# **♣**Tri*Mark*®

# **QUALITY POLICY MANUAL**



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# MISSION STATEMENT AND QUALITY POLICY

TriMark's mission statement is as follows:

We focus on "door systems" – to control access in and out, while emphasizing safety, security and convenience. We:

- provide reasonably priced, tailored, quality mechanical, electrical, electronic products and systems that stress fit-for-function;
- are responsive and easy to do business with;
- make promises we can keep and keep promises we make.

# TRIMARK'S QUALITY POLICY

TriMark's team strives to continuously improve our products, services and business systems to meet or exceed our customer's expectations.

Patricia E. Knowlton	Stephen E. Dahl
Sr. Vice President/General Manager/Corp. Secretary	Vice President Manufacturing
Scott A. Perkins	Ricci L. Marzolf
Sr. Vice President Finance & Systems/ Corp. Treas.	Vice President Research & Development

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#### 1.0 Scope

This Quality Manual provides specifics on the policies and procedures used by TriMark Corporation to meet general requirements of ISO 9001:2000 and application of *TS 16949:2002 Quality Management System Requirements for North American Heavy Truck Market*, to demonstrate the ability to consistently design and manufacture vehicle hardware products for windows, doors, enclosures and related products, to meet the customer specifications, TriMark's specifications and applicable regulatory requirements and to address customer satisfaction including continual improvement and the prevention of nonconformance.

#### 2.0 Permissible Exclusions

None

#### 3.0 Terms and Definitions

The term "Supplier" and "Vendor" are synonymous and refer to the external source used to acquire purchased products, or materials and/or services by the organization.

The term "Organization" refers to TriMark Corporation internal organization.

The term "Customer" used in this quality manual refers to External Customer.

#### 4.0 Quality Management System

#### 4.1 General Requirements

TriMark has a documented quality management system in accordance with the requirements of the International Organization for Standardization (ISO) 9001:2000 and emphasis of ISO/TS 16949:2002 (identified in italic lettering). The processes identified throughout the quality management system will be reviewed to ensure its effectiveness and to continually improve upon those processes.

The organization does:

- identify the processes needed and application of quality management system throughout the organization;
- determine the sequence and interaction of these processes;
- determine criteria and methods needed for ensuring the operation and control of processes are effective;
- ensure the availability of resources and information necessary to support the operation and monitoring of the processes;
- monitor, measure and analyze the processes;
- implement actions necessary to achieve planned results and continual improvement of the processes.

#### 4.1.1 General Requirements-Supplemental

Ensuring control over outsourced processes does not absolve the organization of the responsibility of conformity to all customer requirements.

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#### 4.2 Documentation Requirements

#### 4.2.1 General

The quality management system documentation includes:

- documented statements of a quality policy and quality objectives;
- a quality manual;
- documented procedures required by ISO/TS 16949:2002;
- documents needed by the organization to ensure the effective planning, operation and control of its processes;
- forms and quality records required.

The Quality Policy and objectives are established and authorized by TriMark's Sr. VP and General Manager.

# 4.2.2 Quality Manual

The organization establishes and maintains a quality manual that includes:

- the scope of the quality management system, including details of and justification for any exclusions;
- the documented procedures established for the quality management system, or reference to them.

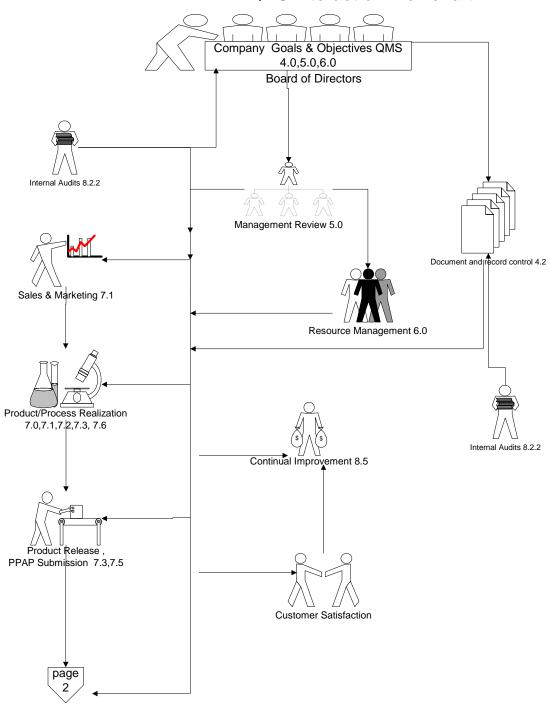
The following flowchart is a description of the interaction between the processes of the quality management system, and covers all areas of the Organization.

(See next page.)

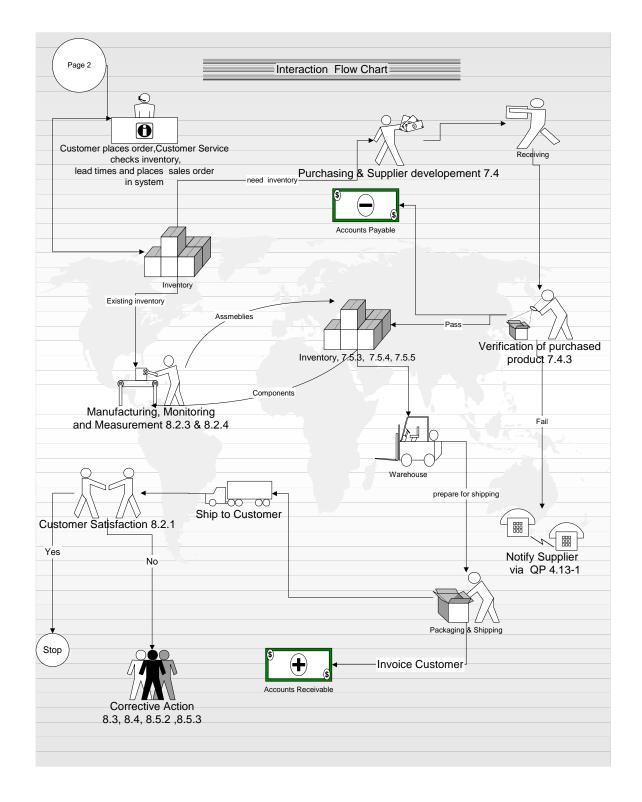
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# **QMS Interaction Flowchart**



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#### 4.2.3 Control of Documents

Documents required by the quality management system are controlled. Quality records are a special type of document and are controlled according to the requirements given in 4.2.4. A document control procedure defines the controls needed to:

- approve documents for adequacy prior to issue;
- review and update as necessary and re-approve documents;
- ensure that changes and the current revision status of documents are identified;
- ensure that relevant versions of applicable documents are available at points of use;
- ensure that documents remain legible and readily identifiable;
- ensure that documents of external origin are identified and their distribution controlled;
- prevent the unintended use of obsolete documents and to apply suitable identification to them
  if they are retained for any purpose.

#### Supporting Documentation: ISO Procedure Manual, Section 4.5 Document Control.

#### 4.2.3.1 Engineering Specification

TriMark has a process to assure the timely review, distribution and implementation of customer engineering standards/specifications and changes based on customer-required schedule, not to exceed 2 working weeks. Records of date and updated documents on which each change is implemented in production. Updated record of customer production part approval when these specifications are referenced on the design record or if they affect APQP documents.

Supporting Documentation: QP 4.5-3 External Standards & Specifications Review Customer PPAP Requirements

#### 4.2.4 Control of Records

Quality records are established and maintained to provide evidence of conformity to requirements and of the effective operation of the quality management system. Quality records remain legible, readily identifiable and retrievable. A documented procedure defines the controls needed for the identification, storage, protection, retrieval, retention time and disposition of records.

#### 4.2.4.1 Records Retention

Quality records are controlled per regulatory and customer requirements.

Supporting Documentation: QP 4.16-2 Quality Records Identified at TriMark

#### 5.0 Management Responsibility

#### 5.1 Management Commitment

Management of the facility is committed to the development and implementation of the quality management system and continually improves its effectiveness by:

- communicating to the organization the importance of meeting customer as well as statutory and regulatory requirements;
- establishing a quality policy;
- · establishing quality objectives;
- conducting management reviews;
- ensuring the availability of resources.

#### 5.1.1 Process Efficiency

Management reviews the product realization processes and support processes to assure their effectiveness and efficiency.

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#### 5.2 Customer Focus

TriMark strives to identify current and future customer needs, to meet customer requirements, and exceed customer expectations.

TriMark's Management of the facility ensures that the organization gathers, understands and meets customer requirements through continually improving our processes, monitoring our suppliers, and collecting customer feedback.

#### 5.3 Quality Policy

Our Quality Policy is posted in prominent places throughout the facility to maintain high standards within our organization. Management of the facility ensures that the quality policy is communicated to all employees. It is included in new employee training and training of the quality management system.

#### **Quality Policy Statement**

"TriMark's team strives to continuously improve our products, services and business systems to meet or exceed our customer's expectations."

#### **Mission Statement**

We focus on "door systems" – to control access in and out, while emphasizing safety, security and convenience. We:

- provide reasonably priced, tailored, quality mechanical, electrical, electronic products and systems that stress fit-for-function;
- are responsive and easy to do business with:
- make promises we can keep and keep promises we make.

## 5.4 Planning

# 5.4.1 Quality Objectives

The Management of the facility ensures that quality objectives, including those needed to meet requirements for product, are established at relevant functions and levels within the organization. The quality objectives are measurable and consistent with the quality policy. These objectives and measurements are identified on the Key Metrics Performance Scorecard.

#### 5.4.1.1 Quality Objectives-Supplemental

Management defines quality objectives and measurements that are included in the business plan and used to deploy the quality policy. These objectives address customer expectations and are achievable within the defined time period.

#### 5.4.2 Quality Management System Planning

Management of the facility ensures that:

- the planning of the quality management system is carried out in order to meet the requirements given in 4.1, as well as the quality objectives;
- the integrity of the quality management system is maintained when changes to the quality management system are planned and implemented.

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#### 5.5 Responsibility, Authority and Communication

## 5.5.1 Responsibility and Authority

Management of the facility ensures that responsibilities, authorities and their interrelation are defined and communicated within the organization. The organization chart below illustrates the interrelations and authority of the personnel who manage, perform, and verify the activities affecting the quality management system. Individual responsibilities and authorities are shown in job descriptions, along with who performs and verifies work affecting the quality of products and services.

# See Organization Chart on next page.

#### 5.5.1.1 Responsibility for Quality

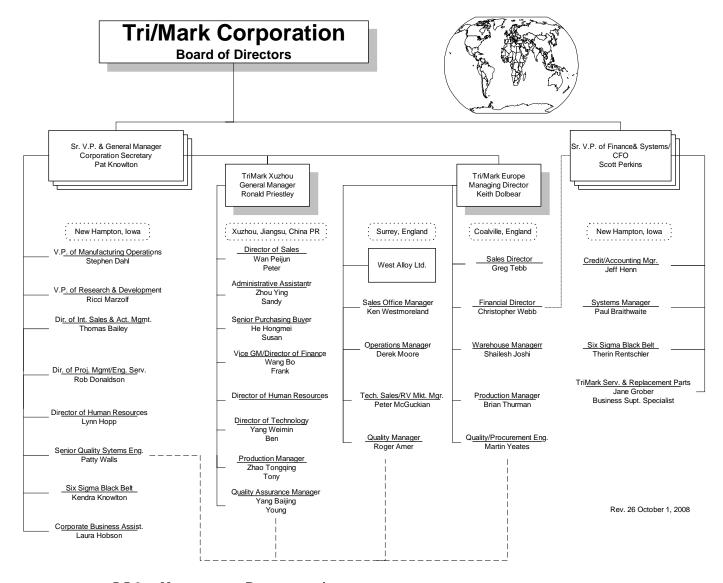
Managers with responsibility and authority for corrective action are promptly informed of products and processes that do not conform.

Personnel responsible for product quality have the authority to stop production to correct quality problems.

Production operations across all shifts are staffed with personnel in charge of, or delegated responsibility for, ensuring product quality.

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#### 5.5.2 Management Representative

Management of the facility has appointed the Senior Quality Systems Engineer as the ISO Management Representative who, irrespective of other responsibilities, has the defined authority for:

- ensuring that processes needed for the quality management system are established, implemented and maintained;
- reporting to Management of the facility on the performance of the quality management system and any need for improvement;
- ensuring the promotion of awareness of customer requirements throughout the organization.

#### 5.5.2.1 Customer Representative

Management of the facility has designated the Senior Project Managers, Account Managers, and Product Managers as Customer Representatives with responsibility and authority to ensure customer requirements are addressed. This includes selection of special characteristics, setting quality objectives and related training, corrective and preventive actions, product design and development, through participation in milestones and decision points related to production release, engineering release and related activities linked in customer requirements.

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#### 5.5.3 Internal Communication

Management of the facility ensures that appropriate communication processes are established within the organization and that communication takes place regarding the effectiveness of the quality management system. Multi media, audit results, key metric performance scorecards and other forms of communication that are used and stored on the U: drive, give the information and communication devices needed for all employees. U:\controlled\_documents is our document control location.

#### 5.6 Management Review

#### 5.6.1 General

Management of the facility reviews the organization's quality management system on an annual basis to ensure its continuing suitability, adequacy and effectiveness. The review includes assessing opportunities for improvement and the need for changes to the quality management system, including the quality policy and quality objectives. Records from management reviews are maintained.

Supporting Documentation: Management Meeting Minutes

QP 4.1-1 Management Review of Quality Systems

#### 5.6.1.1 Quality Management Systems Performance

Management Review includes all requirements of the quality management system and it's performance trends as an essential part of the continual improvement process.

Supporting Documentation: Management Review minutes of monitoring quality objectives specified in the business plan, regular reporting and evaluation of the cost of poor quality, customer satisfaction with product supplied Quality Review Minutes

## 5.6.2 Review Input

Management of the facility or designee(s) are responsible for reviewing the quality system on an annual basis to ensure that all quality systems are performing to the highest standards and provides the necessary assistance required to maintain the effective functioning of those systems.

## 5.6.2.1 Review Input-Supplemental

Input to management review shall include an analysis of actual and potential field failures and the impact on quality safety and the environment.

**Supporting Documentation:** Meeting Minutes

QP 4.1-1 Management Review of Quality Systems

QP 14.1-1 Corrective Action QP 14.1-2 Preventive Action

#### 5.6.3 Review Output

The output from the management review includes any decisions and actions related to:

- improvement of the effectiveness of the quality management system and its processes;
- improvement of product related to customer requirements and resource needs.

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#### 6.0 Resource Management

#### 6.1 Provision of Resources

The organization determines and provides the resources needed to implement and maintain the quality management system and continually improve its effectiveness, and enhance customer satisfaction by meeting customer requirements.

#### 6.2 Human Resources

#### 6.2.1 General

Personnel performing work affecting product quality are competent on the basis of appropriate education, training, skills and experience. The training information can be found in individual personnel files kept in Human Resources Department.

## 6.2.2 Competence, Awareness and Training

The organization:

- determines the necessary competence for personnel performing work affecting product quality;
- provides training on the job, higher education classes or takes other measures to satisfy these needs;
- evaluates the effectiveness of the actions taken through auditing, annual reviews and customer feedback (i.e., customer returns);

#### 6.2.2.1 Product Design Skills

Personnel with product design responsibility are competent and skilled to achieve design requirements, tools and techniques.

# 6.2.2.2 Training

The organization has established and documented a procedure for identifying training needs and competence of all personnel performing activities affecting product quality, personnel performing specific assigned task with particular attention to the satisfaction of customer requirements at all levels of the organization.

#### 6.2.2.3 Training on the Job

The organization provides on the job training for personnel in any new or modified job affecting product quality including contract or agency personnel. This includes informing the personnel about the consequences to the customer of nonconformity to quality requirements.

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#### 6.2.2.4 Employee Motivation and Empowerment

The organization has a process to motivate personnel to achieve quality objectives, to make continual improvements, and to create an environment to promote innovation. The process includes the promotion of quality and technological awareness throughout the whole organization. This process is measured to show personnel are aware of the relevance and importance of their activities and they contribute to the achievement of the quality objectives.

Supporting Documentation: QP 4.18-1 Training Request & Evaluation

QP 4.18-2 Orientation of New Employees Training Records and Annual Evaluations

**Matrix of Training** 

F-189-600 Temporary Employee Training Info

Bi-annual Meetings TriNews Express Corporate Scorecard 5S/VFM/SW & CI Projects

#### 6.3 Infrastructure

The organization determines, provides and maintains the infrastructure needed to achieve conformity to product requirements. Infrastructure includes, for example:

- buildings, workspace and associated utilities;
- process equipment, both hardware and software;
- supporting services such as transport or communication.

## 6.3.1 Plant, Facility and Equipment Planning

The organization uses a multidisciplinary approach for developing plant, facility and equipment plans. Plant layouts optimize material travel, handling and value added use of store space, and facilitate synchronous material flow. Methods have been developed and implemented to evaluate and monitor the effectiveness of existing operations.

Supporting Principles: Lean Manufacturing

Six Sigma Process Plans Product Line Plan

JD Edwards Hours Analysis

#### 6.3.2 Contingency Plans

The organization has contingency plans to satisfy customer requirements in the event of an emergency such as utility interruptions, labor shortages, key equipment failures and field returns.

Supporting Documentation: Contingency Plan

#### 6.4 Work Environment

The organization determines and manages the work environment needed to achieve conformity to product requirements by monitoring quality related costs, customer feedback and changes of increase or decrease in sales.

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## 6.4.1 Personnel Safety to Achieve Product Quality

The organization addresses product safety and potential risk to employees in the design and development process and the manufacturing process activities.

Supporting Documentation: DFMEA

Process Plans PFMEA

#### 6.4.2 Cleanliness of Premises

The organization maintains it's premises in a state of order, cleanliness and repair consistent with the product and manufacturing process needs.

Supporting Principles: Lean Manufacturing

5S

#### 7.0 Product Realization

# 7.1 Planning of Product Realization

The organization plans and develops the processes needed for product realization. Planning of product realization is consistent with the requirements of the other processes of the quality management system. In planning product realization, the organization determines the following, as appropriate:

- quality objectives and requirements for the product;
- the need to establish processes, documents, and provide resources specific to the product;
- required verification, validation, monitoring, inspection and test activities specific to the product and the criteria for product acceptance;
- records needed to provide evidence that the realization processes and resulting product meet requirements.

The output of this planning is in a form suitable for the organizations method of operations.

#### Supporting Documentation: QP 4.4-33 Product Realization

#### 7.1.1 Planning of Product Realization-Supplemental

The quality plan contains customer requirements and reference to it's technical specification in the planning of product realization.

#### 7.1.2 Acceptance Criteria

The organization has defined acceptance criteria and, where required, approved by the customer. Acceptance level is C=0 for attributes data sampling per 8.2.3.1.

## 7.1.3 Confidentiality

The organization assures confidentiality of customer contracted products and projects under development, and related product information.

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#### 7.1.4 Change Control

The organization has a process to control and react to changes that impact product realization that effect change, including those changes caused by a supplier, shall be assessed and verification and validation activities defined to ensure compliance with customer requirements. These changes require notification to and agreement from the customer per customer requirements.

Changes are validated before implementation.

Customer proprietary designs, impact on fit, form, function performance and/or durability are reviewed with the customer so that all effects can be evaluated. This applies to product and manufacturing process changes.

Supporting Documentation: Customer PPAP Requirements

Control Plans
Design Records
Specification Reports
Work Instructions
Special Instructions

#### 7.2 Customer-Related Processes

# 7.2.1 Determination of Requirements Related to the Product

The organization determines:

- requirements specified by the customer, including the requirements for delivery and postdelivery activities (post delivery activities include after-sales product servicing provided per customer contract or purchase order);
- requirements not stated by the customer but necessary for specified or intended use, where known, including recycling, environmental impact and characteristics identified through the organization's knowledge of the product and manufacturing process;
- statutory and regulatory requirements related to the product, including applicable government, safety, and environmental regulations, applied to acquisition, storage, handling, recycling, elimination or disposal of materials;
- any additional requirements determined by the organization.

Supporting Documentation: Project Specification

Realization Sheet

**DFMEA** 

ISO Procedure Manual Section 4.3 Contract Review

#### 7.2.1.1 Customer-Designated Special Characteristics

The organization demonstrates conformity to customer requirements for designation, documentation and control of special characteristics through customer prints and/or specification and is transferred to TriMark prints.

Supporting Documentation: QP 4.20-2 Supplier Quality Requirement

QP 4.20-3 TriMark Quality Requirement Customer Specifications and Prints

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#### **Review of Requirements Related to the Product** 7.2.2

The organization reviews the requirements related to the product. This review is conducted prior to the organization's commitment to supply a product to the customer (e.g. submission of tenders, acceptance of contracts or orders, acceptance of changes to contracts or orders) and ensures:

- product requirements are defined (examples of this may be due date, standard or custom product, method of delivery, etc.);
- contract or order requirements differing from those previously expressed are resolved using various communication methods (i.e., e-mail, fax etc.);
- the organization has the ability to meet the defined requirements.

Records of the results of the review and actions arising from the review are maintained. Where the customer provides no documented statement of requirement, the customer requirements are confirmed by the organization before acceptance. Where product requirements are changed, the organization ensures that relevant documents are amended and that relevant personnel are made aware of the changed requirements.

Supporting Documentation: ISO Procedure Manual Section 4.3 Contract Review EDI and/or E-mail Record of Changes

#### 7.2.2.1 Review of Requirements Related to the Product-Supplemental

The organization performs it's due diligence in retrieving the customer authorization for waiving the above requirements in a formal review.

# 7.2.2.2 Organization Manufacturing Feasibility

The organization investigates, confirms and documents the manufacturing feasibility of proposed products in the contract review process, including risk analysis.

Supporting Documentation: **Customer Specification Customer CAD Documents** 

**PFMEA** 

#### 7.2.3 **Customer Communication**

The organization determines and implements effective arrangements for communicating with customers in relation to:

- product information communicated through the web catalog and direct contact;
- inquiries, contracts, or order handling, including amendments communicated through direct
- customer feedback, including customer complaints, can be found in the CAR database and within call reports.

Supporting Documentation: ISO Procedure Manual Section 4.3 Contract Review Account Plans

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#### 7.2.3.1 Customer Communication-Supplemental

The organization has the ability to communicate necessary information and data, in the customer-specified languages and format (e.g. Computer-Aided Design Data, Electronic Data Exchange)

Supporting: CAD

EDI

#### 7.3 Design and Development

#### 7.3.1 Design and Development Planning

The organization plans and controls the design and development of product and manufacturing process and focus on error prevention rather than detection. During the design and development planning, the organization determines the:

- design and development of our own product/process or customer product;
- review, verification and validation that are appropriate to each design and development stage;
- responsibilities and authorities for design and development.

The organization manages the interfaces between different groups involved in design and development to ensure effective communication and clear assignment of responsibility. Planning output is updated, as appropriate, as the design and development progresses.

Supporting Documentation: QP 4.4-33 Product Realization

ISIR Test Data

Manufacturing Review

#### 7.3.1.1 Multidisciplinary Approach

The organization uses the multidisciplinary approach to prepare for product realization for development/finalization and monitoring of special characteristics, development and review of FMEAs including actions to reduce potential risks and development and review of control plan with multiple area of expertise within the organization.

Supporting Documentation: Control Plans

FMEA's

Process Flow Charts CAD Systems Project Spec Sheet Manufacturing Review

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#### 7.3.2 Design and Development Inputs

Inputs relating to product requirements are determined and records maintained. These inputs include:

- functional and performance requirements;
- applicable statutory and regulatory requirements;
- where applicable, information derived from previous similar designs;
- other requirements essential for design and development.

These inputs are reviewed for adequacy. Requirements are complete, certain and not in conflict with each other.

Supporting Documentation: Product Realization

DFMEA ET Specs Project Specs

#### 7.3.2.1 Product Design Input

The organization identifies documents and reviews the product design input requirements for customer requirements, special characteristics, identification, traceability and packaging.

The information gained from previous design projects, competitor analysis, supplier feedback, internal input, and field data for future and similar projects are deployed throughout the organization.

Targets are established for quality, life, reliability, durability, maintainability, timing and cost throughout the project.

#### 7.3.2.2 Manufacturing Process Design Input

The organization identifies, documents and reviews the manufacturing process design input requirements for product design output data, targets for productivity, process capability and cost, customer requirements and experiences from previous developments, if any exist.

#### 7.3.2.3 Special Characteristics

The organization identifies special characteristics for product and process on the control plan documents. They comply with customer specified definitions and symbols, drawings, FMEA's, control plans and special instructions. The special characteristics symbol used throughout the organization is equivalent to the customer's use of the symbol.

Supporting Documentation: Customer APQP Requirements

PPAP FMEA's

QP 4.20-2 Supplier Quality Requirement QP 4.20-3 TriMark Quality Requirement

**Product Realization** 

ESD-004 Control Characteristics

Project Spec Process Plans

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#### 7.3.3 Design and Development Outputs

The outputs of design and development are provided in a form that enables verification against the design and development input and are approved prior to release. Design and development outputs will:

- meet the input requirements for design and development;
- provide appropriate information for purchasing, production and for service provision;
- contain or reference product acceptance criteria;
- specify the characteristics of the product that are essential for its safe and proper use.

Supporting Documentation: Product Realization Spreadsheet Project Spec.

# 7.3.3.1 Product Design Output-Supplemental

Also included is DFMEA, reliability results, product special characteristics, specification, product error proofing (as appropriate), product definition including drawings or mathematically based data, product design review results and diagnostic guidelines, where applicable.

#### 7.3.3.2 Manufacturing Process Design Outputs

The manufacturing process design output is verified against the manufacturing process input requirements and validated. These outputs include specifications and drawings, manufacturing process flowcharts/layouts, PFMEAs, control plans, work instructions, process approval acceptance criteria, data for quality, reliability, maintainability and measurability, results of error-proofing activities (as appropriate), and methods of rapid detection and feedback of production/manufacturing process nonconformities.

Supporting Documentation: QP 4.4-33 Product Realization

MRB Database
FMEA's
Control Plans
Process Flow Charts
Manufacturing Reviews
Pilot Runs

# 7.3.4 Design and Development Review

At suitable stages, systematic reviews of design and development are conducted to:

- evaluate the ability of the results of design and development to fulfill requirements;
- identify any problems and propose necessary actions to eliminate problems.

Participants in such reviews include representatives of functions concerned with the design and development stage(s) being reviewed. Records of the results of the reviews and any necessary actions are maintained.

Supporting Documentation: QP 4.4-33 Product Realization

Customer Specs Design Reviews

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#### 7.3.4.1 Monitoring

Measurements at specified stages of design and development are defined, analyzed and reported with summary results in management review. The measurements include but are not limited to quality risk, costs, lead-times and critical paths.

Supporting Documentation: QP 4.4-33 Product Realization

Management Review

Project Master List for Rump Steering Committee

Schedule

#### 7.3.5 Design and Development Verification

Verification is performed to ensure that the design and development outputs have satisfied the design and development inputs required. Records of the results of the verification and any necessary actions are maintained.

Supporting Documentation: QP 4.4-33 Product Realization

Project Spec Assembly Spec

DVP&R DFMEA

#### 7.3.6 Design and Development Validation

Design and development validation is performed in accordance with planned arrangements to ensure that the resulting product is capable of fulfilling the requirements for the specified application or intended use, where known. Wherever practicable, validation is completed prior to the delivery or implementation of the product. Records of the results of validation and any necessary actions will be maintained.

Supporting Documentation: QP 4.4-33 Product Realization

PPAP

**Project Spec** 

#### 7.3.6.1 Design and Development Validation-Supplemental

Design and development validation is performed per comparison on customer requirements/internal requirements, lessons learned from documented failures and corrective action plans, and program timing.

Supporting Documentation: Schedule

DFMEA PPAP DVP&R

#### 7.3.6.2 Prototype Program

The organization has a prototype program and control plan when required by the customer and uses the same suppliers, tooling and manufacturing processes as used in product when appropriate. The performance testing activities are monitored for timely completion and conformity to customer requirements. When outsourced, the organization is responsible for the outsourced services and technical leadership.

Supporting Documentation: Test Reg.

Schedule Prints

**Product Realization Sheet** 

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#### 7.3.6.3 Product Approval Process

The organization conforms to a product and manufacturing process approval procedure that is recognized by the customer. The product approval is subsequent to the verification of the manufacturing process and is applied to the supplier.

Supporting Documentation: Customer's PPAP Requirements

QP 4.20-2 Supplier Quality Requirement

## 7.3.7 Control of Design and Development Changes

Design and development changes are identified and records maintained. The changes are reviewed, verified and validated, as appropriate, and approved before implementation. The reviews of design and development changes include evaluation of the effect of the changes on constituent parts and delivered product. Records of the results of the review of changes and any necessary actions are maintained.

Supporting Documentation: QP 4.4.9 Engineering Change Orders

Assembly Spec Revision Control

#### 7.4 Purchasing

#### 7.4.1 Purchasing Process

The organization ensures that purchased product conforms to specified purchase requirements. The type and extent of control applied to the supplier and the purchased product is dependent upon the effect of the purchased product on subsequent product realization or the final product.

The organization evaluates and selects suppliers based on their ability to supply product in accordance with the organizations requirements. Criteria for selection, evaluation and reevaluation are established. Records of the results of evaluations and any necessary actions arising from the evaluation are maintained.

Supporting Documentation: QP 4.20-2 Supplier Quality Requirement

Supplier Handbook Supplier Rating

#### 7.4.1.1 Regulatory Conformity

The organization assures that all purchased product or materials used in product conforms to applicable regulatory requirements.

# 7.4.1.2 Supplier Quality Management System Development

The organization performs supplier quality management system development. The goal of this program is supplier conformity with ISO 9001:2000 with the TS 16949:2002 emphasis. Suppliers shall be third party registered to ISO 9001:2000 unless otherwise stated by the customer.

#### 7.4.1.3 Customer-Approved Sources

The organization shall use customer approved sources for purchased product, material or services, tool/gauge suppliers where specified by contract, customer drawings, specifications, etc. The organization is not relieved of responsibility for ensuring quality of purchase products when using customer approved sources.

Supporting Documentation: QP 4.20-2 Supplier Quality Requirement

Supplier Matrix

Procure Policy PP-002 Control of Purchased Parts

**Control Plans** 

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#### 7.4.2 Purchasing Information

Purchasing information describes the product to be purchased, including, where appropriate:

- requirements for approval of product, procedures, processes and equipment;
- requirements for qualification of personnel;
- quality management system requirements.

The organization ensures the adequacy of specified purchase requirements prior to their communication to the supplier.

#### 7.4.3 Verification of Purchased Product

The organization establishes and implements the inspection or other activities necessary for ensuring that purchased product meets specified purchase requirements.

#### 7.4.3.1 Incoming Product Quality

The organization has multiple processes to assure quality of purchased product utilizing receipt of, and evaluation of, statistical data by the organization. Receiving inspection and/or testing of sampling based on performance and/or methods agreed with customer.

#### 7.4.3.2 Supplier Monitoring

Supplier performance is monitored through delivery product quality, customer disruptions including field returns; delivery schedule performance (including incidents of premium freight) and special status customer notifications related to quality and delivery issues. The organization also promotes supplier monitoring of the performance of their manufacturing processes.

Supporting Documentation: QP 4.10-1 Inspection Materials Received

QP 4.6-1 Audits of Subcontractors and Suppliers

**Control Plans** 

Supplier Quality Audits Supplier Performance

## 7.5 Production and Service Provisions

#### 7.5.1 Control of Production and Service Provisions

The organization has a plan to carry out production and service provisions under controlled conditions for the:

- availability of information that describes the characteristics of the product;
- availability of work instructions;
- use of suitable equipment;
- · use of monitoring and measuring devices;
- · implementation of monitoring and measurement activities;
- implementation of product release, delivery and post-delivery activities.

Supporting Documentation: WI 167-08 First Piece & In-Process Quality Checks

WI 167-02 Set Up & Tear Down for All Machine Centers

WI 167-01 Machining Jobs

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#### 7.5.1.1 Control Plan

The organization has control plans at the system, sub-system and component level for the product supplied and control plan for the pre-launch and production that take into account the DFMEA and PFMEA outputs.

Supporting Documentation: DFMEA

PFMEA Control Plan Process Plans

#### 7.5.1.2 Work Instructions

The organization has documented work instructions at point of use for all employees having responsibility for the operation of processes that impact product quality. The work instructions are derived from the quality plan, control plans and the product realization process.

Supporting Documentation: QP 4.9-11 Process APQP Procedure

Work and Special Instructions

**Control Plans** 

#### 7.5.1.3 Verification of Job Set-Ups

Work instructions are available for job set-up personnel. Job set-ups are verified for initial run of job, material changeover and job change.

Supporting Documentation: Set-Up Sheets

Special Instructions Work Instructions

#### 7.5.1.4 Preventive and Predictive Maintenance

The organization has identified key process equipment and provided resources for machine/equipment maintenance with an effective plan of preventive maintenance system. The system includes planned maintenance activities, packaging and preservation of equipment, tooling and gauging, availability of replacement parts for key manufacturing equipment, documenting, evaluating and improving maintenance objectives and utilizing predictive maintenance methods to continually improve the effectiveness and the efficiency of production equipment.

Supporting: Tooling Database

Job Boss Database

AS 400

Preventative Maintenance Program

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#### 7.5.1.5 Management of Production Tooling

The organization provides resources for tool and gauge design, fabrication and verification activities. It also has established and implemented a system for production tooling management for maintenance and repair facilities and personnel, storage and recovery, set-up, tool change program for perishable tools, tool design and modification documentation, including engineering change level, and revision to documentation, tool identification which defines the status, such as production, repair and disposal. The organization has implemented a system to monitor these activities if any work is outsourced.

Supporting: Tooling Database

Preventative Maintenance Program

Job Boss Database JD Edwards

**ECN/ECO Process** 

#### 7.5.1.6 Production Scheduling

Production is scheduled in order to meet customer requirements with JD Edwards System. It supports just-in-time which permits access to production information at key stages of the process.

Supporting: JD Edwards

#### 7.5.1.7 Feedback of Information from Service

The organization has established a system for communication on service concerns to manufacturing engineering and design activities for non-conformities external to the organization.

Supporting: CAR Database MRB Database

#### 7.5.1.8 Service Agreement with Customer

Non-applicable, we do not have service agreements with our customers.

#### 7.5.2 Validation of Processes for Production and Service Provision

The organization validates processes for production provisions where the resulting output cannot be verified by subsequent monitoring or measurement. This includes any processes where deficiencies become apparent after the product is in use or has been delivered. Validation demonstrates the ability of these processes to achieve planned results. As applicable, the organization establishes arrangements for these processes including:

- defined criteria for review and approval of the processes;
- approval of equipment and qualification of personnel;
- use of specific methods and procedures;
- requirements for records;
- revalidation.

# **7.5.2.1 Validation of Processes for Production and Service Provision-Supplemental** Validation applies to process for production and service.

Supporting Documentation: QP 4.4-1 Tool Try-Out

Pilot Run

QP 4.9-11 Process APQP Procedure

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#### 7.5.3 Identification and Traceability

The organization identifies the product by suitable means throughout product realization. The organization identifies the product status with respect to monitoring and measurement requirements. Where traceability is a requirement, the organization controls and records the unique identification of the product.

Supporting Documentation: QP 4.8-1 Product Traceability

#### 7.5.3.1 Identification and Traceability-Supplemental

The organization identifies the product by suitable means throughout product realization. The organization identifies the product status with respect to monitoring and measurement requirements. The organization controls and records the unique identification of the product.

Supporting Documentation: QP 4.8-1 Product Traceability

#### 7.5.4 Customer Property

The organization exercises care with customer property while it is under the organization's control or being used by the organization. The organization identifies, verifies, protects and safeguards customer property provided for use or incorporation into the product. If any customer property is lost, damaged or otherwise found to be unsuitable for use, it's reported to the customer and records maintained. Customer property is treated the same as all product throughout the TriMark system with the exception that Customer Service Representatives will notify the customer of any problem and if customer has specific requirements as per the Project Specification.

Supporting Documentation: JD Edwards

Tooling Database MRB Database

**Customer Quality Requirements** 

**Project Specification** 

#### 7.5.4.1 Customer-Owned Production Tooling

Customer-owned tools, manufacturing, test and equipment are permanently marked so that the ownership of each item is visible and can be determined.

Supporting Documentation: Tooling Database

**Customer Quality Requirements** 

**Project Specification** 

JD Edwards

#### 7.5.5 Preservation of Product

The organization preserves the conformity of product during internal processing and delivery to the intended destination. This preservation includes identification, handling, packaging, storage and protection. Preservation also applies to the constituent parts of a product.

Supporting Documentation: ISO Procedure Manual, Section 4.15 Handling, Storage,

Packaging, Preservation & Delivery

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#### 7.5.5.1 Storage and Inventory

Product in inventory is assessed at planned intervals to detect deterioration. FIFO is used to manage inventory and obsolete inventory is controlled the same as non-conforming product.

Supporting Documentation: WI 101-01 Obsolescence

Cycle Counts

# 7.6 Control of Monitoring and Measuring Devices

The organization determines the monitoring and measurement to be undertaken and the monitoring and measuring devices needed to provide evidence of conformity of product to determined requirements. The organization establishes processes to ensure that monitoring and measurement can be carried out and is carried out in a manner that is consistent with the monitoring and measurement requirements.

Where necessary to ensure valid results measuring equipment is:

- calibrated or verified at specified intervals, or prior to use, against measurement standards traceable
  to international or national measurement standards; where no such standards exist, the basis used
  for calibration or verification shall be recorded;
- · adjusted or re-adjusted as necessary;
- · identified to enable the calibration status to be determined;
- safeguarded from adjustments that would invalidate the measurement result;
- protected from damage and deterioration during handling, maintenance and storage.

In addition, the organization assesses and records the validity of the previous measuring results when the equipment is found not to conform to requirements. The organization takes appropriate action on the equipment and any product affected. Records of the results of calibration and verification are maintained.

When used in the monitoring and measurement of specified requirements, the ability of computer software to satisfy the intended application is confirmed. This is undertaken prior to initial use and reconfirmed as necessary.

# Supporting Documentation: ISO Procedure Manual, Section 4.11 Inspection, Measuring & Test Equipment

#### 7.6.1 Measurement Systems Analysis

Statistical studies are conducted to analyze the variation present in the results of each type of measuring and test equipment according to customer reference manuals and/or other analytical methods and acceptance criteria approved by the customer.

#### 7.6.2 Calibration/Verification Records

Records of calibration/verification activities for all gauges, measuring and test equipment are maintained to provide evidence of conformity of product to determined requirements. These records include employee and customer owned tools, equipment identification with the measurement standard against equipment, revisions following engineering changes, out of spec readings, an assessment of the impact of out of spec conditions, statement of conformity and notification to customer if suspect product or material has been shipped.

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#### 7.6.3 Laboratory Requirements

#### 7.6.3.1 Internal Laboratory Requirements

TriMark's internal laboratory has a defined scope that includes its capability to perform required inspection, test and calibration. The scope has technical requirements such as adequacy of procedures, competency of personnel testing product traceable to standards and has records of review.

Supporting Documentation: WI 187-05 In-House Calibration of Gauging

WI 187-06 Gauging Calibrated by an Outside Source

WI 187-25 Calibration Programs

#### 7.6.3.2 External Laboratory Requirements

External laboratories used by TriMark are certified to A2LA rating, ISO/IEC 17025.

# 8.0 Measurement, Analysis and Improvement

#### 8.1 General

The organization plans and implements the monitoring, measurement, analysis and improvement processes needed to:

- demonstrate conformity of the product;
- ensure conformity of the quality management system;
- continually improve the effectiveness of the quality management system.

This includes determination of applicable methods, including statistical techniques, and the extent of their use.

Supporting Documentation: QP 4.20-3 TriMark Quality Requirement

#### 8.1.1 Identification of Statistical Tools

The organization determines the appropriate statistical tools for each process during advance quality planning and are included in the control plans.

#### 8.1.2 Knowledge of Basic Statistical Concepts

Basic statistical concepts are understood and utilized throughout the organization.

#### 8.2 Monitoring and Measurement

#### 8.2.1 Customer Satisfaction

As one of the measurements of the performance of the quality management system, the organization monitors information relating to customer perception as to whether the organization has fulfilled customer requirements. The methods for obtaining and using this information are determined.

Supporting Documentation: RGAs

**CARs** 

MRB Entries Customer Surveys

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#### 8.2.1.1 Customer Satisfaction-Supplemental

The organization monitors the performance of customer satisfaction through continual evaluation of performance of the realization processes. Performance is based on objective data including but not limited to, manufacturing processes, delivered part quality, customer's disruption including field returns, delivery and incident of premium freight, customer notification related to quality and delivery issues.

Supporting Documentation: Customer Monthly Performance Reports

Internal Delivery Reports
CAR Database Reports
Vico Logistic Reports
Customer Surveys

#### 8.2.2 Internal Audit

The organization conducts internal audits at planned intervals to determine whether the quality management system:

- conforms to the planned arrangements (see 7.1), to the requirements of this international standard and to the quality management system requirements established by the organization,
- is effectively implemented and maintained.

An audit program is planned, taking into consideration the status and importance of the processes and areas to be audited, as well as the results of previous audits. The audit criteria, scope, frequency and methods are defined. Selection of auditors and conduct of audits ensure objectivity and impartiality of the audit process. Auditors do not audit their own work. The responsibilities and requirements for planning and conducting audits and for reporting results and maintaining records is defined in a documented procedure.

The management responsible for the area being audited ensures that actions are taken without undue delay to eliminate detected nonconformities and their causes. Follow-up activities include the verification of the actions taken and the reporting of verification results.

Supporting Documentation: QP 4.17-1 Internal Quality Systems Audits

#### 8.2.2.1 Quality Management Systems Audit

The organization performs audits of the quality management system to verify compliance with ISO/TS 16949:2002.

Supporting Documentation: QP 4.17-1 Internal Quality Systems Audits

#### 8.2.2.2 Manufacturing Process Audit

The organization audits each manufacturing process to determine it's effectiveness.

Supporting Documentation: QP 4.17-2 Manufacturing Process Audit Procedure

# 8.2.2.3 Product Audit

The organization performance product audits at appropriate stages of production and delivery to verify conformity to specified requirements at defined frequencies, such as product dimensions, functionality and packaging, and labeling.

Supporting Documentation: WI 179-01 Work Flow in Assembly

WI 179-09 Inspection

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#### 8.2.2.4 Internal Audit Plans

Internal audits cover all quality management related to processes, activities and shifts and are scheduled annually. In the event of a customer complaint and/or internal/external nonconformance, the audit frequency is appropriately increased.

Supporting Documentation: QP 4.17-1 Internal Quality Systems Audits

#### 8.2.2.5 Internal Auditor Qualification

The organization has an audit program that assures internal auditors are qualified to audit the ISO/TS 16949:2002.

Supporting Documentation: QP 4.17-1 Internal Quality Systems Audits

#### 8.2.3 Monitoring and Measurement of Processes

The organization applies suitable methods for monitoring and, where applicable, measurement of the quality management system processes. These methods demonstrate the ability of the processes to achieve planned results. When planned results are not achieved, correction and corrective action is taken, as appropriate, to ensure conformity of the product or process.

Supporting Documentation: Rework Expense Graphs

Scrap Expense Graphs
Quality Management Review

#### 8.2.3.1 Monitoring and Measurement of Manufacturing Process

The organization performs process studies on all new manufacturing, assembly or sequencing processes to verify process capability and to provide additional input for process control. The results of process studies are documented with specifications, where applicable, for means of production, measurement and test, and maintenance instructions. These documents include objectives for manufacturing process capability, reliability, maintainability, availability and acceptance criteria.

The organization maintains manufacturing process performance as specified by the customer part approval requirements. The organization ensures that the control plans and process flow diagrams are implemented, including adherence to the specified measurement techniques, sampling plans, acceptance criteria and reaction plans when acceptance criteria is not met. Significant tool changes or machine repairs are recorded. Corrective action plans will be submitted and records maintained with dates and process changes.

Supporting Documentation: PFMEA

Control Plans Process Plans

APQP

**QP 4.9-11 Process APQP Procedure** 

Windchill

**Tooling Database** 

WI 160-05 Tooling for DieCast WI 184-03 Maintenance Projects

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#### 8.2.4 Monitoring and Measurement of Product

The organization monitors and measures the characteristics of the product requirements making sure they are met. This is carried out at appropriate stages of the product realization process in accordance with the planned arrangements (see 7.1).

Evidence of conformity with the acceptance criteria is maintained. Records indicate the person(s) authorizing release of product (see 4.2.4).

Product release and service delivery does not proceed until the planned arrangements have been satisfactorily completed unless otherwise approved by a relevant authority and, where applicable, by the customer.

## 8.2.4.1 Layout Inspection and Functional Testing

Layout inspection of measurement of all product dimensions shown on the design records and functional verification to customer engineering material and performance standards are performed for each product as specified on the control plan. Results are available for customer review.

#### 8.2.4.2 Appearance Items

The organization provides appropriate resources including lighting for evaluation, master of color, grain, gloss, metallic brilliance, texture, distinctness of image as appropriate. The organization also provides maintenance and control of appearance masters and evaluation equipment, and verification that personnel making appearance evaluations are competent and qualified to do so.

Supporting Documentation: QP 4.10-1 Inspection Materials Received

QP 4.10-2 1st Article Inspection & Capability Studies

QP 4.20-2 Supplier Quality Requirement

Work Instructions Special Instructions

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## 8.3 Control of Nonconforming Product

The organization ensures that product which does not conform to product requirements is identified and controlled to prevent its unintended use or delivery. The controls and related responsibilities and authorities for dealing with nonconforming products are defined.

The organization will deal with nonconforming product by one or more of the following ways:

- by taking action to eliminate the detected nonconformity;
- by authorizing its use, release or acceptance under concession by a relevant authority and, where applicable, by the customer;
- by taking action to preclude its original intended use or application.

Records of the nature of nonconformities and any subsequent actions taken, including concessions obtained, are maintained.

When nonconforming product is corrected, it is subject to re-verification to demonstrate conformity to the requirements.

When nonconforming product is detected after delivery or use has started, the organization takes action appropriate to the effects, or potential effects, of the nonconformity.

Supporting Documentation: QP 4.13-6 Parts in Hold Area

ISO Procedure Manual, Section 4.13 Control of Nonconforming

**Product** 

#### 8.3.1 Control of Nonconforming Product-Supplemental

Product with unidentified or suspect status is classified as nonconforming product.

#### 8.3.2 Control of Reworked Product

Instructions for rework, including re-inspection requirements, are accessible and utilized by the appropriate personnel.

#### 8.3.3 Customer Information

Customers are promptly informed in the event that nonconforming product has been shipped.

#### 8.3.4 Customer Waiver

The organization notifies and obtains customer concession or deviation prior to further processing of product or manufacturing process that is different than currently approved. The organization maintains record of expiration date or quantity authorized and ensures compliance with original or superseding specifications and requirements when the authorization expires. Material shipped on an authorization is properly identified on each shipping container (this applies to purchased product also).

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#### 8.4 Analysis of Data

The organization will determine, collect and analyze appropriate data to demonstrate the suitability and effectiveness of the quality management system and to evaluate where continual improvement of the quality management system can be made. This includes data generated as a result of monitoring and measurement and from other relevant sources. These results can be found in the form of graphs and meeting minutes. These graphs are found on the communications board in the production area and on the computer system in the EOM report.

The analysis of data provides information relating to:

- on-time delivery performance;
- scrap, rework and sorting expense;
- RGA, CAR, field report and supplier deviation trends.

Supporting Documentation: ISO Procedure Manual, Sections:

4.13 Control of Nonconforming Product 4.14 Corrective and Preventive Action

4.17 Internal Quality Audits

#### 8.4.1 Analysis and Use of Data

Trends in Quality and the operational performance are compared with progress towards the objectives and lead to action to support the development of priorities for prompt solutions to customer related problems, determination of key customer related trends and correlation for status review, decision making for long term planning and an information system for timely reporting of product information arising from usage. This information is compared with those of competitors and/or appropriate benchmarks.

#### 8.5 Improvement

#### 8.5.1 Continual Improvement

The organization continually improves the effectiveness of the quality management system through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions, management reviews and continual improvement (CI).

#### 8.5.1.1 Continual Improvement of the Organization

The organization has a process/program for continual improvement.

#### 8.5.1.2 Manufacturing Process Improvement

The manufacturing process improvement continually focuses on control and reduction of variation in product characteristics and manufacturing parameters.

Supporting Documentation: CI Programs

Lean Manufacturing

**Employee Suggestion Program** 

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#### 8.5.2 Corrective Action

The organization takes action to eliminate the cause of nonconformities in order to prevent recurrence. Corrective actions are appropriate to the effects of the nonconformities encountered. Corrective Action procedure, QP 4.14-1 & QP 4.13-3 define requirements for:

- reviewing nonconformities (including customer complaints);
- · determining the causes of nonconformities;
- evaluating the need for action to ensure that nonconformities do not recur;
- determining and implementing action needed;
- records of the results of action taken (see 4.2.4);
- reviewing corrective action taken.

Supporting Documentation: QP 4.14-1 Corrective Action QP 4-13-3 MRB Procedure

#### 8.5.2.1 Problem Solving

The organization has a process for problem solving leading to root cause identification and elimination. Where a customer format exists, the organization uses the customer's format.

#### 8.5.2.2 Error-Proofing

The organization uses error-proofing methods in their corrective action process.

# 8.5.2.3 Corrective Action Impact

The organization applies its corrective action and control implemented to similar process and products to eliminate cause of nonconformity.

#### 8.5.2.4 Rejected Product Test/Analysis

The organization analyzes parts rejected by the customer's manufacturing facilities, engineering facilities and dealerships. The organization minimizes the cycle time of this process and records are both maintained and made available upon request. The organization performs analysis of rejected product and initiates corrective action to prevent recurrence. The organization monitors the effectiveness of implementation.

Supporting Documentation: QP 4.14-1 Corrective Action QP 4.13-3 MRB Procedure

#### 8.5.3 Preventive Action

The organization will determine action to eliminate the cause of potential nonconformities in order to prevent their occurrence. Preventive actions are appropriate to the effects of the potential problems. Preventive Action procedure, QP# 4.14-2, defines requirements for:

- determining potential nonconformities and their causes:
- evaluating the need for action to prevent occurrence of nonconformities;
- determining and implementing action needed;
- · records of results of action taken;
- reviewing preventive action taken.

Supporting Documentation: QP 4.14-2 Preventive Action

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# **REVISION RECORD**

REVISION	DATE REVISED	CHANGE DESCRIPTION				
1.0	02-28-03	Implemented new policy manual to meet ISO 9001:2000				
		requirements.				
2.0	06-13-03	Changes to organizational chart.				
3.0	09-26-03	Changes to organizational chart and changes to section 7.5.4.				
4.0	01-06-04	Changes to Mission statement on approval page and section 5.3				
		and changes to organizational chart.				
5	04-02-04	Added Therin Rentschler and Kendra Knowlton as Black Belts to Org Chart.				
6	09-10-04	Removed Jeff Dolezal and Ken Chesney from signature page (#4)				
0	09-10-04	and from org chart (page 9); made the following additional changes				
		to the org chart: moved Ann Flatjord to Cust Serv Rep; added				
		Steph Wiltse to Shipping/Rec Clerk; added Shailesh Joshi,				
		Warehouse Manager to TMEu section.				
7	1-22-05	Changed Gloria Carr's name to Justin Elliott for document control				
	00	manual holder.				
8	3-23-05	Replaced all occurrences of "Top Management" with "Senior				
		Management of the Facility. Replaced all occurrences of "Good				
		News" with "Multi Media and Other Forms of Communication." In				
		the first sentence took out the word "of" and replaced it with "or." In				
		7.5.4 added an 's to the word organizations. Replaced all				
		occurrences of "CPI" and replaced it with "CI." Then replaced the				
		Org Chart rev. 20 and replaced it with the Org Chart rev. 21.				
9	6-9-05	8.5.2 Added Supporting documentation				
10	1-6-06	7.5.4 changed NMAR System to MRB Database. 8.2.1 changed				
		NMARs to MRB Entries. 8.5.2 changed NMAR to MRB.				
11	5-10-6	New QMS interaction flowchart, updates to the previous interaction				
		flowchart. Also, updates to the org chart.				
12	9-5-06	Sections 7.5.1 & 7.5.2 updated				
13	9-15-06	Updated the Scope and section 6.2.2				
14	1-2-07	Deleted Mark Bouman's name from the ownership and realigned				
		the org chart in Mark's absence.				
15	3-24-07	Deleted the distribution list and deleted the text referring to hard				
		copy approvals below the electronic approvals.				
16	10-16-07	Change to organizational chart.				
17	11-17-08	Implementation of TS.				

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