



QUALITY POLICY MANUAL

As of July 23, 2001

Esquire Tooling Quality Policy Manual

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1 Introduction

Esquire Tooling & Mfg. has instituted a quality management system. This manual specifies quality system requirements for demonstrating Esquire Tooling's capability to supply conforming product. This quality management system addresses the requirements of the ISO (International Organization for Standardization) Quality Standards as defined in ISO 9002-1994 and ANSI/ASQC Q9002-1994.

The name of this organization is Esquire Tooling Corp. It is located at 111 Highway 24, Commerce, Texas 75428.

Esquire Tooling & Mfg. is a privately owned precision sheet metal shop and high quality machine shop specializing in close tolerance machine shop and sheet metal fabrication as well as commercial applications. We build to print or parts, and aid in custom designs.

Since we were established in 1978, we have made parts and equipment for industries such as aircraft, electronics, missiles, oil and gas, mining and computers, just to name a few.

Electronic equipment such as frames, chassis, panels, and cabinetry are fabricated in our sheet metal department, with our machine shop working almost any kind of part, except gear and sprocket teeth.

The office, manufacturing and warehouse operations are all in Commerce, Texas.

The company is classified under SIC Code 3469 (precision machined parts) and 3444 (precision sheet metal parts).

2 Mission and Scope

Our commitment to every customer, regardless of size is:

To treat your job as if it were our own,
Sacrificing nothing to excellence,
While remaining price conscious.

This Quality Manual specifies quality-system requirements for demonstrating Esquire Tooling's capability to supply conforming product.

The requirements specified are aimed primarily at achieving customer satisfaction by preventing nonconformity at all stages of the sales, production and delivery cycles.

This Quality Manual is applicable because the product requirements are stated principally in performance terms, or they need to be established, and confidence in product conformance is attainable by adequate demonstration of Esquire Tooling's capabilities in production.

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3 Organization.

The senior executive responsible for operations is the President.

Esquire Tooling maintains a written organization chart (3-4.0-1) designating positions and responsibilities of other company officers, managers, and employees.

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4 Quality System Requirements

4.1 Management Responsibility

4.1.1 Quality Policy

Esquire Tooling's management with executive responsibility has defined and documented its policy for quality, including objectives and commitment to quality. The quality policy is relevant to the Esquire Tooling organizational goals and the expectations and needs of its customers. Esquire Tooling ensures that this policy is understood, implemented, and maintained at all levels of the organization.

Our main objective is to produce a quality product to the Customer's specifications, while keeping the price competitive and the product on time.

We measure our success by

- *QC acceptance by lot plus customer returns (%)*
- *Revenue (\$)*
- *On-time shipment (jobs)*

Esquire Tooling's commitment to quality and the achievement of these objectives is documented in the measurements of the objectives and trends in positive directions.

The policy is posted in conspicuous locations throughout the facility. All new employees are given an orientation that includes the quality policy. The internal audit process is the vehicle by which Esquire Tooling ensures that the policy is implemented and maintained throughout the company.

4.1.2 Organization

4.1.2.1 Responsibility and Authority

The responsibility, authority and the interrelationship of personnel who manage, perform and verify work affecting quality is defined and documented, particularly for personnel who need the organizational freedom and authority to:

- a) Initiate action to prevent the occurrence of any non-conformities relating to the product, process, and quality system;
- b) Identify and record any problems relating to the product, process, and quality system;
- c) Initiate, recommend or provide solutions through designated channels;
- d) Verify the implementation of solutions;
- e) Control further processing, delivery, or installation of nonconforming product until the deficiency or unsatisfactory condition has been corrected.

Responsibilities, authorities and interrelationships are defined and documented in any of the following ways:

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- 1) *Embedded in procedures, work instructions and other documents,*
- 2) *Organization charts.*

4.1.2.2 Resources

Esquire Tooling has identified resource requirements and provides adequate resources, including the assignment of trained personnel for management, performance of work, and verification activities including internal quality audits.

There are three general types of resources at Esquire Tooling - human, physical and material.

Human resources are typically identified and communicated verbally and the need confirmed by management. In some cases the person is known, in other cases a search is conducted using different forms of advertising including word of mouth. Once the person is confirmed, identified and approved, any additional information is provided through new hire orientation and /or training.

Physical resources such as computers, equipment, facilities etc., are typically identified through discussions between members of management concerned with the resource requirement. In some cases, justification is provided. The greater the investment required the more likely a justification is provided and the greater the detail of the justification. In other cases the resource requirement is intuitively obvious and requires only a nominal investment. In these situations it is not unusual to have the resource acquired without formal discussion.

Material resources (the materials used in the product): These resources are provided primarily through purchasing and/or customer supplied material. For purchased items, this record is the purchase order and for customer supplied material the record is the Customer packing slip.

4.1.2.3 Management Representative

Esquire Tooling management with executive responsibility has appointed the Quality Manager, who irrespective of other responsibilities, has defined authority for:

- a) ensuring that a quality system is established, implemented and maintained in accordance with this Quality Policy Manual; and
- b) reporting on the performance of the quality system to Esquire Tooling's management for review and as a basis for improvement of the quality system

4.1.3 Management Review

Esquire Tooling's Management Team reviews the quality system at defined intervals sufficient to ensure its continuing suitability and effectiveness in satisfying the

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requirements of this quality system and Esquire Tooling stated quality policy and objectives (see 4.1.1) Records of review are maintained (see 4.16).

The quality system is monitored throughout the year through Management Review, Quality Audits and Corrective and Preventive Action. Records of these reviews are maintained in the form of meeting minutes and/or agendas.

References:

- 2-4.1-1 Management Review (procedure)
- 3-4.0-1 Esquire Tooling Organization Chart (work instruction)

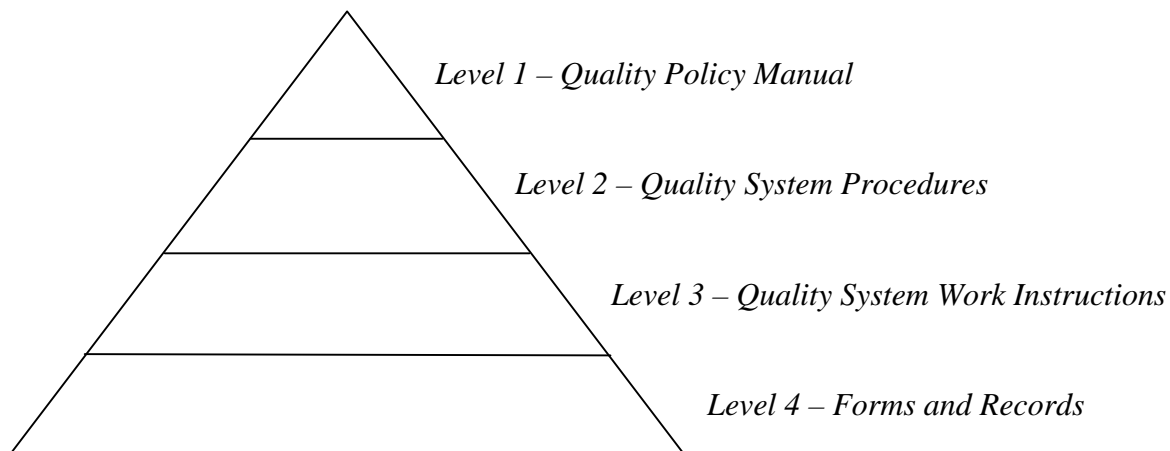
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4.2 Quality System

4.2.1 General

Esquire Tooling has established, documented and maintains a quality system as a means of ensuring that product conforms to specified requirements. Esquire Tooling has prepared this quality manual covering the requirements of this applicable standard. This quality manual includes or makes reference to the quality-system procedures. Below is an outline of the structure of the documentation used in the quality system.

The quality system documentation at Esquire Tooling is structured as follows:



4.2.2 Quality-System procedures

Esquire Tooling:

- a) Prepares documented procedures consistent with the requirements of this Quality Policy Manual and Esquire Tooling stated quality policy, and
- b) Effectively implements the quality system and its documented procedures.

For the purpose of this Quality Policy manual, the range and detail of the procedures that form part of the quality system depend on the complexity of the work, the methods used and the skills and training needed by personnel involved in carrying out the activity.

To ensure consistent application of these requirements, Esquire Tooling has developed 2-4.5-1 Document and Data Control that provides guidance on considerations for the development of procedures.

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4.2.2.1 Document and Form Numbering

The Quality Manager controls all document identification. This control is maintained through the use of electronic or written logs.

Each document is identified uniquely in one or more of the following ways:

- Name or Title
- Number
- Color
- Shape
- Medium (paper, label, tag, sticker, card, etc.)

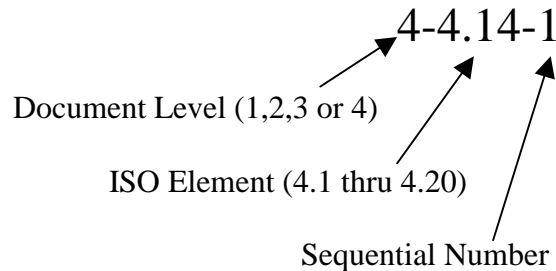
The numbering system employed mimics the ISO standard. This approach is usually used in conjunction with other unique identifiers or by itself.

Level 1 document numbers begin with **1-**, level 2 a **2-**, level 3 a **3-**, and level 4 a **4-**.

The level 1 policy document is this one – Esquire Tooling Quality Policy Manual, 1-4.0-1.

Each form/document is identified by the applicable section number of the standard. For example, training records are numbered 4-**4.18-**, inspection procedures are numbered 2-**4.10-** and process work instructions are numbered 3-**4.9-xx**.

Finally, a sequential number is used as the document number for the level/section.



For example, the number above identifies the first form used in Corrective Action. The Master Document Index is numbered 4-4.5-1, and the Management Review form is numbered 4-4.1-1.

4.2.3 Quality Planning

Esquire Tooling defines and documents how the requirements for quality will be met. Quality planning is consistent with all other requirements of the quality system and documented in a format suitable to Esquire Tooling's method of operation. Esquire Tooling gives consideration to the following activities, as appropriate, in meeting the specified requirements for products, projects or contracts:

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- a) The preparation of quality plans;
- b) The identification and acquisition of any controls, processes, equipment (including inspection and test equipment), fixtures, resources, and skills that may be needed to achieve the required quality.
- c) Ensuring the compatibility of the design, the production process, installation, servicing, inspection and test procedures and the applicable documentation.
- d) The updating as necessary, of the quality control, inspection, and testing techniques, including the development of new instrumentation.
- e) The identification of any measurement requirements involving capability that exceeds the known state of the art, in sufficient time for the needed capability to be developed.
- f) The identification of suitable verification at the appropriate stages in the realization of product.
- g) The clarification of standards of acceptability for all features and requirements, including those which contain a subjective element.
- h) The identification and preparation of quality records (see 4.16)

All requirements, (a-h) are addressed where applicable on the Work Order (machining) and Operation Sheet (sheet metal) which become the individual quality plan for each Esquire Tooling job. Quality planning for new processes/products is described in 2-4.2-1 Quality Planning.

Requirements for activities regarding contracts are addressed in Contract Review (see 4.3).

Projects that require the development of a quality plan are addressed prior to initiation using requirements (a-h) where applicable (described in 2-4.2-1 Quality Planning).

Esquire Tooling ensures that these concerns are given their due diligence by identifying the need to consider their inclusion in procedural documentation as specified in 2-4.5-1 Document and Data Control.

References:

- 2-4.2-1 Quality Planning (procedure)
- 2-4.5-1 Document and Data Control (procedure)

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4.3 Contract Review

4.3.1 General

Esquire Tooling has established and maintains documented procedures for contract review and for the coordination of these activities,

These controls are defined below, in the contracts themselves and in 2-4.3-1 Contract Review.

4.3.2 Review

Before submission of a tender, or at the acceptance of a contract or order the tender, contract or order is reviewed by Esquire Tooling to insure that:

- a) the requirements are adequately defined and documented by the customer;
- b) any differences between the contract or accepted order requirements and those in the tender are resolved;

For requirements such as delivery, availability, pricing or configuration, the order is reviewed and conflicts resolved prior to acceptance.

Conflicts are resolved through review and negotiation by the President, Sales, Quality, Vice President, and/or Production Managers as required.

- c) Esquire Tooling has the capability to meet the contract or accepted order requirements.

The contract itself is typically driven by Esquire Tooling through a written quote and therefore only defines requirements for which Esquire Tooling has the capability. When the customer drafts the contract (usually a purchase order), it is reviewed (relative to the original quote) to identify any requirements that Esquire Tooling does not have the capability to meet and those are subsequently resolved.

4.3.3 Amendment to a contract

Esquire Tooling has identified how an amendment to a contract is made and correctly transferred to the functions concerned within the Esquire Tooling organization.

Revised orders are processed through the Contract Review process in the same manner as a new order. The resulting changes are communicated throughout the organization by indicating the required changes on the existing documents with approval signature and date.

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4.3.4 Records

Records of contract reviews are maintained (see 4.16).

The record of review is maintained in the form of the Quote and/or a Customer purchase order initialed by any member of the Management Review Team.

References:

2-4.3-1 Contract Review (procedure)

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4.4 Design Control

Esquire Tooling at this time has no design activity. If and when design control is needed the proper documentation will be developed.

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4.5 Document and Data Control

4.5.1 General

Esquire Tooling has established and maintains documented procedures to control all documents and data that relate to the requirements of this Quality Policy manual including, to the extent applicable, documents of external origin such as standards and original manufacturer's specifications.

These controls are defined in 2-4.5-1 Document and Data Control. They include documents of external origin, as applicable, which are identified on the Master Document Index.

4.5.2 Document and Data Approval and Issue

The documents and data are reviewed and approved for adequacy by authorized personnel prior to issue. A master list of all documents identifying the current revision status of documents is readily available to preclude the use of invalid and/or obsolete documents.

All documentation is reviewed and approved by the appropriate Esquire Tooling personnel during document approval process before being issued for use. Esquire Tooling maintains the Master Document Index showing the current revision and status of all quality system documents. These are generally identified by document level and ISO 9002 element.

This control ensures that:

- a) The pertinent issues of appropriate documents are available at all locations where operations essential to the effective functioning of the quality system are performed.

A copy of the pertinent issue is provided to appropriate locations within Esquire Tooling. Masters from which copies may be reproduced are maintained in a master file and updated as an integral part of the document control system.

- b) Invalid and/or obsolete documents are promptly removed from all points of issue or use, or otherwise assured against unintended use by marking the document appropriately.
- c) All obsolete documents maintained for legal and/or knowledge preservation purposes are clearly marked in a manner that identifies them as being obsolete.

These documents are typically marked "OBSOLETE". In the absence of any of these markings, the documents may be identified as obsolete by revision status comparison to the Master Document Index.

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4.5.3 Document and Data Changes

Changes to documents and data are reviewed and approved by the same functions/organizations who have access to pertinent background information upon which to base their review and approval.

All changes to documents are reviewed and approved in the same manner as new documents by the appropriate personnel before being issued for use. Changes to data are controlled and approved by controlling the forms on which the data is collected.

Where practicable the nature of the change is identified in the document or the appropriate attachments.

References:

- 2-4.5-1 Document Control – Internal Documents (procedure)
- 2-4.5-2 Document Control – External Documents (procedure)
- 4-4.5-1 Master Document Index (form)

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4.6 Purchasing

4.6.1 General

Esquire Tooling has established and maintains documented procedures to ensure that purchased product conforms to specified requirements.

4.6.2 Evaluation of Subcontractors (Vendors):

- a) Esquire Tooling evaluates and selects subcontractors on the basis of their ability to meet subcontract requirements including the quality system and any specific quality assurance requirements.

Vendor Selection, 2-4.6-2, describes the vendor selection process. The Approved Vendor List, 4-4.6-1, identifies those selected.

Each subcontractor is handled differently depending on the nature of the product or service provided. Product specific materials or services are formally handled by the company's purchasing system. Other purchased items incidental to the company's product are handled in a variety of informal methods designed to reduce the cost of those items.

Initial contact of any subcontractor may be the result of research in a catalog of suppliers or on information/recommendations received through varied sources. In some cases, a site visit is conducted by a member of the management team, or their designee, to ensure the subcontractors capabilities.

In some instances, the customer will specify the subcontractor to be used. This will be determined at contract review.

- b) Esquire Tooling defines the type and extent of control exercised over subcontractors. This is dependent upon the type of product, the impact of subcontracted product on the quality of the final product, and where applicable, on the quality audit reports and/or quality records of the previously demonstrated capability and performance of subcontractors;

Suppliers of product-specific materials or service receive a Purchase Order defining the requirement to be met. The appropriate inspections are performed either when received or at the source. These inspections may include physical and/or visual inspection or verification of supplied data such as test reports or certificates of conformance.

For suppliers of non-product specific materials or services, the requirements may be communicated in writing or verbally and inspections may or may not occur.

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- c) Establishes and maintains quality records of acceptable sub-contractors.

These records are primarily in three forms. The first is the purchase order itself indicating that the subcontractor has been approved. The second is the Packing Slip indicating the proper items in the right quantities and condition were received. The third is the Invoice indicating the proper value was received.

4.6.3 Purchasing Data

Purchasing documents show data clearly describing the product ordered, including where applicable:

- a) *The type, class, grade or other precise identification.*
- b) *The process requirements, inspection instructions, special markings, and any other detailed information relevant to the acceptance of the material.*
- c) *Notation of compliance to any relevant standard.*
- d) *Any quantity tolerance (e.g. +10%, -0%)*

Esquire Tooling reviews and approves purchasing documents for adequacy of the specified requirements prior to release.

Review of the purchase order takes place upon approval by the appropriate manager. Evidence of the review and approval of the purchase order is the presence of the signature of the appropriate manager. Approval authority is defined in Purchasing, 2-4.6-1.

4.6.4 Verification of Purchased Product

4.6.4.1 Supplier Verification at Subcontractor's Premises

Where Esquire Tooling proposes to verify purchased product at the subcontract's premises, Esquire Tooling specifies verification arrangements and the method of product release in the purchasing documents.

Verification at subcontractor's premises is currently not required by Esquire Tooling. However, these requirements would be noted on the purchase order, when appropriate, and discussed with the subcontractor by the originator of the purchase order

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4.6.4.2 Customer Verification of Subcontracted Product

It is Esquire Tooling Customer's option to perform a source inspection of the product at the subcontractor's location or to perform the inspection on Esquire Tooling premises. In either case, inspection location does not absolve the supplier of the responsibility to inspect and fully comply with the stated requirements. If the inspection is performed at the subcontractor's site, Esquire Tooling does not surrender the right to reject the material at any later time.

Esquire Tooling notes on the purchase order if a source inspection will be performed.

References:

- 2-4.6-1 Purchasing (procedure)
- 2-4.6-2 Vendor Selection (procedure)
- 4-4.6-1 Approved Vendor List (form)
- 4-4.6-2 Purchase Order (form)

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4.7 Control of Customer Supplied Product

Esquire Tooling has established and maintains documented procedures for the control and verification, storage, and maintenance of customer-supplied product provided for incorporation into the supplies or for related activities. Any such product that is lost, damaged, or is otherwise unsuitable for use is recorded and reported to the customer.

The procedures for handling customer-supplied product are the same procedures used to handle any product specific product.

Any customer-supplied product that is or becomes lost, damaged, or otherwise unsuitable for use is handled in accordance with the procedures for control of nonconforming product unless otherwise stipulated in the contract.

Verification by Esquire Tooling does not absolve the customer of the responsibility to provide acceptable product.

References:

- 2-4.7-1 Control of Customer Supplied Product (procedure)
- 2-4.13-1 Nonconforming Material (procedure)

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4.8 Product Identification and Traceability

Where appropriate, Esquire Tooling has established and maintains documented procedures for identifying the product by suitable means from receipt and during all stages of production, delivery and installation.

Esquire Tooling evaluates all product specific materials as to the need for identification and traceability. This evaluation includes:

- *Where specified by contract or customer purchase, Esquire Tooling provides a system of identification and traceability.*
- *Where not specified by customer contract or purchase order, Esquire Tooling provides a system of identification and traceability based upon the type and probable use of the material. Commodity type commercial materials may or may not be traceable through all stages of production and delivery. Materials of a higher level or materials whose intended use indicates the need for identification and traceability are so identified and traced.*

Esquire Tooling' system for providing identification is described in 2-4.8-1 Product Identification and Traceability.

Specific requirements for identification and traceability may be defined in procedures, work instructions, or on the Work Order (machining) and Operation Sheet (sheet metal).

Esquire Tooling's system for providing traceability is described in 2-4.8-1 Product Identification and Traceability.

Where and to the extent that traceability is a specified requirement, Esquire Tooling has established and maintains documented procedures for the unique identification of individual product or batches. This identification is recorded (see Quality Records, 4.16).

At contract review, any customer requirements for identification and traceability are reviewed. If the customer requirements are consistent with the method identified above, no further action is required at contract review. If the customer requirements are not consistent with the above method, the identification and traceability requirements are specified on the Customer purchase order. (see Contract Review, 4.3)

References:

- 2-4.3-1 Contract Review (procedure)
- 2-4.5-1 Document Control – Internal Documents (procedure)
- 3-4.16-1 Quality Records Master List (work instruction)

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4.9 Process Control

Esquire Tooling identifies and plans the production, identification, and servicing processes that directly affect quality and ensures that these processes are carried out under controlled conditions. Controlled conditions include the following:

- a) Documented procedures defining the manner of production, installation, and servicing, where the absence of such procedures could adversely affect quality;

Requirements for these procedures are identified throughout this quality manual. Procedures and process work instructions are also identified in a process flow chart, which defines the overall process from the point an order is taken through the final inspection and delivery process. The development of procedures and work instructions is defined in and controlled by 2-4.5-1 Document and Data Control.

- b) Use of suitable production, installation, and servicing equipment, and suitable working environment:

Esquire Tooling ensures this through the use of internal quality audits (see 4.17) and the provision of adequate resources (see 4.1.2.2).

- c) Compliance with reference standards/codes, quality plans, and/or documented procedures;

Internal quality auditing is the primary technique for ensuring compliance (see 4.17).

- d) Monitoring and control of suitable process parameters and product characteristics;

The monitoring and control is primarily performed through the implementation of inspection and tests at critical points in the process (see 4.10). As a result of these inspections and tests, data is collected and summarized in operations evaluations.

- e) The approval of processes and equipment, as appropriate;

The approval of processes occurs when the process is defined, typically in a work instruction, procedure, or other process documentation. Approval occurs by the application of document control techniques to the process documentation (see 2-4.5-1).

The approval of equipment is accomplished through the purchasing process (see 4.6).

- f) Criteria for workmanship, which is stipulated in the clearest practical manner (e.g., written standards, representative samples, or illustrations);

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Workmanship criteria are clearly defined in documents of external origin or in work instructions, procedures and/or samples where it is appropriate to do so.

- g) Suitable maintenance of equipment to ensure continuing process capability.

Suitable maintenance of all equipment is accomplished through Esquire Tooling's preventive maintenance program.

Where the results of processes cannot be fully verified by subsequent inspection and testing of the product and where, for example, processing deficiencies may become apparent only after the product is in use, the processes are carried out by qualified operators and/or require continuous monitoring and control of process parameters to ensure that the specified requirements are met.

Currently, the only special process used at Esquire Tooling is welding. Only qualified welders are used.

The requirements for any qualification of process operations, including associated equipment and personnel are specified (see 4.18). Records are maintained for qualified processes, equipment and personnel (see 4.16).

References:

- 2-4.5-1 Document and Data Control (procedure)
- 3-4.9-1 Equipment Maintenance (work instruction)

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4.10 Inspection and Testing

4.10.1 General

Esquire Tooling has established and maintains documented procedures for inspection and testing activities in order to verify that the specified requirements for the product are met. The required inspection and testing, and the records to be established, are detailed in the quality plan or documented procedures.

The Quality Manager is responsible for ensuring inspection/testing is performed. Inspection can be delegated to other personnel as appropriate.

4.10.2 Receiving Inspection and Testing

4.10.2.1 Verification of Incoming Product

Esquire Tooling ensures that incoming product is not used or processed until it has been inspected or otherwise verified as conforming to specified requirements. Verification of the specified requirements is in accordance with the quality plan and/or documented procedures.

Receiving inspection and testing is defined in 2-4.10-1 Inspection and Testing. Only product specific materials require receiving inspection.

4.10.2.2 Nature of Receiving Inspection

In determining the amount and nature of receiving inspection, consideration is given to the amount of control exercised at the subcontractor's premises and the recorded evidence of conformance provided.

There are several methods of inspection used depending on the type of product and other controls exercised. These methods may include:

- a) Verification to test report and/or sample measurement data provided by the subcontractor;*
- b) Verification to product design documentation.*
- c) Visual verification of product identification and associated documentation (packing slips, labels, product specifications etc.).*

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4.10.2.3 Urgent Release

Esquire Tooling does not allow release for urgent production purposes prior to verification. Only accepted material is released for production.

4.10.3 In-process inspection and testing

Esquire Tooling:

- a) Inspects and tests the product as required by the quality plan and/or documented procedures.

The requirement for in-process inspection is identified on the Job Order (machining) and Operation Sheet (sheet metal).

- b) Holds product until the required inspections and tests have been completed or necessary reports have been received and, verified, except when product is released under positive recall procedures (see 4.10.2.3). Release under positive recall procedures does not preclude the activities outlined in 4.10.3a.

4.10.4 Final inspection and testing

Esquire Tooling carries out all final inspection and testing in accordance with the quality plan and/or documented procedures to complete the evidence of conformance of the finished product to the specified requirement.

The requirements for final inspection are defined in 2-4.10-1. These requirements may be further specified by inspection work instructions appropriate to the product to be inspected.

The quality plan and/or documented procedures for final inspection and testing require that all specified inspections and tests, including those specified either on receipt of product or in-process, have been carried out and that the results meet specified requirements.

No product is dispatched until all the activities specified in the quality plan and/or documented procedures have been satisfactorily completed and the associated data and documentation are available and authorized.

There may be times when a customer might waive an inspection. When this occurs, that waiver must be documented and recorded in such a way that it is identifiable to the product.

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4.10.5 Inspection and test records

Esquire Tooling establishes and maintains records, which provide evidence that the product has been inspected and/or tested. These records show clearly whether the product has passed or failed according to the defined acceptance criteria. Where product has failed inspection and/or test, the procedures for control of non-conforming product applies.

The official inspection record is the Job Order (machining) or Operation Sheet (sheet metal).

Records identify the inspection authority responsible for the release of the product.

This identification is made by the appropriate person either initialing or stamping the operation on the Job Order (machining) and Operation Sheet (sheet metal).

References:

2-4.10-1	Inspection and Testing (procedure)
4-4.8-??	Work Order (form)
4-4.8-??	Operation Sheet (form)

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4.11 Control of Inspection, Measuring, and Test Equipment

4.11.1 General

Esquire Tooling has established and maintains documented procedures to control, calibrate, and maintain inspection, measuring, and test equipment used to demonstrate the conformance of product to the specified requirements. Inspection, measuring, and test equipment is used in a manner which ensures that the measurement uncertainty is known and is consistent with the required measurement capability.

Uncertainty of measurement is as defined in the manufacturer's specification. The manufacturer's stated measurement resolution and accuracy is used to ensure consistency with the required measurement capability.

Test software is not used at Esquire Tooling.

Where the availability of technical data pertaining to the measurement equipment is a specified requirement, such data is made available, when required by the customer for verification that the equipment is functioning correctly.

4.11.2 Control Procedure

Esquire Tooling:

- a) Determines the measurements to be made and the accuracy required, and selects the appropriate inspection, measuring, and test equipment capable of the necessary accuracy and precision.

Typically the manufacturer's instruction sheets provided with the equipment determine this. The customer may provide instructions and requirements for making the product. Industry standards may also be utilized in determining measurements and equipment capability.

- b) Identifies all inspection, measuring and test equipment that can affect product quality, and calibrates and adjusts them at prescribed intervals, or prior to use, against certified equipment having a known valid relationship to internationally or nationally recognized standards. Where no such standards exist, the basis used for calibration is documented;

Equipment is identified by any of several means including serial number, asset number, or any other unique identifier.

All such equipment is calibrated at intervals that meet the manufacturer's recommendation. Typically, the interval is one year, but could be more often depending on calibration results and equipment performance, or less often depending

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on intended use of equipment, calibration records, and other data. Equipment received in a state of calibration may or may not be recalibrated prior to use.

Some calibration is performed by subcontractors who maintain traceability to the National Institute of Standards and Technology (NIST) or equivalent. These subcontractors are controlled as specified in 4.6 Purchasing.

- c) Defines the processes employed for the calibration of inspection, measuring, and test equipment, including details of equipment type, unique identification, location, frequency of checks, check method, acceptance criteria, and the action to be taken when results are unsatisfactory;

Calibration is performed to manufacturer's specifications. The master list of equipment identifies equipment type, unique identification, location, and frequency of checks. Check method and acceptance criteria are specified in the manufacturer's manual for the piece of equipment. The action to be taken when results are unsatisfactory is defined in 2-4.11-1.

- d) Identifies inspection, measuring, and test equipment with a suitable indicator or approved identification record to show the calibration status;

The preferred approach is the use of a calibration sticker. However, there may be times when the use of a sticker is not possible or is impractical. When this is the case or when a sticker becomes detached from the equipment, the calibration record itself shall act as the identifier.

- e) Maintains calibration records for inspection, measuring, and test equipment;

Calibration records are maintained as stipulated on the Quality Records Master List.

- f) Assesses and documents the validity of previous inspection and test results when inspection, measuring, and test equipment is found to be out of calibration;

This is typically accomplished by evaluation of field failure history, internal failure history, retest of a sample of previously inspected product, or through application of the corrective action process as referred to in the calibration system procedure.

- g) Ensures that the environmental conditions are suitable for the calibrations, inspections, measurements, and tests being carried out;

Calibration environment control is the responsibility of the subcontractor when calibration is performed off-site. When calibration is performed on-site, or for inspections, measurements, and test, the environmental conditions are within the manufacturer's recommendation.

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- h) Ensures that the handling, preservation, and storage of inspection, measuring, and test equipment is such that the accuracy and fitness for use are maintained;

This is accomplished through the internal quality audit system.

- i) Safeguards inspection, measuring, and test facilities from adjustments, which would invalidate the calibration setting.

References:

- 2-4.11-1 Inspection Equipment Control, Maintenance and Calibration (procedure)
- 3-4.16-1 Quality Records Master List (work instruction)

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4.12 Inspection and Test Status

The inspection and test status of product is identified by suitable means to indicate the conformance or nonconformance of product with regard to inspection and test performed. The identification of inspection and test status is maintained, as defined in the quality plan, and/or documented procedures, throughout production, installation, and servicing of the product to ensure that only product that has passed the required inspections and tests is dispatched, used or installed.

The specific procedural requirements for application of inspection and test status to any material or product is specified or identified in the inspection or processing procedures, work instructions, Work Order (machining) or Operation Sheet (sheet metal) used to determine that status.

References:

- 2-4.10-1 Inspection and Testing (procedure)
- 4-4.8-1 Work Order (form)
- 4-4.8-2 Operation Sheet (form)

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4.13 Control of Nonconforming Product

4.13.1 General

Esquire Tooling has established and maintains documented procedures to ensure that product that does not conform to specified requirements is prevented from unintended use or installation. This control provides for identification, documentation, evaluation, segregation, disposition of non-conforming product, and for notification to the functions concerned.

The specific requirements for the controls are defined in 2-4.13-1 Nonconforming Material.

4.13.2 Review and disposition of nonconforming product

The responsibility for review and authority for the disposition of nonconforming product has been defined.

There is no formal review for nonconforming product however, product is reviewed as part of our everyday process of doing business and all employees have been given the responsibility to identify nonconforming product. Final disposition of nonconforming product rests with Esquire Tooling management.

Nonconforming product is reviewed in accordance with documented procedures. It may be:

- a) Reworked to meet the specified requirements,
- b) Accepted with or without repair/rework concessions,
- c) Regraded for alternative applications, or
- d) Rejected or scrapped.

Where required by the contract, the proposed use or repair of product (see 4.13.2b) which does not conform to specified requirements is reported for concession to the customer. The description of the nonconformity that has been accepted, and of repairs, is recorded to denote the actual condition.

The requirement for customer notification is identified during the contract review process (see 4.3).

The appropriate information regarding the products involved is typically documented as exceptions to procedures by inspection. This information may be in other forms, such as a rework or repair work order, or other suitable means.

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Repaired and/or reworked product is re-inspected in the same manner as any other product.

In most cases, the existing procedures (or some subset, which originally caused the rejection) are used.

References:

- 2-4.13-1 Nonconforming Material (procedure)
- 2-4.14-1 Corrective and Preventive Action (procedure)
- 2-4.17-1 Internal Quality Audits (procedure)

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4.14 Corrective and Preventive Action

4.14.1 General

Esquire Tooling has established and maintains documented procedures for implementing corrective and preventive action.

These procedures can be found in 2-4.14-1 Corrective and Preventive Action.

Any corrective or preventive action taken to eliminate the causes of actual or potential nonconformities are to a degree appropriate to the magnitude of the problems and commensurate with the risks encountered.

The time, effort, and expense required to eliminate the cause of a problem should be in proportion to the size of the problem, and to the risks involved. Widely used and accepted practices such as Pareto Analysis, trend charts, etc. may be used to determine the magnitude of any problem or associated risks.

Esquire Tooling implements and records any changes to the documented procedures resulting from corrective and preventive action.

The records and implementation of changes to procedures are handled through the document and data control system (see 4.5).

4.14.2 Corrective action

The procedure for corrective action includes:

- a) The effective handling of customer complaints and reports of product nonconformities.

Customer complaints are typically handled through the Corrective Action process. Product nonconformities are reported through the controls established in 2-4.13-1 Nonconforming Material.

- b) Investigation of causes of nonconformities relating to product, process, and quality system, and recording the results of the investigation (see 4.16).

Responsibility for the investigation and subsequent recording of results lies with the individual, function, or department assigned by the Management Representative. Investigations are conducted based on the magnitude of the problem and associated risks, or by the customer request.

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- c) Determination of the corrective action needed to eliminate the cause of nonconformities;

Where practical, the required corrective action is focused on eliminating the root cause. There may be times when a determination cannot be made because the cause cannot be identified or where the magnitude of the problem and the risks encountered make such an assessment impractical. In those situations, the nonconformance at hand will be corrected as necessary.

- d) Application of controls to ensure that corrective action is taken and that it is effective.

This is accomplished primarily by one of three ways:

- 1) Generation of a work instruction or procedure detailing the actions necessary to prevent the problem.*
- 2) Implementation follow-up indicated on the corrective action form; or*
- 3) Internal quality audits.*

4.14.3 Preventive action

All departments within Esquire Tooling are responsible for the development and implementation of preventive actions. These actions include:

- a) use of appropriate sources of information (such as processes and work operations which affect product quality, customer concessions, audit results, quality records, installation and service reports and customer complaints) to detect, analyze and eliminate potential causes of nonconformity;
- a) determination of the steps needed to deal with any problems requiring preventive action;
- b) initiation of preventive action and application controls to ensure that it is effective;
- c) ensuring that relevant information on actions taken is submitted for management review (see 4.1.3).

References:

- | | |
|----------|---|
| 2-4.13-1 | Nonconforming Material (procedure) |
| 2-4.14-1 | Corrective Action and Preventive Action (procedure) |

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4.15 Handling, Storage, Packaging, Preservation, and Delivery

4.15.1 General

Esquire Tooling has established and maintains documented procedures for handling, storage, packaging, preservation, and delivery of product.

These specific procedural requirements are embedded in procedures or work instructions, where appropriate, in accordance with 2-4.5-1 Document Control – Internal Documents.

4.15.2 Handling

Esquire Tooling provides methods of handling product that prevent damage or deterioration.

4.15.3 Storage

Esquire Tooling uses designated storage areas to prevent damage or deterioration of product, pending use or delivery. Appropriate methods of authorizing receipt to and dispatch from such areas are stipulated in the appropriate procedures.

In order to detect deterioration, the condition of product in stock is assessed at appropriate intervals.

4.15.4 Packaging

Esquire Tooling controls packing, packaging, and marking processes to the extent necessary to ensure conformance to specified requirements.

Packaging materials are used to provide adequate protection to the products during delivery to the customer.

4.15.5 Preservation

Esquire Tooling applies appropriate methods for preservation and segregation of product when the product is under Esquire Tooling control.

The nature of the products manufactured at Esquire Tooling is such that preservation is not an issue at this time. However, product or process consumables that have exceeded their useful life are discarded. These expired items are not subject to the provisions of Nonconforming Material, 4.13.

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4.15.6 Delivery

Esquire Tooling arranges for the protection of the quality of product after final inspection and test. Where contractually specified, this protection extends to include delivery to destination.

This is accomplished through the use of appropriate handling, storage, and packaging techniques as previously defined, and the use of company-owned vehicles or commercial carriers determined by Esquire Tooling or the customer. The contractual requirements for extension of this protection to include delivery to destination are determined at the point of contract review (see 4.3)

References:

- 2-4.5-1 Document Control – Internal Documents (procedure)
- 2-4.15-1 Handling, Storage, Packaging, Preservation and Delivery (procedure)

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4.16 Control of Quality Records

Esquire Tooling has established and maintains documented procedures for the identification, collection, indexing, access, filing, storage, maintenance, and disposition of quality records.

These procedures are defined on the Quality Records Master list as follows:

- *Identification is defined as the document number and name by which the record is recognized.*
- *Collection is defined as the method by which the records are collected.*
- *Indexing is defined as the order in which the records are indexed.*
- *Access is defined as the person who has primary responsibility for controlling access to the records.*
- *Filing is defined as the physical area in which the records are filed for the short term.*
- *Storage is defined as the physical area in which the records are filed for the long term.*
- *Maintained is defined as the form in which the records are maintained.*
- *Retention is defined as how long the records are kept in long term storage.*
- *Disposition is defined as what will be done with the records when the retention time expires.*

Quality records are maintained to demonstrate conformance to specified requirements and the effective operation of the quality system. Pertinent quality records from the subcontractor are an element of this data.

The Management Representative maintains the Quality Records Master List.

All quality records are legible and stored and retained in such a way that they are readily available in facilities that provide a suitable environment to prevent damage or deterioration and to prevent loss. Retention times of quality records are established and recorded on the master list. Where agreed to contractually, quality records are available for evaluation by the customer for an agreed period.

Records may be in the form of any type of media.

References:

3-4.16-1 Quality Records Master List (work instruction)

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4.17 Internal Quality Audits

Esquire Tooling has established and maintains documented procedures for planning and implementing internal quality audits to verify whether quality activities and related results comply with planned arrangements and to determine effectiveness of the quality system.

These activities are outlined in Internal Quality Audits, 2-4.17-1.

Internal quality audits are scheduled on the basis of the status and importance of the activity to be audited and are carried out by personnel independent of those having direct responsibility for the activity being audited.

The complete quality system is audited at least annually. Scheduling is generally performed such that audits are conducted year-round, typically defining areas to be audited on a month-to-month basis. The schedule is the plan, and as such, the audits may or may not be conducted exactly according to the schedule. Areas with less than satisfactory results are audited more often through follow-up audits when deemed necessary. Other inputs to trigger the audit process may include monitoring and response to key performance indicators.

Auditor's independence is maintained by ensuring that a person conducting the audits does not work in the area being audited.

The results of the audits are recorded (see 4.16) and brought to the attention of personnel having responsibility in the area audited. The management personnel responsible for the area takes corrective action on deficiencies found during the audit.

Audit results are recorded and communicated in the following ways:

- *An Internal Audit Report is generated for each internal audit,*
- *Any issues raised as a result of the audit which are determined significant enough to warrant a corrective action would also have corrective action, and this corrective action is entered on the CAR Log (4-4.14-2).*

The audit procedure provides for review of the audit result with appropriate area management at the conclusion of each audit.

The results of the internal audits are a key part of the management review activities.

Follow-up audit activities verify and record the implementation and effectiveness of the corrective action taken.

References:

2-4.1-1	Management Review (procedure)
2-4.17-1	Internal Quality Audits (procedure)
4-4.14-2	CAR Log (form)

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4.18 Training

Esquire Tooling has established and maintains documented procedures for identifying training needs and provides the training of all personnel performing activities affecting quality. Personnel performing specific assigned tasks are qualified on the basis of appropriate education, training, and/or experience, as required. Appropriate records of training are maintained (see 4.16).

Training needs are identified through many mechanisms. Some are more formal than others. The hiring, orientation, and performance review process are the formally relied on process for identification of training needs. Other needs may be identified in any manner.

A Personnel Training Record is created for each employee. This record is used to indicate areas the employee must be trained in. New hires are evaluated and training needs are identified periodically. Training needs are also identified during the annual review process and when an employee changes jobs.

Upon hiring, the new employee is indoctrinated through an employee orientation program. Subsequent training is provided through scheduled in-house sessions that focus on specific aspects of applicable business operations. Other methods of providing training needs include seminars, self-study, college courses, on-the-job training and other suitable means.

Training needs are also determined based on the performance of the operation and/or specific processes.

Records of training are maintained on each employee in the form of a Personnel Training Record.

References:

- 2-4.18-1 Training (procedure)
- 4-4.18-1 Personnel Training Record (form)

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4.19 Servicing

At this time the Servicing element does not apply to Esquire Tooling.

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4.20 Statistical Techniques

4.20.1 Identification of Need

Esquire Tooling has identified the need for statistical techniques required for establishing, controlling, and verifying process capability and product characteristics.

Statistical techniques are applied to products produced by Esquire Tooling based on:

- *As a condition of contract from a customer (see Contract Review, 4.3);*
- *On recommendation of the Quality Manager based on the identification of the need for statistical techniques on a particular product or process.*

Currently, data and charts are used to track the progress towards the quality objectives identified in section 4.1.1 of this Quality Policy Manual.

4.20.2 Procedures

Esquire Tooling will establish and maintain documented procedures to implement and control the application of the statistical techniques when the need is identified.

References:

None