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QM 1.0, Quality Manual American Precision Products:

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Preface

The American Precision Products (APP) Quality Manual has been prepared and published at my direction. The Quality Management System described herein has my full endorsement, support and approval.

The objectives of this Manual are to describe the scope of APP's Quality Management System, to achieve compliance with the AS9100 Rev D requirements, and to promote customer satisfaction through continual process improvement.

To that end this manual and quality system are intended to be ruled by **common sense**. Every effort has been made to allow for efficient and practical implementation of this system. Activities of our company must be controlled, documented and improved. When these activities are self evident (self documenting, self reporting, self archiving), and available to all appropriate employees, that evidence will be considered as fulfilling the requirements of this system.

Our Quality System must add value. When Quality interferes with the objectives of controlling, documenting and improving the system the Quality System must adjust. This system endeavors to be fluid and dynamic, able to adjust quickly to the best practices we implement. It is our responsibility to suggest and initiate improvements to this system removing barriers to quality and innovation.

To that end this document and all supporting documents are in an electronic database format that allows easy editing and updating.

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Mark Bannister
COO

Introduction

American Precision Products (APP) is a custom injection molding firm located in Huntsville, Alabama. APP is incorporated under the name Number, Inc. and does business as American Precision Products. APP is a privately held firm and is a small, women owned business.

APP has been in business since 1973 molding thermoplastics, thermoplastic elastomers and thermoset materials, including glass-filled and engineering grades. APP is experienced in both short and long molding runs for commercial and government applications. APP specializes in the manufacture and assembly of precision plastic products. For more information see https://www.injection-moldings.com/.

This Quality Manual (QM) defines the Quality Management System (QMS) upon which APP conducts its business activities and methods. This QM sets forth the quality policy and objectives and describes how APP's Quality System functions to provide customers with the highest quality products and service.

APP remains dedicated to continuing its excellent reputation for quality performance and customer satisfaction. APP management has chosen to establish a quality management system compliant with and registered to the internationally recognized standard AS9100 Rev D its quality principals.

APP management is committed to communicating the system at all levels of our organization, supporting and providing the resources to keep it effective and continually improving.

Planning

External and internal issues relevant to the QMS and its purpose are monitored and examined periodically in Management Review (see: External and Internal QMS Issues APP5200743).

APP identifies the needs and expectations of Interested Parties relevant to the QMS, (see: QMS Interested Parties, APP0936368. Needs and expectations are periodically reviewed in Management Review.

Scope

"***The manufacture of precision, plastic products and assemblies.***"

APP manufactures precision, plastic products and assemblies to meet demanding requirements in areas such as aerospace, military and other controlled markets taking into account external and internal issues and relevant interested parties. Products supplied by APP are

made to the customer's order and specifications and regulatory requirements can be specific to the product made.

APP does not perform product design and portions of section 8.3 are not applicable on a case by case basis. QSP-73-01 Process Design and Development details the process design process.

Processes

Processes are established to implement the QMS. The quality system processes are defined in QSP-41-01, APP Quality Plan and supporting documents.

APP has established, documented, implemented, maintains and continually improves a Quality Management System in accordance with the requirements of AS9100D To implement this system, APP:

- determines the processes needed for the quality management system and its application;
- determines the sequence and interaction of these processes;
- determines the criteria and methods required to ensure the effective operation and control of these processes;
- ensures availability of resources and information necessary to support the operation and monitoring of these processes;
- monitors, measures where applicable, and analyzes these processes; and
- implements actions necessary to achieve planned results and continual improvement.

Quality Manual

The Quality System, as documented and implemented in accordance with QSP-42-01, Quality System Documentation , is intended to comply fully with the requirements of AS9100D, as applicable to APP's operations. The content of this QM and of supporting documents is applicable to all employees, and will be observed and implemented by all personnel as applicable to their activities. No deviation is permitted without the express knowledge and permission of the Management Representative.

This QM defines policies and objectives regarding the application of the principles of controlled quality to ensure that all products and services rendered are of the required quality and comply fully with customer-stated requirements and expectations.

The QM serves the following purposes:

- Documents and demonstrates commitment to quality by APP Management to all staff, employees and customers.
- Details the operation of the Quality System in all phases and areas.
- Defines the responsibilities of personnel concerned with the operation and monitoring of the Quality System.
- Acts as a source of reference for Quality System Procedures established in its aim to achieve and maintain the quality of its products and services.
- Provides customers with a basis for confidence in capability to produce and provide quality products and services.
- Allows APP to conduct internal quality audits and so ensures continued compliance of the quality management system and provides an opportunity for customers or interested agencies to appraise or audit the Quality System.
- Assists in the training and education of staff in matters relating to quality.

Leadership

APP's COO has conferred upon personnel the authority, the resources, and the mandate to implement, maintain and continually improve this Quality Management System (QMS).

Management Reviews are conducted to monitor and maintain the QMS.

Customer Focus

The COO is the source of APP's commitment to quality performance and customer focus by determining and providing, in a timely manner, those resources and facilities, both specific to the product and necessary to implement and improve the quality management system processes and address customer satisfaction.

APP's commitment to quality performance stems from the understanding by each employee that defect prevention, customer satisfaction, conformance to customer, regulatory statutory requirements and continuous improvement are essential in today's competitive business environment. Employees are required to know and understand the aspects of the QMS that pertain to their duties and to conform to those procedures and requirements within the QMS. The QMS should:

- demonstrate the ability to consistently provide products that meet customer and applicable statutory and regulatory requirements, and
- enhance customer satisfaction through effective application of the system, including processes for continual improvement of the system and assurance of conformity to customer and applicable statutory and regulatory requirements and prevention of nonconformity.

Delivery Performance, Product Conformity have designated yearly objectives as set by Management Review.

Top management shall ensure that **product conformity and on-time delivery performance are measured** and that appropriate action is taken if planned results are not, or will not be, achieved, see QSP-82-01, Customer Satisfaction.

Customer satisfaction is addressed in QSP-82-01, Customer Satisfaction, QSP-72-02, Managing Customer Complaints, QSP-82-03, Monitoring and Measurement of Processes

Quality Policy

American Precision Products Quality Policy

"In order to meet and exceed all requirements, American Precision Products commits to continuously improving ourselves and our processes."

The quality policy is communicated to all employees in order to instill the working methods of the QMS.

Organizational Roles, Responsibilities, and Authorities

Top management has designated the role of Management Representative with the authority to the following:

The Management Representative ensures that the quality management system conforms to the requirement of AS9100D, the processes are delivering their intended outputs, performance and opportunities for improvement are reported to management, promotion of customer focus and ensuring that the QMS is maintained while being improved.

The Management Representative is vested with full responsibility for the proper and timely implementation of the Quality System, together with the appropriate level of authority for ensuring its continuing effectiveness.

The Management Representative shall ensure that personnel have access to, and are aware of, relevant quality management system documentation and changes.

Control of this QM is maintained by the Management Representative; revisions are accomplished in accordance with documented procedures.

Top management of APP has appointed the COO as Management Representative

Functions and interrelations within APP, including responsibilities and authority, are defined and communicated by top management in order to facilitate effective quality management. Specific responsibilities are listed below:

- Employees have the authority and responsibility to prevent the occurrence of nonconformances related to products, services or the Quality Management System;
- Employees are responsible to stop (or cause to be stopped) any process which the acceptability or suitability of the product is known or suspected to be compromised;
- Employees are responsible to identify problems or potential problems related to the quality of products provided to our customers;
- Employees are responsible to initiate, recommend and/or provide solutions to problems or situations affecting product quality or the Quality Management System; and
- Employees have the responsibility and authority to control delivery of suspected nonconforming product until the deficiency or unsatisfactory condition has been corrected.

Planing

Planning ensures change within APP organization is conducted in a controlled manner and QMS integrity is maintained during any changes. System elements and processes are planned to ensure the system is appropriate for its intended purpose, and are effective and efficient and that risks (QSP-71-02 Risk Management) and opportunities are identified and addressed.

The planning methodology and guiding principles are detailed in QSP-41-02, Quality Planning Methodology.

The output of quality system planning is documented in this QM, associated operational procedures, and other referenced documents. These documents identify and define all elements and processes of the quality system.

APP top management ensures the resources needed to achieve Quality Objectives are identified and planned. The output of such planning is documented and includes, the processes of the QMS, the resources needed and continual improvement of the QMS.

Quality Objectives and Activities

The quality objectives are:

- Delivery Performance
- Quality Performance
- Customer Focus and Satisfaction
- Other objectives to meet the quality policy and requirements

Measurable quality objectives and activities are defined by management throughout the year that meet the quality policy, quality goals and product requirements. These objectives and activities can be initiated and implemented at all levels of the organization.

When requirements are not met, corrective actions are taken (QSP-85-02, Corrective Actions).

Quality Objectives define the direction and priorities for continual improvement. Use of quality objectives for facilitating continual improvement and change is explained in QSP-85-01, Continual Improvement.

Quality Objectives ensure that the quality goals are met. Management review establishes measurable objectives for the goals (see QSP-56-01, Performance of Management Reviews).

Support

Provision of Resources

APP determines and provides, in a timely manner, the resources needed:

- to implement and maintain the QMS and continually improve its effectiveness;
- to enhance customer satisfaction by meeting customer requirements.

The capabilities and limits of internal and external resources are considered.

Human Resources

Personnel performing work affecting conformity to product requirements are competent on the basis of appropriate education, training, skills and experience.

Refer to QSP-62-01, Quality System Training Program, for more information regarding the APP training program.

Infrastructure

APP identifies, provides and maintains the infrastructure needed to achieve conformity of product requirements. Refer to QSP-63-01, Infrastructure, Process Equipment and Software Validation and Maintenance Program

Work Environment

APP identifies and manages the human and physical factors of the work environment needed to achieve conformity to product requirements. Physical requirements are evaluated in QSP-63-01, Infrastructure, Environment and Process Equipment Maintenance Program.

The social and psycohological environmental factors are periodically reviewed in Management Reivew.

Resources are monitored and measured for suitability and effectiveness as required in QSP-56-01, Performance of Management Reviews.

APP determines and identifies monitoring and measurements to be undertaken and the measuring and monitoring equipment required to assure conformity of product to specified requirements as defined in QSP-76-01, Control of Monitoring and Measuring Devices.

Organization knowledge is captured, maintained and verified through the documentation systems QSP-42-01, Quality System Documentation, QSP-42-03, Control of Quality Records, Manager Software, Collaboration Software and other means.

Competence and Awareness

Employee competence and awareness training is defined in QSP-62-01, Quality System Training Program

Communication

Communicates the QMS and other business strategies to the appropriate personnel through the QMS documentation, meetings and other suitable formats.

Documentation

The QMS is documented in QSP-42-01, Quality System Documentation.

ITAR, proprietary, confidential information and other sensitive information is controlled by QSP-42-09, Technology Control Plan.

QSP-42-02, Control of Documents, defines the requirements and controls of documents.

QSP-42-03, Control of Quality Records, defines the controls needed for identification, storage, protection, retrieval, retention time and disposition of records.

Planning of Product Realization

APP plans and develops the processes needed for product realization. Planning of product realization is consistent with the other requirements of the QMS and is documented in a form suitable to the current methods of operation. Quality Planning is defined in QSP-41-01, APP Quality Plan and our planning methodology is detailed in QSP-41-02, Quality Planning Methodology.

Product realization is defined in QSP-72-01, Product Realization.

Control of Work transfers

The process to plan and control the temporary or permanent transfer of work (e.g., from one organization facility to another, from the organization to a supplier, from one supplier to another supplier) and to verify the conformity of the work to requirements is defined in

QSP-74-02, Purchasing and QSP-75-01, Process Control

Risk Management

APP implements and maintains a process for managing risk to the achievement of applicable requirements, that includes as appropriate to the organization and the product. Risk management is defined in QSP-71-02 Risk Management,

Configuration Management

Configuration Management is defined and controlled by QSP-72-03 Configuration Management in following ISO 100007 for guidance.

Product Safety

Product safety factors are considered in QSP-72-01, Product Realization and QSP-73-01 Process Design and Development.

Safety events are tracked as Corrective Actions QSP-85-02, Corrective Actions

Prevention of Counterfeit Parts

See addressed in QSP-74-02, Purchasing

Customer Communication

APP identifies and implements effective arrangements for communication with customers during all stages of product realization.

Refer to QSP-72-02, Managing Customer Complaints for information regarding the process for handling customer complaints see QSP-82-01, Customer Satisfaction

Customer property

See QSP-75-03, Control of Customer Property

Determination of Requirements Related to the Product

APP determines requirements related to products as defined in QSP-41-01, APP Quality Plan, QSP-72-01, Product Realization and supporting documents.

Review of Requirements related to the Product

APP reviews the requirements related to the product. This review shall be conducted prior to the organization's commitment to supply a product to the customer. This process is defined in QSP-41-01, APP Quality Plan and QSP-72-01, Product Realization.

Post Delivery

Post delivery activities are limited to issues with workmanship and delivery or customer and other identified requirements. Those activities imposed by contract would be addressed in QSP-41-01, APP Quality Plan. Nonconforming products are addressed in QSP-83-01, Control of Nonconforming Product.

Control of Production Process Changes

Personnel authorized to approve changes to production processes shall be identified. APP shall control and document changes affecting processes, production equipment, tools or software programs. The results of changes to production processes shall be assessed to confirm that the desired effect has been achieved without adverse effects to product conformity. See QSP-75-01, Process Control, QSP-72-03 Configuration Management and supporting documents.

Design and Development

APP does not engage in design activity but does become involved in Design Review and Design Inputs and Outputs on behalf of our customers. As such, when not otherwise contracted, design activity is controlled by QSP-73-01 Process Design and Development.

Purchasing

Purchasing is controlled by QSP-74-02, Purchasing. Suppliers are evaluated under QSP-74-01, Supplier Evaluation.

Production and Service Provisions

QSP-75-01, Process Control, provides an overview and description of the APP production related facilities and the associated activities within the company.

APP validates any processes for production and service provision where the resulting output cannot be verified by subsequent monitoring or

measurement according to QSP-75-01-100 Special Processes

Identification and Traceability

QSP-75-02, Product Identification and Traceability defines the system used by APP for product identification and traceability.

Preservation of Product

APP preserves the product with customer requirements during internal processing and delivery to the intended destination in order to maintain conformity to requirements, to include identification, handling, packaging, storage and protection of the product and constituent parts of the product as defined in QSP-75-05, Handling, Storage, Packaging, Preservation, and Delivery.

Changes are controlled by by QSP-72-03 Configuration Management and QSP-75-01, Process Control.

Release of Products

During appropriate stages of the realization process, APP measures and monitors the characteristics of the product to verify that requirements for the product are met in accordance with planned arrangements as defined in QSP-82-04, Inspection and Testing.

Evidence of conformity with the acceptance criteria is documented; these records indicate the authority responsible for release of product.

Product release and service delivery is not allowed to proceed until all the specified activities are satisfactorily completed, unless otherwise approved by a relevant authority, or otherwise approved by the customer.

Control of Nonconforming Product

APP ensures that product which does not conform to requirements is identified and controlled to prevent unintended use or delivery. QSP-83-01, Control of Nonconforming Product.

Check

Performance Evaluation

APP collects and analyzes appropriate data to determine the suitability and effectiveness of the QMS and to identify improvement opportunities, including data generated by measuring and monitoring activities and other relevant sources.

APP defines, plans and implements the monitoring, measurement, analysis and improvement activities needed:

- to demonstrate conformity to product requirements,
- to ensure conformity of the quality management system, and
- to continually improve the effectiveness of the quality management system.

APP applies suitable methods for measuring and monitoring of the QMS processes as defined in QSP-82-03, Monitoring and Measurement of Processes These methods confirm the continuing ability of each process to satisfy its intended purpose. If planned results are not achieved, correction and corrective action shall be taken, as appropriate.

See individual process QSP's for details on relevant measurements and analysis.

APP monitors information on customer satisfaction as one of the measurements of performance of the QMS. Methodologies for obtaining and using this information are determined and defined in QSP-82-01, Customer Satisfaction.

Internal Audit

APP conducts periodic internal audits as defined by QSP-82-02, Quality System Audit Program.

Management Review

The top management of APP reviews the Quality Management System at periodic intervals, to ensure its continuing suitability, adequacy and effectiveness implemented in QSP-56-01, Performance of Management Reviews. This review includes assessing opportunities for improvement and evaluates the need for changes to the QMS, including the quality policy and quality objectives. Management Review should ensure the quality goals are met.

Act and Adjust

Improvement

APP plans and manages the processes necessary for the continual improvement of the QMS and facilitates the continual improvement of the QMS through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management review.

QSP-85-01, Continual Improvement, defines the process for facilitating APP continual improvement activities.

Non-Conformity and Corrective Actions

APP takes corrective an preventative actions to eliminate the causes of non-conformities in order to prevent recurrence. Corrective action is appropriate to the impact of the problems encountered and is commiserate with the risk associated.

QSP-85-02, Corrective and Preventive Action, defines the requirements for corrective action.