AS 9100 QUALITY MANUAL

Aerotech Quality Policy

The 3x C's

"Aerotech is committed to satisfying customer requirements through delivering quality products on time and striving to continually improve."

- ✓ **Customer OTD Requirements**
- ✓ **Compliance to Quality Requirements**
- ✓ **Continuous Improvement**

Top Management Utilizes the Quality Policy as a framework for setting Quality Objectives

Quality Objectives

Order Processing
Goal: 30 days from RFQ to submission
Purchasing
Goal: Approved Suppliers OTD to be 98%
Goal: 95% acceptance rate
Operational Planning/Production
Goal: Less than 2 CAR's due to poor planning
Goal: OTD 99%
Goal: FPY 99%

Understanding the Organization and Context

Aerotech implements and manages the functions necessary to ensure that the processes are performed and comply with customer, government, statutory, and/or regulatory requirements. This includes Health & Safety and all applicable environmental laws and regulations. Aerotech has established a quality management system covering the requirements of AS 9100. This quality management system is implemented, maintained, and improved upon by Aerotech leadership and employees.

Organizational Knowledge

Aerotech Management determines the knowledge necessary for the operation of its processes and to achieve conformity of its products. The knowledge is bestowed by management through experienced example, training, work instructions, and industry standards. Organizational Knowledge is maintained by the appropriate individuals and is made available as necessary. When needs or trends change, Aerotech considers its current available knowledge, considers its possible limitations, and determines how to acquire additional necessary knowledge and required updates.

Scope

The established Scope of operations for Aerotech Machine Corporation is:

> **CNC Machining, Sheet Metal Cutting & Forming, and Finishing Operations for the Aerospace Industry and other Applications.**

The Scope, it's boundaries and applicability, is determined, documented, and maintained during the Management Review Meetings. Aerotech Machine Corp considers:

a. The external and internal issues referred to in 4.1
b. The requirements of relevant interested parties referred to in 4.2
c. The products/services of Aerotech

Prior to making the determination, and then documenting and maintaining its Scope within the record of the Meetings.

The AS 9100 Standard requirements which are excluded and therefore **not applicable** to the scope of our Quality Management System include:

Design and Development (section 8.3) & Post-Delivery Activities (section 8.5.5 a. – e.).

We produce products in accordance with customer provided information which can include drawings, blueprints, CATIA files, models, and other media. We do not hold design authority for the products we produce, nor do we offer "off-site" support.

Our Quality Management System covers all activities and processes performed on-site. Our home office facility/address is listed below:

Aerotech Machine Corp
2585 North Central Ave
Batesville, AR 72501

Control of Customer and External Provider Property

Aerotech accepts the responsibility for the prevention of damage, and for identification, maintenance, storage, preservation, handling, and correct use while the items are in Aerotech's possession. This applies to all component product, containers, raw materials, intellectual property, and equipment supplied by customers or any suppliers/vendors. The Management Representative is responsible for reporting to the customer or supplier/vendor if customer or supplier/vendor owned property or material is lost or damaged. Records of incident reports will be created and maintained, as necessary. This also applies to Government owned or supplied items.

Understanding the needs and expectations of interested parties

Aerotech has determined certain internal and external entities as interested parties relevant to the effective implementation of this Quality Management System.

Aerotech Form 4.2.1 External & Internal Interested Parties

Aerotech monitors and reviews information about these internal and external interested parties and the relevance of the impact of their requirements on the ability to provide conforming products and/or services. Records of government, customer, statutory, and/or regulatory information reviewed may be found in, but not be limited to: contract/order reviews, management reviews, customer communication(s), corrective actions, strategic business plan meetings, and risk analysis.

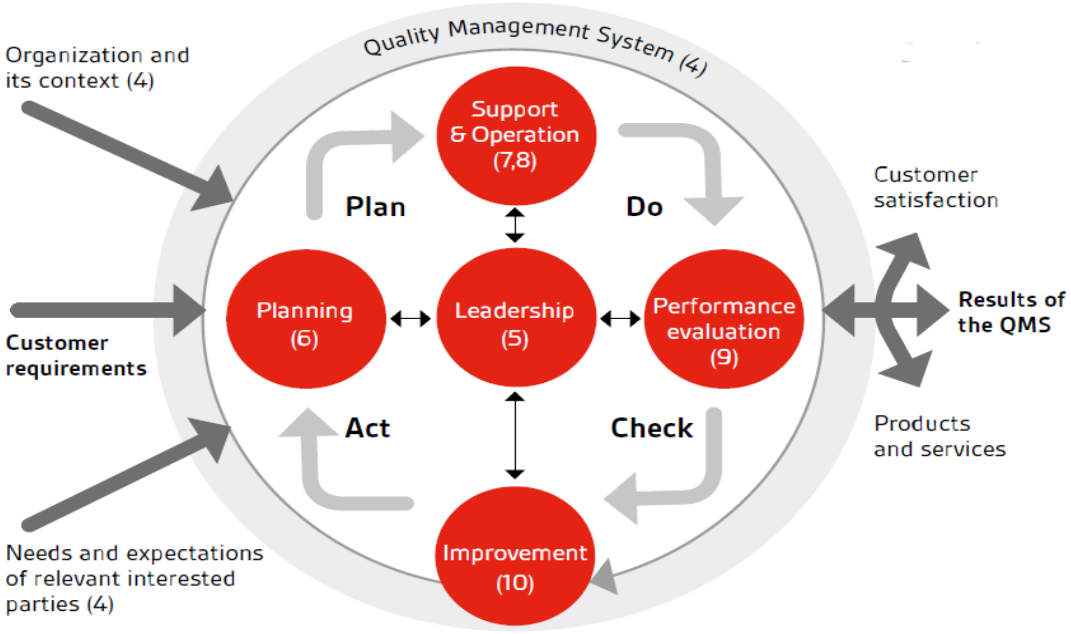
Identification and Traceability

Aerotech provides and maintains identification and traceability in accordance with customer contracts/orders. The work order number is the primary means of traceability. It is assigned from the customer purchase order through use of forms during the production process. Identification and traceability to raw materials, inspection equipment and/or shelf life items are also tracked and documented on relevant forms through the use of tags, labels, cabinets, and designated storage areas.

Process Approach

Aerotech promotes the use of a process approach, risk-based thinking and improvement. Aerotech understands and manages interrelated processes as a system will contribute to our overall effectiveness and efficiency in achieving our intended results. A schematic representation of this, including our KPI's, can be found in Appendix 5 to our QMS.

PDCA cycle



Outsourced Processes

Special Equipment and Facilities Maintenance and/or Calibration
Special Processing, Heat Treat, Non-Destructive Testing, Plating

Responsibility & Authorities

Aerotech designates responsibilities and authorities on Appendix 1 of our QMS. Additional responsibilities and authorities are detailed within certain documents and procedures throughout the QMS.

Procedures

Aerotech Procedures are identified and maintained in Tier 2 of the QMS.

Quality Manual Distribution

The Quality Manual shall be available online and by request to the Management Rep.

Quality Management System References

The following documents were used as reference during the preparation of the Quality Management System:

- American National Standard ANSI/AS 9001/ASQ Q9000, Quality Management Systems - Vocabulary.
- American National Standard ANSI/AS 9001/ASQ Q9001, Quality Management Systems – Requirements

Quality Management System Definitions

definitions utilized by Aerotech.

- **Customer owned property** - Any type of instrumentation, accessories, manuals, fixtures/mating pieces, tooling, equipment, product, raw material, product, or shipping containers that belongs to a customer.
- **Customer supplied product** - Any type of product or material supplied to be utilized in the manufacture, modification, or repair of customer-owned property.
- **Product** – The end item result of meeting all contract terms and conditions. (i.e.: manufactured goods, etc.)
- **Product Safety** – The state in which a product is able to perform to its designed or intended purpose without causing unacceptable risk of harm to persons or damage to property,
- **Quality Records** – Documents and/or Data demonstrating conformance to specified requirements and the effective operation of the Quality System. They are identifiable to the product, person, testing or calibration activity, or event to which the records and/or data pertain. They may be in the form of hard copy or electronic media.
- **Key/Significant Characteristics** - The features of a material, process, or part whose variation has a significant influence on product fit, performance, safety, service life, or manufacturability. Requires specific actions for the purpose of controlling variation.
- **Risk** – An undesirable situation or circumstance that has both a likelihood of occurring and a potentially negative consequence.
- **Special Requirements** – Those requirements identified by the customer, or determined by Aerotech, which have high risks to being achieved, therefore require inclusion in the risk management process. Factors used in the determination of special requirements include product or process complexity, past experience, and product or process maturity.
- **Counterfeit Part** – An unauthorized copy, imitation, substitute, or modified part (material, part, component), which is knowingly misrepresented as a specified genuine part of an original or authorized manufacturer.
- **Critical Items** – Those items (functions, parts, software, characteristics, processes) having significant effect on the provision and use of the products and services; including safety, performance, form, fit, function, producibility, service life, etc.; that require specific actions to ensure they are adequately managed.

General Requirements

Aerotech has established, documented, and implemented a Quality Management System (QMS). The system is maintained and continually improved through the use of the quality policy, corrective and preventive action, and management review. The system addresses and accounts for customer and applicable statutory/regulatory quality management system requirements.

To develop and implement the QMS, Aerotech has:

- Identified the processes needed for the QMS and their application throughout the organization and documented them on the Process Flow Diagram (Form 5.1.1.1),
- Determined the sequence and interaction of these processes, and illustrated them on the QMS Process Map (Appendix 3) as well as key processes and their inputs and outputs, listed in the Process Detail (Form 4.4.1),
- Determined criteria and methods needed to ensure that the operation and control of the processes are effective,
- Ensured the continuing availability of resources and information necessary to achieve planned results and continual improvement of these processes,
- Established systems to monitor, measure and analyze these processes, and assign responsibilities and authorities to address risk/opportunities,
- Established processes to evaluate and implement actions necessary to achieve planned results and continual improvement of these processes and the QMS.

Where Aerotech chooses to outsource any process that affects product conformity with requirements, Aerotech ensures control over such processes. Control of such outsourced processes is identified within the quality management system.

Operation

Quality planning is required before new products or processes are implemented. Aerotech plans, implements, and controls the processes needed to meet the requirements for the provision of products/services and to implement the actions determined in clause 6 by:

a. Determining the requirements for the products/services. Including the consideration of relevant suggestions found in the notes of the AS9100 standard.
b. Establishing criteria for:
    1. The processes,
    2. The acceptance of products/services. According to the product and specific requirements, statistics may support the verification, process control, design verification, failure or criticality analysis or effects.
c. Determining the resources needed to achieve conformity to the product/service requirements and to meet on-time delivery of products/services,
d. Implementing control of the processes in accordance with the criteria,
e. Determining, maintaining, and retaining documented information to the extent necessary,
    1. To have confidence that the processes have been carried out as planned
    2. To demonstrate the conformity of products/services to their requirements
f. Determining the processes and controls needed to manage critical items, including production process controls when key characteristics have been identified,
g. Engaging representatives of affected organization functions for operational planning and control,
h. Determining the process and resources to support the use and maintenance of the products/services,
i. Determining the products/services to be obtained from external providers,
j. Establishing the controls needed to prevent the delivery of nonconforming products/services to the customer.

The output of quality planning is suitable for Aerotech's operations and may include documented plans, processes, procedures, and/or job work orders (routers/travelers).

Review of the Requirements for Products and Services

Aerotech has a process in place for the review of requirements related to the products/services. The review is conducted before the order is accepted and includes:

a. Requirements specified by the customer, including delivery and post-delivery activities,
b. Requirements not stated by the customer, but necessary for the specified or intended use, when known,
c. Requirements specified by Aerotech,
d. Statutory and regulatory requirements applicable to the products/services,
e. Contract or order requirements differing from those previously expressed,
f. Special requirements and/or Risks (QP 7.2.2).

The review is coordinated with applicable organization functions. If the review determines some customer requirements cannot be, or only partially, met, Aerotech will negotiate a mutually acceptable requirement with the customer. Aerotech ensures that contract/order requirements differing from those previously defined are resolved. Aerotech confirms customer requirements before acceptance when the customer does not provide a documented statement of their desired requirements. Aerotech retains documented information, as applicable:

a. On the results of the review,
b. On any new requirements for the products/services.

Aerotech ensures the relevant documented information is amended, and that relevant persons are made aware of the changed requirements, when requirements for products/services are changed.

Performance Evaluation

Aerotech plans and implements the monitoring, measurement, analysis, and improvement processes as needed

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

These processes may be identified in documented procedures and include determination of applicable methods, including statistical techniques, and the extent of their use. Aerotech evaluates the performance and the effectiveness of the QMS and retains appropriate documented information as evidence of the results.
Aerotech determines:

a. What needs to be monitored and measured,
b. The methods for monitoring, measurement, analysis, and evaluation needed to ensure valid results,
c. When the monitoring and measuring shall be performed,
d. When the results from monitoring and measuring shall be analyzed and evaluated.

Control of Nonconforming Outputs

Aerotech ensures that outputs which do not conform to their requirements are identified and controlled to prevent their unintended use or delivery. The controls and related responsibilities and authorities for dealing with nonconforming product are defined in the control of Nonconforming Output Procedure (QP 8.3).
The term “nonconforming product” includes nonconforming product or service generated internally, received from an external provider, or identified by a customer. Aerotech takes appropriate action based on the nature of the non-conformity and its effects on the conformity of products/services. This also applies to nonconforming products/services detected after delivery, during or after its provision. Aerotech’s Nonconforming Product Procedure is maintained as documented information including the provisions for:

- Defining the responsibility and authority for the review and disposition of nonconforming outputs and the process for approving persons making these decisions,
- Taking actions necessary to contain the effect of the nonconformity on other processes, products, or services,
- Timely reporting of nonconformities affecting delivered products/services to the customer and to relevant interested parties,
- Defining corrective actions for nonconforming products/services detected after delivery, as appropriate to their impacts.

Notification includes a clear description of the nonconformity, which includes as necessary parts affected, customer and/or organization part numbers, quantity, and date(s) delivered.
Aerotech deals with nonconforming outputs in one of the following ways:

a. Correction,
b. Segregation, containment, return, or suspension of provision of products/services,
c. Informing the customer,
d. Obtaining authorization for acceptance under concession by a relevant authority and, when applicable, by the customer.

Dispositions of “use-as-is” or “repair” for the acceptance of nonconforming products is only implemented:

- After approval by an authorized representative of the organization responsible for design or by persons having delegated authority from the design organization,
- After authorization by the customer, if the nonconformity results in a departure from the contract requirements.

Product dispositioned for scrap shall be conspicuously and permanently marked, or positively controlled, until physically rendered unusable. Counterfeit, or suspect counterfeit, parts are controlled to prevent reentry into the supply chain.
Requirement conformity is verified when nonconforming outputs are corrected.
Aerotech retains documented information that:

a. Describes the nonconformity,
b. Describes the actions taken,
c. Describes any concessions obtained,
d. Identifies the authority deciding the action in respect of the nonconformity.

Internal Audit

Aerotech conducts internal audits at planned intervals to determine whether the QMS:

a. Conforms to:
    1. the QMS requirements established by Aerotech,
    2. the planned arrangements (see 7.1), to the requirements of this International Standard
b. Is effectively implemented and maintained.

Aerotech has a defined and documented Internal Audit Procedure (QP 8.2.2) to ensure Internal audits meet contract and/or regulatory requirements.
Aerotech has:

a. Planned, established, implemented, and maintains an audit program including the frequency, methods, responsibilities, planning requirements, and reporting, taking into consideration the importance of the processes concerned, changes affecting Aerotech, and the results of previous audits,
b. Defined the audit criteria and scope for each audit,
c. Selected auditors and conducts audits to ensure objectivity and the impartiality of the audit process,
d. Ensured that the results of the audits are reported to relevant management,
e. Taken appropriate correction and corrective actions without undue delay,
f. Retained documented information as evidence of the implementation of the audit program and the audit results.

Continual Improvement

Aerotech determines and selects opportunities for improvement and implements any necessary actions to meet customer requirements and enhance customer satisfaction. Such as:

a. Improving products/services to meet requirements as well as to address future needs and expectations,
b. Correcting, preventing, or reducing undesired effects,
c. Improving the performance and effectiveness of the QMS.

Aerotech continually improves the suitability, adequacy, and effectiveness of the QMS through the use of the quality policy, quality objectives, audit results, analysis of data, corrective and preventive actions and management review. Particularly, Aerotech considers the results of analysis and evaluation, and the outputs from management reviews, to determine if there are needs or opportunities to be addressed as part of continual improvement.
Aerotech monitors the implementation of improvement activities and evaluates the effectiveness of the results.

Corrective Action

Aerotech takes action to eliminate the cause of nonconformities in order to prevent recurrence. Corrective actions are addressed in Aerotech's CAR procedure (QP 8.5.2) and are appropriate to the effects of the nonconformities encountered. When a nonconformity occurs, including any arising from complaints, Aerotech:

a. Reacts to the nonconformity and, as applicable:
    1. Takes action to control and correct it,
    2. Deal with the consequences,
b. Evaluates the need for action to eliminate the cause(s) of the nonconformity, in order that it does not recur or occur elsewhere, by:
    1. Reviewing and analyzing the nonconformity,
    2. Determining the causes of the nonconformity, including, as applicable, those related to human factors,

3. Determining if similar nonconformities exist, or could potentially occur,

c. Implement any action needed,
d. Review the effectiveness of any corrective action taken,
e. Update risks and opportunities determined during planning, if necessary,
f. Make changes to the QMS, if necessary,
g. Flow down corrective action requirements to an external provider when it is determined that the external provider is responsible for the nonconformity,
h. Take specific actions when timely and effective corrective actions are not achieved.

Aerotech maintains documented information that defines the nonconformity and corrective action management processes. The documented information is retained as evidence of:

a. The nature of the nonconformities and any subsequent actions taken,
b. The results of any corrective action.

Preventive Action

In cooperation with the Planning section of our QMS, Aerotech determines risks and opportunities, then plans action to eliminate the causes of potential nonconformities in order to prevent their occurrence. Preventive actions are appropriate to the effects of the potential impact on product conformity.

A documented PAR procedure (QP 8.5.3) 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, and
- Reviewing preventive action taken.

Quality Manual Revision History

REV.	SECTION	SUB-SEC.	PARA.	CHANGE REQUEST #	DATE	AUTHORIZED BY
6	All	All	All	Initial Creation per Rev. C AS 9100 Std.	2/18/2011	Jarrod Krepps
7	4			Revised Flow Chart removed design to requirements	1/20/2012	Joe Parks
7	5	3	1	Added " is committed to"	1/20/2012	Joe Parks
7	5	5.2	1	Change "Operations Manager" to "Plant Manager"	1/20/2012	Joe Parks
8	5	5.3	2	Changed "At each Management Review meeting" to annually	11/11/2013	Jarrod Krepps
8	5	5.4.1	1	Remove reference to management review meeting	11/11/2013	Jarrod Krepps
8	5	5.5.3	1	Remove reference to management review meetings	11/11/2013	Jarrod Krepps
8	5	5.6.1	1	Changed wording of paragraph	11/11/2013	Jarrod Krepps
8	5	5.6.3	1	Changed "Review Meetings" to "reviews"	11/11/2013	Jarrod Krepps
8	5	5.6.3	2	Changed wording of paragraph	11/11/2013	Jarrod Krepps
9				QMS-Process Detail modified	4/20/2015	Jarrod Krepps
10	Scope			Added exclusions of 7.5.1.4	5/31/16	Jarrod Krepps

10	7	7.5.1.4	1	Exceptions in **BOLD** print	5/31/16	Jarrod Krepps
10				QMS-Process Detail modified	5/31/16	Jarrod Krepps
11	All	All	All	Rev D updates to corelate all new requirements	1/1/18	Jarrod Krepps
12	5	5.3	2	Update Quality policy to reflect objective framework	5/25/19	Jarrod Krepps
13	All	All	All	Shorten to include necessary data for audit purposes. AS9100 standard doesn't require a manual.	11/11/22	Jarrod Krepps
14	All	All	All	Added more aspects after MRM	3/31/23	Jarrod Krepps
15	All	All	All	Updated Order Processing goal from 7 to 30 days	4/10/24	Jarrod Krepps
16	All	All	All	Identified Post Delivery Exclusions, Health & Safety, And Environmental law compliance	2/25/25	Jarrod Krepps