used or shipped. Responsibility for disposition of nonconforming product is defined. Repaired or reworked products are reinspected. Products that do not fully comply with specified requirements are not shipped without customer authorization.

PROCEDURAL POLICIES

1. Identification and Documentation

1.1 COMPANY NAME Inc. identifies and documents all nonconformances, regardless of how insignificant they seem to be or how easily they can be repaired or reworked. Nonconformance reports are invaluable for tracking performance and trends, and for identifying areas where corrective or preventive actions should be implemented.

1.2 Nonconforming products are documented using a nonconformance report. The report describes the nonconformance, documents the disposition decision, and records closeout of follow-up activities (reinspection, customer authorization, corrective actions, etc.). The use of the nonconformance report and its processing are explained in Procedure QOP-13-01 Control of Nonconforming Product.

1.3 To prevent nonconforming products from being used or shipped, the products are marked with a REJECTED label and are segregated.

2. Nonconformance Review and Disposition

2.1 QC inspectors and production supervisors may make the disposition decision for a nonconforming product when it is obvious that the product must be scrapped or regraded, or if it can be repaired by a simple process without affecting its quality or appearance. In all other cases, Quality Assurance together with Production and, when required, Design Engineering make the disposition decision.

2.2 The disposition decision may be:

- Rework or repair,
- Accept as-is,
- Regrade, or

- Scrap.

2.3 Products that, with or without repair, do not fully comply with specified requirements cannot be shipped. When defects do not compromise the function and usefulness of products, customers may be asked for the authorization to ship such products.

2.4 Detailed rules for nonconformance review, for making the disposition decision, and for recording these activities are provided in Procedure QOP-13-01 Control of Nonconforming Product.

3. Control of Reworked Product and Reinspection

3.1 When products are designated for rework, the rework operations are documented in written rework instructions.

3.2 Repaired or reworked products are reinspected in accordance with applicable inspections procedure (refer to Procedures QOP-10-01, QOP-10-02, or QOP-10-03, as applicable).

SECTION 14

CORRECTIVE AND PREVENTIVE ACTION

The company recognizes that diligent and effective implementation of this corrective and preventive action policy is crucial to the success of the quality system.

GENERAL POLICY

Causes of product and quality system nonconformities are investigated and corrective actions are implemented to prevent their recurrence. Processes, work operations, quality records, service reports, and customer complaints are analyzed to detect any sources of potential quality problems, and preventive actions are implemented before the problems develop. Controls are applied to ensure that corrective and preventive actions are implemented and that they are effective.

PROCEDURAL POLICIES

1. Initiation of Corrective and Preventive Actions

1.1 Anyone in the company may propose initiation of corrective and preventive actions, but only the President and the QA Manager can authorize and request their implementation.

1.2 Corrective and preventive actions may be initiated as the result of

- Identification of major product nonconformance or a trend of minor nonconformances of a similar character,
- Problems with processes or work operations,
- Noncompliances observed during audits,
- Customer complaints and returned products,
- Nonconforming deliveries from subcontractors, and
- Identification of any other condition that does not comply with the documented quality system and/or QS-9000 requirements.

1.3 Procedure QOP-14-01 Corrective and Preventive Action provides a complete list of the relevant noncomplying conditions, and describes in detail the rules that apply to initiating corrective and preventive actions.

2. Follow Up

2.1 Every corrective and preventive action is followed up by the President or the QA Manager to determine if the action has been implemented and if it is effective.

3. Customer Complaints

3.1 The Contracts department is responsible for receiving and processing customer complaints. All received customer complains are recorded in the Customer Complaints Log.

3.2 Customer complaints are classified into categories to allow for better tracking of trends and evaluating improvement in specific areas. Every complaint is evaluated and, when relevant, is communicated to the function concerned. Contracts, the responsible department, and Quality Assurance decide how to respond to the customer and, when appropriate, what actions should be requested internally to improve customer satisfaction.

3.3 Procedure MOP-14-02 Customer Complaints provides detailed instructions how to receive, process, and respond to customer complaints.

SECTION 15

HANDLING, STORAGE, PACKAGING, AND DELIVERY

GENERAL POLICY

Handling methods and means prevent product damage. Receipt and dispatch to and from storage areas are controlled. There is an inventory management system to optimize inventory turn-over times and levels. The condition of stored products is regularly assessed. Packaging is specified and controlled. On-time delivery performance is monitored and continuously improved. Customers are notified of dispatched shipments.

PROCEDURAL POLICIES

1. Product Handling and Preservation

1.1 The Production Manager is responsible for product handling and preservation; and in particular for ensuring that containers holding products are suitable and are in good condition, that equipment used for internal transportation of products is well maintained and is properly operated and that products are adequately protected during production and storage. Procedure OOP-15-01 Product Handling and Preservation describes in detail how these policies are implemented.

2. Storage

2.1 Stockrooms and storage areas, and their operation, are the responsibility of Materials Control. Only products that are properly identified and that have passed required inspections are authorized to enter and leave the stockrooms. Every three months the stockrooms are cleaned up and are inspected to assess the condition of stock.

2.2 Material and finished product stockrooms are controlled using an inventory management system. The system can report available in stock quantities, product location, and turn-over times. The system is used to optimize and minimize inventory levels.

2.3 Procedure OOP-15-02 Storage Areas governs the operation of stockrooms and storage areas.

3. Packaging and Labeling

3.1 Materials Control is responsible for specifying packaging and labeling, based on customer standards and contract requirements. Packaging and labeling instructions are documented in standards, work instructions, and shipping orders. Packaging and labeling is governed by Procedure OOP-15-03 Packaging.

4. Shipping and Delivery

4.1 Products are shipped per customer instructions. Contracts department is responsible for interfacing with the customer to determine shipping requirements. Materials Control is responsible for the shipping and for sending an advanced shipping notification (ASN) to the customer.

4.2 COMPANY NAME Inc. recognizes that 100 percent on-time delivery performance is crucial for customers to meet their production and service requirements. To ensure the highest level of on-time performance, production schedules are developed on the basis of established lead times, delivery performance is continuously monitored, and corrective actions are implemented when performance is not satisfactory.

4.3 Activities related to shipping and delivery operations are regulated by Procedure OOP-15-04 Shipping and Delivery.

SECTION 16

QUALITY RECORDS

GENERAL POLICY

Quality records demonstrate achievement of required product quality and effective operation of the quality system. The records are identified, indexed, and stored in a suitable environment to minimize deterioration. Records are normally stored by the department that is responsible for their establishment. Retention periods for quality records are defined.

PROCEDURAL POLICIES

1. General

1.1 Quality records provide the evidence that product designs meet their design input requirements, that finished products conform to the design output requirements, and that the quality system is operated in accordance with documented procedures and that it is effective.

2. Establishment of Records

2.1 Records are usually established by the personnel directly involved with the task, operation, or activity whose results need to be recorded.

2.2 Records are dated; identify the product, person, or event to which they pertain; provide the relevant facts and data; and identify the function or person who established the record.

2.3 Specific record formats are usually prescribed by the procedures that call for their establishment. These can be forms, reports, minutes of meetings, sign-offs or stamps placed on other documents, and so forth. Records can also be established and maintained in electronic media (computer files or databases).

3. Indexing and Storage

3.1 Records are indexed and grouped to facilitate their retrieval. Binders, drawers, cabinets, etc., containing records are clearly labeled with identification of their content. Records may not be stored in private desk drawers or other obscure locations that are not generally known.

3.2 The activities of identification, collection, indexing, filing, storage, maintenance and disposition of quality records are governed by Procedure QOP-16-01 Quality Records.

4. Storage Location and Retention Periods

4.1 Records are usually stored and maintained by the same department that initially established the record. Procedure QOP-16-01 Quality Records, stipulates the storage locations for all types of records required by the quality system.

4.2 The retention period for records is determined by the department that establishes and maintains the records. The retention period is determined on the bases of contractual obligations, warranty periods, useful life of products, legal considerations, etc. Procedure QOP-16-01 Quality Records stipulates the retention periods for all types of records required by the quality system.

SECTION 17

INTERNAL QUALITY AUDITS

GENERAL POLICY

Comprehensive, planned, and documented quality audits are carried out at least once a year. Audits are scheduled on the basis of the status and importance of the activity. The audits are conducted by personnel independent of those having direct responsibility for the audited activity. Identified nonconforming conditions are brought to the attention of the responsible managers and a corrective action is requested when appropriate.

PROCEDURAL POLICIES

1. Planning and Scheduling

1.1 The Quality Assurance Manager establishes the internal audit plan and schedule in accordance with Procedure QOP-17-01 Internal Quality Audits. Every activity and area is audited at least once a year. Selected activities are audited more frequently, depending on their importance and quality performance history.

2. Audit Team and Preparation for Audit

2.1 Only personnel independent of the audited activities are assigned to conduct the internal audits. Normally, the QA Manager leads the audit team except when QA activities are being audited. Audits of QA activities are usually conducted by the Production Engineer.

2.2 Auditors prepare for audits by reviewing applicable standards and procedures, analyzing quality records, and establishing questionnaires and checklists. The Quality System Assessment (QSA) Reference Manual is used for preparing checklists. Selection of auditors and preparation for the audit are explained in Procedure QOP-17-01 Internal Quality Audits.

3. Conducting the Audit

3.1 Conducting the audit, auditors seek objective evidence indicating whether the audited activities comply with the requirements of the documented quality system and QS-9000, and whether the quality system is effective. The evidence is collected by observing activities, interviewing personnel, and examining quality records.

3.2 Nonconforming conditions are documented and recorded using the Noncompliance Report form. A model of the form and instructions on how to use it are provided in Procedure QOP-17-01.

3.3 Audits are conducted in a way that minimizes disruption of the audited activities.

4. Corrective Action and Follow Up

4.1 When nonconforming conditions are identified, the manager responsible for the affected area or activity is requested to propose and implement a corrective action. Implementation and effectiveness of the action is verified by a follow-up audit. The Noncompliance Report form is used for monitoring and recording implementation of the corrective actions.

SECTION 18

TRAINING

GENERAL POLICY

The company identifies training needs of all personnel and provides the required training. Personnel assigned to perform specific tasks are qualified on the basis of appropriate education, experience, or training. Records of personnel qualifications and training are maintained. Effectiveness of training is periodically evaluated.

PROCEDURAL POLICIES

1. Training Program

1.1 COMPANY NAME Inc. has a companywide and departmental training programs. The following main categories of training are provided (or supported):

- General Orientation and Quality System Training — Explains how the product is used and how the quality system works to ensure product quality. Provided to all employees.
- Safety Training — Instructs in safe working practices, use of personal protective equipment, first aid, etc. Provided to all employees.
- Use of Companywide Systems — Explains interdepartmental systems, such as product coding/numbering system, barcode system, use of computers, etc. Provided to wide groups of employees.
- External Training — External seminars, conferences, and courses. Provided to individual employees on as-needed basis.
- Self-Study — Reading magazines, books, and reports. While all employees are encouraged to broaden their knowledge through reading, in some cases self-studying may be required as formal training.
- Skill Training in Engineering, Production, and Quality Control — departmental training in specific skills. Often provided as on-the-job training.

1.2 Procedure AOP-18-01 Training describes in detail the training programs provided by COMPANY NAME Inc.

2. Training Records

2.1 Training records are established for all types of training. The records are established and

maintained by the department that provides training. Human Resources maintains as-hired qualification records, and may also have copies of some departmental training.

3. Training Effectiveness Evaluation

3.1 Departmental managers review their training programs annually to evaluate effectiveness of each type of training provided. Evaluation results are recorded in the Training Evaluation Report, a model of which is provided in Procedure AOP-18-01 Training.

3.2 Concurrent with evaluating effectiveness of training provided in the past, departmental managers determine training needs and establish training programs for the coming year.

SECTION 19

SERVICING

GENERAL POLICY

Product servicing is offered to the company's customers during and beyond the warranty periods. The Service department is responsible for processing servicing orders and providing the servicing. Servicing operations comply with all relevant procedures of the quality system, including verification requirements.

PROCEDURAL POLICIES

1. General

1.1 The Service department is fairly independent and self sufficient. It processes its own orders and has its own receiving and shipping functions.

1.2 The whole quality system of COMPANY NAME Inc., as documented in the Quality Manual and Operational Procedures, applies to the servicing operations.

1.3 In addition to the Quality Manual and Operational Procedure OOP-19-01 Servicing, the quality system for servicing is documented in work instructions established and maintained by the Service department.

2. Performance and Verification of Servicing

2.1 Quality system activities related to servicing operations are similar to the corresponding activities related to designing, manufacturing, and selling of new products. All relevant procedures established for production operations equally apply to servicing. Work instructions issued by the Service department supplement those procedures.

2.2 Servicing is verified in accordance with procedures QOP-10-01, QOP-10-02, and QOP-10-03 that govern the receiving, in-process, and final inspections, respectively. Work instructions issued by the Service department supplement those procedures.

3. Field Experience and Reliability Data

3.1 The Service department collects field experience and reliability data. The data and the associated conclusions are reported to the Design Engineering and Quality Assurance departments.

SECTION 20

STATISTICAL TECHNIQUES

GENERAL POLICY

Statistical techniques are used to study process capability, to monitor process performance, to evaluate measurement systems, to verify process equipment set-up, and to study trends in company-level data. Quality Assurance is responsible for identifying needs for the use of statistical techniques and for selecting appropriate techniques. Personnel involved with activities where statistical techniques are used are provided with instructions and/or are trained in their use.

PROCEDURAL POLICIES

1. Preliminary Process Capability Study

1.1 Preliminary process capability study is conducted using statistical techniques provided in the Statistical Process Control (SPC) Reference Manual. Production Engineer is responsible for selecting appropriate techniques.

1.2 Procedures QOP-02-04 Production Quality Planning and OOP-09-03 Statistical Process Control provide guidelines for selecting appropriate statistical techniques to be used in the preliminary process capability study, and explain how to implement this activity.

2. Ongoing Process Performance Monitoring

2.1 Ongoing process performance monitoring is conducted using statistical techniques provided in the Statistical Process Control (SPC) Reference Manual. Production Engineer is responsible for selecting appropriate techniques.

2.2 Procedures QOP-02-04 Production Quality Planning, OOP-09-03 Statistical Process Control, and OOP-09-02 Process Operator Instructions provide guidelines for selecting appropriate statistical techniques to be used in ongoing process performance monitoring, and explain how to implement this activity

3. Measurement System Evaluation

3.1 Measurement System Evaluations are conducted using statistical techniques provided in the Measurement System analysis (MSA) Reference Manual. Quality Control Engineer is responsible for selecting appropriate techniques.

3.2 Procedure QOP-11-02 Measurement System Evaluation provides guidelines for selecting

appropriate statistical techniques to be used in evaluating measurement systems.

4. Job Set-Up Verification

4.1 Whenever the setting of processing equipment or machines is changed or reset, the setup is verified using statistical techniques explained in Procedure QOP-10-02 In-Process Inspections.

5. Other Uses of Statistical Techniques

5.1 Statistical techniques may be also used in sampling for receiving and in-process inspections, and in analyzing company-level data. Quality Assurance is responsible for selecting appropriate statistical techniques for product inspection and testing.

SECTION 21

PRODUCTION PART APPROVAL PROCESS

GENERAL POLICY

Before start-up of mass production, new and modified parts are submitted to customer for approval. Sample parts are manufactured from the same materials and using the same processes and operators that will be used in mass production. The submission consists of samples, engineering documentation, evidence that product complies with specified requirements, evidence of process capability, and product verification plans.

PROCEDURAL POLICIES

1. General

1.1 Seeking production part approval, COMPANY NAME Inc. complies with all requirements of the Production Part Approval Process (PPAP) Manual.

1.2 Production Engineering is responsible for coordinating all documents, records, and samples required for the PPAP submission package.

2. Preparing PPAP Submission Documents

2.1 The scope of submission and general procedures instructing how to prepare individual items of the submission package are provided in the PPAP Manual. Every relevant PPAP requirement is fully complied with.

2.2 Documents, records, and samples required for the PPAP submission are developed in the design and prototype, pre-launch, and production phases of quality planning. Procedures QOP-02-01 Quality Planning, QOP-02-02 Design and Prototype Quality Planning, QOP-02-03 Pre-Launch Quality Planning, and QOP-02-04 Production Quality Planning assign responsibilities and explain how to develop the required documents, records, and samples. Procedure EOP-04-01 Design Control is also relevant when design is included in the contract.

2.3 Methods and techniques to be used in developing specific studies and analysis are provided in the APQP, FMEA, SPC, and MSA Reference Manuals, and in relevant Operational Procedures.

3. Submission Process

3.1 Customers designate the applicable submission level, i.e., which items of the PPAP

package must be actually provided to the customer for review and approval. Different submission levels do not change the responsibility to complete all items that are required for part approval.

3.2 Production Engineering is responsible for interfacing with the customer to determine the applicable submission level, and to provide the required items for customer review and approval.

4. Engineering and Production Changes

4.1 Production part approval is granted for a part number, engineering change level, manufacturing location, material subcontractors, and production process environment. If any of the above changes, customer is notified and asked whether any of the items required for part approval need to be modified and resubmitted. Production Engineering is responsible for interfacing with the customer.

SECTION 22

CONTINUOUS IMPROVEMENT

GENERAL POLICY

COMPANY NAME Inc. deploys continuous improvement philosophy throughout the entire organization. Processes are improved beyond minimum requirements when further improvement benefits customers. Quality performance and productivity are continuously monitored to identify opportunities for improvement. Specific improvement projects are implemented in response to identified improvement opportunities. Improvement techniques and methodologies are known and are used.

PROCEDURAL POLICIES

1. General

1.1 COMPANY NAME Inc. deploys continuous improvement philosophy throughout the entire organization. Everyone in the organization is encouraged to come forward with ideas for improving products, processes, systems, productivity, and working environment. Improvement suggestions are evaluated and prioritized by Quality Assurance.

1.2 Quality Assurance is responsible for establishing and coordination continuous improvement program, and for reporting progress and results to the executive management.

1.3 Activities supporting the continuous improvement effort are regulated by Procedure QOP-22-01 Continuous Improvement.

2. Process Improvement

2.1 Processes are improved beyond minimum process capability and performance requirements when further process improvement benefits the customer, i.e. when reduction of variation around the target value is important for the customer.

3. Quality and Productivity Improvements

3.1 COMPANY NAME Inc. continuously monitors performance in the following areas:

- Cycle times
- Scrap, rework, repair rates

- Unscheduled machine downtime
- Process performance variation
- First-run capability
- Effectiveness of training
- Effectiveness of quality system
- Customer satisfaction levels
- Customer complaints
- Measurement system capability
- Subcontractor quality performance
- On-time delivery performance

The collected performance data helps to identify improvement opportunities and prioritize improvement projects. In addition to the above list, special assessment projects may be initiated to identify opportunities for improvement in other areas (refer to Procedure QOP-22-01 Continuous Improvement).

4. Techniques for Continuous Improvement

4.1 A list of techniques used in improvement projects is provided in Procedure QOP-22-01. Quality Assurance maintains a register of individuals who are knowledgeable in specific methods and techniques.

SECTION 23

MANUFACTURING CAPABILITIES

GENERAL POLICY

Production facilities, processes, and equipment are developed and planned to maximize efficiency of production operations. Mistake proofing methodology is employed to prevent manufacturing of nonconforming products. Tool design, fabrication, and maintenance are assigned to qualified personnel (or subcontractors) and are carried out in a controlled environment.

PROCEDURAL POLICIES

1. Production Planning and Effectiveness Evaluation

1.1 Production facilities, equipment, and processes are planned in the production quality planning phase. The Product Quality Planning (PQP) Team is responsible for coordinating and evaluating the plans. Performance of production equipment and processes is tested in the production trial run. Procedure QOP-02-04 Production Quality Planning provides detailed instructions for developing these activities.

1.2 After completion of the production trial run, PQP Team assesses the effectiveness of production facilities, equipment, and processes, including such aspects as overall work plan, appropriate automation, operator and line balance, storage and buffer inventory levels, value-added labor content, human factors, and so forth. The assessment is carried out in conjunction with quality planning sign-off (refer to procedure QOP-02-04).

1.3 In addition to the initial assessment in the quality planning phase, manufacturing capabilities and effectiveness are assessed regularly by internal quality audits (refer to Procedure QOP-17-01 Internal Quality Audits).

2. Mistake Proofing

2.1 Mistake proofing techniques are used to prevent manufacture of nonconforming product. There is at least one individual in the company, registered by Quality Assurance, who is known to be knowledgeable in mistake proofing techniques.

2.2 In the quality planning phase, process FMEAs are developed, and mistake proofing is often used to decrease unsatisfactorily high RPN numbers (refer to Procedure QOP-02-03 Pre-Launch Quality Planning).

2.3 In the production phase, mistake proofing is used as a corrective or preventive action

(refer to Procedure QOP-14-01 Corrective and preventive Action), and in continuous improvement projects (refer to Procedure QOP-22-01 Continuous Improvement).

3. Tool Design, Fabrication, and Management

3.1 Production Engineering is responsible for the design and fabrication of tooling, whether these activities are carried out in-house or are subcontracted. When tooling is subcontracted, Production Engineering interfaces with the subcontractor and tracks their progress. All tooling is verified through a full dimensional inspection before it is approved for use in production (refer to Procedure QOP-02-04 Production Quality Planning)

3.2 Tooling is identified to the part number and engineering revision level of the part to which it pertains. Tooling is also identified with approval status, i.e., whether or not it is approved for use in production. Broken, worn down, or otherwise unfit tooling is identified with warning labels and is segregated (refer to Procedure OOP-23-01 Tool Design, Fabrication, and Management).

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