

# **Procedures Manual**

**ADVANTAGE MACHINE AND MANUFACTURING**

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**Procedures Manual**

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<b>ISO 9001:2000/AS 9100</b>	<b>Issue: 1</b>	<b>Effective Date: 10/08/07</b>

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**Amendments**

All copies of this Procedures Manual must be kept under strict control to prevent the System from becoming unreliable. The following Procedures will ensure that the system remains current and valid.

- 1) All copies of the manual will be clearly numbered and the Holder recorded.
- 2) Each page in the manual will carry its own number.
- 3) The Quality Representative will be responsible for all revisions and additions being recorded.
- 4) Changes can be suggested by any Employee but must receive signed approval before being entered into the Manual.
- 5) All changes must be recorded on the Amendments List and appropriate pages in each Manual changed.

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Table of Amendment – Procedures Manual					
Document Number	Page Number	Issue	Date	Description of Change	Authorization
PRM05	2	1	4/8/08	Added Order Flow Process Charts	CM
PRM01	2	1	4/18/08	Added Configuration Management section	CM
PRM01	3	1	4/18/08	Added ISO Interaction Processes	CM

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### Document Register

Document Number	Description	REV Level	Issue Date
QMF 01	Management Review Agenda	B	4/21/08
QMF 02	Training Orientation	A	1/31/08
QMF 03	Training Needs and Training	A	1/31/08
QMF 04	Training Plan/Matrix	A	1/31/08
QMF 05	Internal Audit Report	A	1/31/08
QMF 06	Customer Complaint Form	A	1/31/08
QMF 07	Complaints Register	A	1/31/08
QMF 08	Non-Conformance Register	A	1/24/08
QMF 09	Non-Conformance Report	C	4/23/08
QMF 10	Audit Program/Schedule	A	1/31/08
QMF 11	Traveller	A	1/31/08
QMF 12	Sales Order	A	1/31/08
QMF 13	Shop Order	A	1/31/08
QMF 14	In-Process Inspection Report	C	4/21/08
QMF 15	1 <sup>st</sup> Article Inspection Report	B	4/22/08
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QMF 17	Movement Card	A	1/24/08
QMF 18	Request for Quote (RFQ)	A	1/31/08
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QMF 22	Customer Satisfaction Survey	A	1/29/08
QMF 23	Terms and Conditions	A	4/4/08
QMF 24	Requirements Related to Product	A	4/4/08
QMF 25	Sales Order Detail Report/Acknowledgement	A	4/4/08
QMF 26	Order Flow Process Chart	A	4/8/08

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**Document Register**

Document Number	Description	REV Level	Issue Date
QMF 27	Vendor Non Conformance Form	B	4/21/08
QMF 28	Inspection Stamps	A	4/7/08
QMF 29	ISO Interaction Processes	A	4/17/08
QMF 30	FAI Product Accountability	A	4/15/08
QMF 31	FAI Part Number Accountability	A	4/15/08
QMF 32	FAI Characteristic Accountability	A	4/17/08
QMF 33	Interaction Process Flowchart (Config. Mgmt.)	A	4/19/08
QMF 34	Vendor Survey	A	4/21/08
QMF 35	Milling Machines	A	4/21/08
QMF 36	Non-Conformance Codes	A	4/21/08

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### DOCUMENT CONTROL AND RECORDS (ISO 9001:2000/AS 9100. Clause 4.2.3 and 4.2.4)

#### 1.0 Introduction

To demonstrate that Advantage Machine and Manufacturing's stated quality objectives have been satisfied, a detailed system of control for quality related documentation and records needs to be maintained.

#### 2.0 Scope

Advantage Machine and Manufacturing will produce and maintain adequate documentation to detail the requirements of the quality management system and to ensure that the requirements of the Customer can be satisfied. Adequate records must be maintained for this purpose.

This procedure also applies to all records generated under the other procedures in the quality management system.

#### 3.0 Responsibility

It is the responsibility of the ISO/AS Representative to ensure that:

- The quality management system is adequately documented.
- Documents are properly controlled and approved and are readily available to those personnel that need to use them.
- Sufficient records are maintained and these are legible and readily found.

#### 4.0 Procedure

##### 4.1 Document and Data Control

4.1.1 All quality manual documentation must carry a unique identification number, an issue number and the date from which the document becomes effective.

4.1.2 Documents must be formally approved for use.

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- 4.1.3 Other quality documents must be clearly identified by their title or other reference, traceable from the document master register.
- 4.1.4 A master register will be available and must carry the current issue of each document. The master register will be the only source of copies.
- 4.1.5 Obsolete documents will generally be withdrawn from the system.
- 4.1.6 External documentation must be adequately controlled to ensure that it is not damaged or lost.
- 4.1.7 All forms must be periodically assessed under the Quality Audit procedures for currency and fitness for use.
- 4.1.8 Any changes required to documentation must be processed through the Management Review meeting.
- 4.1.9 Changes to documents will be approved by, and co-ordinated with customers or regulatory authorities where required by the contract or regulations.

### 4.2 Records

- 4.2.1 All completed quality documentation and records must be retained for at least seven years unless specified in other regulations, by legislation, or by customer.
- 4.2.2 Records must be correctly filed under suitable headings, in files, folders etc such that they can be readily found. Adequate security must be maintained to ensure that records are not lost or damaged.
- 4.2.3 Records must be legible. Any mistakes must be crossed through and the appropriate change written in. (Example: 8/9/05 8/9/06)
- 4.2.4 Records kept on computer or on other electronic media must be backed up on a regular basis such that the information can be recovered if necessary.
- 4.2.5 Supplier records (including those retained by the supplier) will be maintained to the same standard as those belonging to Advantage Machine and Manufacturing.
- 4.2.6 Records will be made available to the customer or regulatory authorities where specified in the contract or regulations.
- 4.2.7 Records may be destroyed at the end of their retention period.

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### 4.3 Configuration Management Process

#### 4.3.1 General

The activities that are performed within the configuration management process are described below. It is essential that these activities be coordinated for this process to be effective.

The configuration management process should focus on customer requirements for the product and should take into account the context in which it will be performed. The configuration management process should be detailed in a configuration management plan. This should describe any project-specific procedures and the extent of their application during the life cycle of the product.

#### 4.3.2 Configuration management planning

Configuration management planning is the foundation for the configuration management process. Effective planning coordinates configuration management activities in a specific context over the product life cycles. The output of configuration management planning is the configuration management plan.

The configuration management plan for a specific product should

- \_\_\_ be documents and approved,
- \_\_\_ be controlled,
- \_\_\_ identify the configuration management procedures to be used,
- \_\_\_ make reference to relevant procedures of the organization wherever possible, and
- \_\_\_ describe the responsibilities and authorities for carrying out configuration management throughout the life cycle of the product.

The configuration management plan may be a stand-alone document, or a part of another document, or composed of several documents.

In some situations, the organization will need to require a supplier to provide a configuration management plan. The organization may wish to retain such plans either as stand-alone documents or to incorporate them into its own configuration management plan.

Annex A describes a potential structure and content for a configuration management plan.

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### 4.4 Configuration identification

#### 4.4.1 Product structure and selection of configuration items

The selection of configuration items and their inter-relationships should describe the product structure.

Configuration items should be identified using established selection criteria. Configuration items should be selected whose functional and physical characteristics can be managed separately to achieve the overall end-use performance of the item.

Selection criteria should consider

- \_\_\_ statutory and regulatory requirements,
- \_\_\_ criticality in terms of risks and safety,
- \_\_\_ interfaces with other configuration items,
- \_\_\_ procurement conditions, and
- \_\_\_ support and service.

The number of configuration items selected should optimize the ability to control the product. The selection of configuration items should be initiated as early as possible in the product life cycle. The configuration items should be reviewed as the product evolves.

#### 4.4.2 Product configuration information

Product configuration information comprises both product definition and product operational information. This typically includes requirements, specifications, design drawings, parts lists, software documents and listings, models, test specifications, maintenance and operating handbooks.

Product configuration information should be relevant and traceable. Numbering conventions should be established that are unique and ensure proper control of configuration items. These should take into consideration the existing numbering conventions of the organization and the change control information, such as revision status.

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### 4.4.3 Configuration baselines

A configuration baseline consists of the approved product configuration information that represents the definition of the product. Configuration baselines, plus approved changes to those baselines, represent the current approved configuration.

Configuration baselines should be established whenever it is necessary in the product life cycle to define a reference for further activities.

The level of detail to which the product is defined in a configuration baseline depends on the degree of control needed to process a proposed change or concession.

### 4.5 Change Control

#### 4.5.1 General

After the initial release of product configuration information, all changes should be controlled. The potential impact of a change, customer requirements and the configuration baseline will affect the degree of control needed to process a proposed change or concession.

The process for controlling the change should be documented, and should include the following:

- \_\_\_ a description of, justification for, and record of, the change;
- \_\_\_ a categorization of the change, in terms of complexity, resources and scheduling;
- \_\_\_ an evaluation of the consequences of the change;
- \_\_\_ details of how the change should be dispositioned;
- \_\_\_ details of how the change should be implemented and verified.

#### 4.5.2 Initiation, identification and documentation of the need for change

A change may be initiated by the organization, by a customer, or by a supplier. Prior to submission for evaluation to the dispositioning authority (see 4.2), all change proposals should be identified and documented.

Change proposals should typically include the following information:

- \_\_\_ configuration item(s) and related information to be changed, including details of their title(s) and current revision status;

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- \_\_\_ a description of the proposed change;
- \_\_\_ details of other configuration items or information that may be affected by the change;
- \_\_\_ the interested party preparing the proposal, and the date it was prepared;
- \_\_\_ the reason for the change;
- \_\_\_ the category of the change.

The status of change processing, the related decisions and the dispositions should be documented. A typical method for documenting change may be the use of a standard form that is given a unique identification number for ease of identification and traceability.

### 4.5.3 Evaluation of change

**4.5.3.1** Evaluations concerning the proposed change should be performed and documented. The extent of any evaluation should be based on the complexity of the product, the category of the change, and should include the following:

- \_\_\_ the technical merits of the proposed change;
- \_\_\_ the risks associated with the change;
- \_\_\_ the potential impact on contract, schedule and costs.

**4.5.3.2** In determining the impact, the following factors should also be considered:

- \_\_\_ the relevant statutory and regulatory requirements;
- \_\_\_ the interchangeability of configuration items and the need for their re-identification;
- \_\_\_ the interfaces between configuration items;
- \_\_\_ the manufacturing, test and inspection methods;
- \_\_\_ inventory and purchases;
- \_\_\_ delivery activities;
- \_\_\_ customer support requirements.

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### Disposition of change

A process should be established for the disposition of change that identifies the dispositioning authority (see 4.2) for each proposed change. This should take into account the category of the proposed change.

After a proposed change has been evaluated, the dispositioning authority should review the evaluation and should decide upon the disposition of the change.

The disposition should be recorded. Notice of the disposition should be circulated to relevant interested parties within and outside the organization.

#### 4.6.1 Implementation and verification of change

The implementation of an approved change normally includes

- \_\_\_ changes to the product configuration information being released to relevant interested parties, and
- \_\_\_ actions being taken by relevant interested parties (both within and outside the organization) that are affected by the change.

After implementation, compliance with the approved change should be verified. This verification should be re corded to allow traceability.

### 4.7 Configuration status accounting

#### 4.7.1 General

The configuration status accounting activity results in records and reports that relate to a product and its product configuration information.

The organization should perform configuration status accounting activities throughout the life cycle of the product in order to support and enable an efficient configuration management process.

#### 4.7.2 Records

**4.7.2.1** During the configuration identification and change control activities, configuration status accounting records will be created. These records allow for visibility and traceability and for the efficient management of the evolving configuration. They typically include details of

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- \_\_\_ the product configuration information (such as identification number, title, effective dates, revision status, change history and its inclusion in any baseline),
- \_\_\_ the product's configuration (such as part numbers, product design or build status),
- \_\_\_ the status of release of new product configuration information, and
- \_\_\_ the processing of changes.

**4.7.2.2** The evolving product configuration information should be recorded in a manner that identifies the cross-references and interrelationships necessary to provide the required reports (see 5.5.3).

**4.7.2.3** To protect the integrity of the product configuration information and to provide a basis for the control of change, it is recommended that configuration items and related information be held in an environment

- \_\_\_ that is commensurate with the conditions required (.e.g for computer hardware, software, data, documents, drawings),
- \_\_\_ that provides protection from corruption or unauthorized change,
- \_\_\_ that provides means for disaster recovery.

### 4.7.3 Reports

Reports of varying types will be needed for configuration management purposes. Such reports may cover individual configuration items or the complete product.

Typical reports include

- \_\_\_ a list of product configuration information included in a specific configuration baseline,
- \_\_\_ a list of configuration items and their configuration baselines,
- \_\_\_ details of the current revision status and change history,
- \_\_\_ status reports on changes and concessions, and
- \_\_\_ details of the status of delivered and maintained products concerning part and traceability numbers and their revision status.

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### 4.8 Configuration audit

Configuration audits should be performed in accordance with documentation procedures to determine whether a product conforms to its requirements and product configuration information.

Normally there are two types of configuration audits:

- a functional configuration audit; this is a formal examination to verify that a configuration item has achieved the functional and performance characteristics specified in its product configuration information;
- a physical configuration audit; this is a formal examination to verify that a configuration item has achieved the physical characteristics specified in its product configuration information.

A configuration audit may be required before the formal acceptance of a configuration item. It is not intended to replace other forms of verification, review, test or inspection, but will be affected by the results of these activities.

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**ADVANTAGE MACHINE AND MANUFACTURING**  
**Annex A**  
**(informative)**

**Structure and content of a configuration management plan**

**A.1 General**

A configuration management plan should be structured to allow for discrete sections addressing the topics given in A.2 to A.7, which also give guidance on content.

**A.2 Introduction**

A configuration management plan will need to include an introductory section giving general information. The following topics are typically addressed in such a section:

- \_\_\_ the purpose and scope of the configuration management plan;
- \_\_\_ a description of the product and configuration item(s) to which the plan applies;
- \_\_\_ a schedule to provide guidance on the time-scale of important configuration management activities;
- \_\_\_ related documents (e.g. configuration management plans from suppliers);
- \_\_\_ a listing of relevant documents and their interrelationships.

**A.3 Policies**

The configuration management plan should detail the configuration management policies that have been agreed with the customer or suppliers. This should provide the basis for configuration management activities with the contract, such as

- \_\_\_ policies on the practice of configuration management and related management activities,
- \_\_\_ the organization, responsibilities and authorities of relevant interested parties,
- \_\_\_ qualification and training,
- \_\_\_ the criteria for the selection of configuration items,
- \_\_\_ the frequency, distribution and control of reports, both internally and to the customer, and
- \_\_\_ terminology.

**A.4 Configuration identification**

The configuration management plan should detail

- \_\_\_ a family tree of configuration items, specifications and other documents,
- \_\_\_ the numbering conventions to be adopted for specifications, drawings, concessions and changes,

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- \_\_\_ the method for identification of the revision status,
- \_\_\_ the configuration baselines to be established, schedules, and the type of product configuration information to be included,
- \_\_\_ the use and allocation of serial numbers or other traceability identification, and
- \_\_\_ release procedures for product configuration information.

### **A.5 Change control**

The configuration management plan should detail

- \_\_\_ the relationship of the dispositioning authority (see 4.2) of the organization with that of other interested parties;
- \_\_\_ the procedures for the control of changes prior to the establishment of a contractual configuration baseline, and
- \_\_\_ the methods for processing changes (including those for customer, or supplier initiated changes) and concessions.

### **A.6 Configuration status accounting**

The configuration management plan should detail

- \_\_\_ the methods for collecting, recording, processing and maintaining the data that are necessary for producing configuration status accounting records, and
- \_\_\_ the definition of the content and format for all configuration status accounting reports.

### **A.7 Configuration audit**

The configuration management plan should detail

- \_\_\_ a list of audits to be conducted, and their occurrence within project schedules,
- \_\_\_ the configuration audit procedures to be used,
- \_\_\_ the authorities of relevant interested parties (both within and outside the organization), and
- \_\_\_ a definition of the format for audit reports

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### MANAGEMENT REVIEW (ISO 9001:2000/AS 9100 Clause 5.6)

#### 1.0 Introduction

The quality management system needs periodic review to ensure that it meets the requirements in respect of policy, objectives, effectiveness, resources, planning and is kept up to date.

#### 2.0 Scope

The Management Review must cover the operation of the quality management system throughout Advantage Machine and Manufacturing.

#### 3.0 Responsibility

It is the responsibility of ISO/AS Representative to ensure that:

- The quality management system is reviewed at least annually to ensure its continued suitability and effectiveness.
- The minutes of the meeting are recorded.
- Any actions are identified and corrected.
- Opportunities for improvement are identified and implemented.

#### 4.0 Procedure

4.1 The Management Review must be held at least three times per year to address all parts of Advantage Machine and Manufacturing's quality management system:

- To determine whether it is operating effectively to the benefit of Advantage Machine and Manufacturing.
- To identify opportunities for improvement.
- To determine whether Advantage Machine and Manufacturing is continuing to meet the Customer requirements.
- To prevent nonconformity.

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- 4.2 The meeting must be attended by the Quality Representative, senior management and other staff as appropriate.
- 4.3 The meeting must address the following topics:
- Actions from previous meeting.  
The aim is to ensure that any actions from the previous meeting have been corrected.
  - Review of the Quality Policy and objectives and changes that could affect the Quality Management System.  
The policy must be reviewed to check that it is still suitable for Advantage Machine and Manufacturing. Any objectives must be reviewed to check whether they are still appropriate and are being achieved. New objectives must be set where necessary.
  - Improvement.  
The meeting must address methods of improvement to the system. Where areas for improvement are identified, appropriate objectives and methods of monitoring will be agreed. Any of the topics addressed during the meeting may be considered for improvement initiatives.
  - Non-conformance and customer complaints.  
Non-conformances and customer complaints must be reviewed to check that the underlying cause has been addressed. Their effect on customer satisfaction must be addressed.
  - Corrective and preventive action.  
Corrective and preventive actions must be reviewed to check that they have been effective in achieving an improvement in the quality system.
  - Internal and external audits.  
Audit results must be reviewed to check that any non-conformances were corrected within an acceptable time scale. The frequency of auditing may be reviewed based on the audit results.
  - Planning and future resource requirements. (Long term planning)  
Any changes to the business that could affect the Customer or the quality management system should be addressed. This will include changes related to personnel, equipment or other resources.
  - Training.  
Training needs must be reviewed together with any proposals for carrying out training.

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- Supplier performance.  
Any need for changes to the suppliers used by Advantage Machine and Manufacturing must be addressed.
  - Customer satisfaction.  
The meeting must address whether Advantage Machine and Manufacturing is meeting or if possible exceeding the Customers requirements and expectations. Where complete customer satisfaction is not being achieved Advantage Machine and Manufacturing must plan and allocate suitable resources to resolve the problem.
  - Any other business.  
This may include any initiatives for improvement, reduction in rework or waste etc.
- 4.4 The review must cover as a minimum the period since the last Management Review.
- 4.5 The person responsible for any actions identified at the meeting must be recorded together with target dates for completion where appropriate. Advantage Machine and Manufacturing must allocate the necessary personnel and resources for these corrective actions.
- 4.6 Inputs to the Management Review must include:
- Customer Complaints Records (QMF06 and QMF07)
  - Internal Audit Reports (QMF05)
  - Training Records (QMF02 and QMF03)
- 4.7 The minutes of the meeting must be recorded and copies must be provided to all personnel who attended the meeting together with those who have actions placed upon them. (QMF01)

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**RESOURCES** (ISO 9001:2000/AS 9100 Clause 6.1, 6.2.1, 6.2.2, 6.3 and 6.4)

### 1.0 Introduction

To meet the requirements of the Customer, Advantage Machine and Manufacturing ensures that there are adequate resources in the form of personnel, plant and equipment. This may include additional resources from outside Advantage Machine and Manufacturing where necessary.

### 2.0 Scope

This procedure covers the systems and operations necessary to ensure that Advantage Machine and Manufacturing has adequate resources to meet the requirements of its Customers and operate the business in an efficient and safe manner.

### 3.0 Responsibility

It is the responsibility of ISO/AS Representative to ensure that:

- Advantage Machine and Manufacturing's resource requirements are reviewed on a regular basis.
- Training needs are identified.
- Suitable training is carried out and checked for effectiveness.

### 4.0 Procedure

#### 4.1 General

4.1.1 The review of resources must be formally carried out as part of the Management Review process but is also part of the day to day management of Advantage Machine and Manufacturing. See PRM 02 Management Review

4.1.2 Records associated with personnel and training are maintained in accordance with PRM 01 Document Control and Records. These records must be reviewed at least once per year.

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**4.2 Human Resources**

- 4.2.1 As part of the general planning and management process, Advantage Machine and Manufacturing must identify the personnel needed to ensure that it operates effectively. The general structure of Advantage Machine and Manufacturing is shown in Advantage Machine and Manufacturing’s chart in the Quality Manual. Specific responsibilities and authorities are defined in their respective position guides.
- 4.2.2 New personnel will be selected by an authorized hiring manager. Advantage Machine and Manufacturing’s policy of recruiting and procuring personnel with the required level of skills, experience and education is reviewed in the light of labor availability and also changes in the nature of Advantage Machine and Manufacturing’s work.
- 4.2.3 The training needs of all personnel will be identified by the Training Matrix (QMF04) on an ongoing basis. Where possible, measurable objectives will be set to assist in continual improvement.
- 4.2.4 All personnel must be given induction training including an explanation of the quality management system and the health and safety requirements when they start work with Advantage Machine and Manufacturing.
- 4.2.5 The training and experience of each employee will be assessed against defined objectives and any changes that have taken place, or are about to take place, to ensure that personnel are adequately trained and experienced to carry out their duties.
- 4.2.6 Where a specific training need is identified, this must be arranged by Human Resources and included on the Training Plan. (Form QMF03)
- 4.2.7 Training will be by means of in-house training, formal courses etc.
- 4.2.8 All training must be assessed by the direct supervisor through results and observation to check that it was effective.
- 4.2.9 Personnel records must be maintained to show all qualifications, experience and training undertaken. (Form QMF02) Where appropriate copies of certificates or other evidence to show that training has been carried out will be maintained.

**4.3 Facilities**

- 4.3.1 The Director of Operations must ensure that all buildings, plant and equipment are regularly maintained in accordance with manufacturers or recognized good practice.

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4.3.2 Records of maintenance will be maintained showing details of the work carried out. Where appropriate copies of certificates or other evidence of maintenance work will be maintained. (*\*e.g. Test certificates, service reports*)

**4.4 Work Environment**

- 4.4.1 All managers and supervisors must maintain a good standard of housekeeping within the work area.
- 4.4.2 Waste materials must be cleared away regularly to maintain a safe working environment.
- 4.4.3 Any faulty plant or equipment must be reported to direct supervisor for attention.
- 4.4.4 (*\*See Employee Safety Handbook*)

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**CUSTOMER REQUIREMENTS** (ISO 9001:2000/AS 9100 Clause 7.1, 7.2.1, 7.2.2 and 7.2.3)

### 1.0 Introduction

Meeting the Customers requirements is the principal objectives of Advantage Machine and Manufacturing. Their needs must be fully understood and agreed and Advantage Machine and Manufacturing must establish that it is in a position to meet these requirements in an effective manner.

### 2.0 Scope

Advantage Machine and Manufacturing produces precision-machined parts for a variety of industries.

The scope of this procedure includes:

- Identification and documentation of the Customer requirements.
- Review of these requirements.
- Methods of communication with the Customer.
- Outline planning of the work.

### 3.0 Responsibility

It is the responsibility of the ISO/AS Representative to ensure that:

- All verbal or written inquiries, orders and contracts are reviewed to ensure that the requirements together with any changes are adequately defined and understood by both parties.
- These requirements together with any changes are adequately documented.
- Adequate planning is carried out to ensure that Advantage Machine and Manufacturing has or can obtain the necessary resources to fulfill the order or contract.
- Effective lines of communication are set up between the Customer and Advantage Machine and Manufacturing.

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- Sufficient records are kept to show that the above requirements have been achieved.

### 4.0 Procedure

#### 4.1 General

4.1.1 Customer requirements will be dealt with in three stages:

- Receipt and understanding of the customer requirements.
- Review of Advantage Machine and Manufacturing's capability to meet these requirements.
- Confirmation of acceptance to the Customer.

4.1.2 Inquiries, requests for quotations, invitations to tender and orders are generally received by Telephone, Letter, Fax, E-mail or Customer Order.

4.1.3 Records related to dealing with Customer request for quote and orders will be kept in quote database and file cabinets.

4.1.4 Where Advantage Machine and Manufacturing is unable to meet the Customers requirements they will be advised accordingly.

4.1.5 Advantage Machine and Manufacturing's products and services are described in the website, brochures, Quality Manual and general sales literature.

#### 4.2 Customer Requirements (Receipt)

4.2.1 All sales inquiries, requests for quotations and orders will be handled as Management directs.

4.2.2 Each sales inquiry, request for a quotation or order must be identified by the sales inquiry log, the request for quote log or the work order number.

4.2.3 The details will be recorded and must include:

- Customer name, address and telephone number.
- Details of requirement.
- Delivery details.
- Customer contact. (Name, Telephone number)
- Date of inquiry or order.
- Customer supplied documents, drawings, specification etc.
- Supporting services, spares, service contracts etc.
- Regulatory or legislative requirements.

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- Any special requirements for product validation or verification.
- Type of industry or Organization.

4.2.4 The details must be recorded.

### 4.3 Customer Requirements (Review)

4.3.1 When the details of the Customers requirements have been clearly identified, Advantage Machine and Manufacturing's ability to carry out the work must be formally reviewed by a Management Team member. This must be based on the documents or other information provided by the Customer or Advantage Machine and Manufacturing's own documentation defining the requirements.

4.3.2 The review of Advantage Machine and Manufacturing's capability of carrying out the work must address the following:

- Can Advantage Machine and Manufacturing carry out the work in accordance with the Customers requirements without any additional resources or changes to normal operations?
- Is this a new or existing Customer?
- Are any additional resources required?
- Is there a need for additional investigation or research?
- **Are there any identifiable risks? e.g. Short delivery times.**
- Is any additional staff training needed?
- What goods, materials or services need to be obtained from outside suppliers?
- Does the work involve any special process not usually carried out by Advantage Machine and Manufacturing?
- Are there any special legal or regulatory requirements? e.g. National standards, health and safety etc.
- Are any support services required not specifically called for? e.g. spares, maintenance support.
- Can the design requirements be met?
- Is any specific documentation needed? (*Certificates of conformity*)

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- 4.3.3 Where any queries or discrepancies are found during this review process they must be resolved with the Customer by the Management Team.
- 4.3.4 Where the inquiry or order is from a new Customer a customer input/change form and a credit application must be completed.
- 4.3.5 Confirmation that Advantage Machine and Manufacturing can meet the Customers requirements will be in the form of an order confirmation.

### 4.4 Communication

- 4.4.1 Clear lines of communication must be established and maintained between the Customer and Advantage Machine and Manufacturing. This will be by means of telephone, fax, written communication, e-mail etc.
- 4.4.2 Quotations will be in writing and will be signed by a member of the Management Team to confirm that they have been formally reviewed.
- 4.4.3 Orders will be dealt with by the Management Team. They must be checked to ensure that they agree with any quotations or previous agreements. Any differences must be resolved.
- 4.4.4 Order acknowledgements are recorded. (QMF25)
- 4.4.5 Communication within Advantage Machine and Manufacturing will be by means of Management Meeting, e-mails and verbal or written communication.
- 4.4.6 All communications that could significantly affect Advantage Machine and Manufacturing's ability to fulfill the order or contact must be recorded.
- 4.4.7 Any Customer Complains must be dealt with in accordance with Procedure PRM09 and PRM10.

### 4.5 Planning

- 4.5.1 As part of the process of review of the Customers requirements a member of the Management Team must plan how the work is to be carried out to ensure that sufficient resources are available to achieve the specified requirements and quality.
- 4.5.2 Planning will take into account:
  - The Customers delivery or other critical dates.
  - Any specific product verification or checking requirements.
  - Availability of resources of both staff and plant and equipment.

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- 4.5.3 Any longer term planning will be dealt with at the Management Review. A member of the Management Team will provide feedback where problems have arisen with a view to improvement in the quality system.
- 4.5.4 The method of checking or verifying that the product meets the specified requirements will be defined by the traveller.

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**PROCESS CONTROL** (ISO 9001:2000/AS 9100 Clause 7.1, 7.5.1, 7.5.2, 7.5.3, 7.5.4, 7.5.5 and 8.2.4) (see chart QMF 26)

### 1.0 Introduction

It is essential that the work carried out by Advantage Machine and Manufacturing is adequately controlled to ensure that it meets the requirements of the Customer. This is achieved by good planning, the provision of adequate resources, properly trained and experienced personnel, clearly defined standards and methods of working and correct monitoring and product verification.

### 2.0 Scope

Advantage Machine and Manufacturing produces precision-machined parts for a variety of industries.

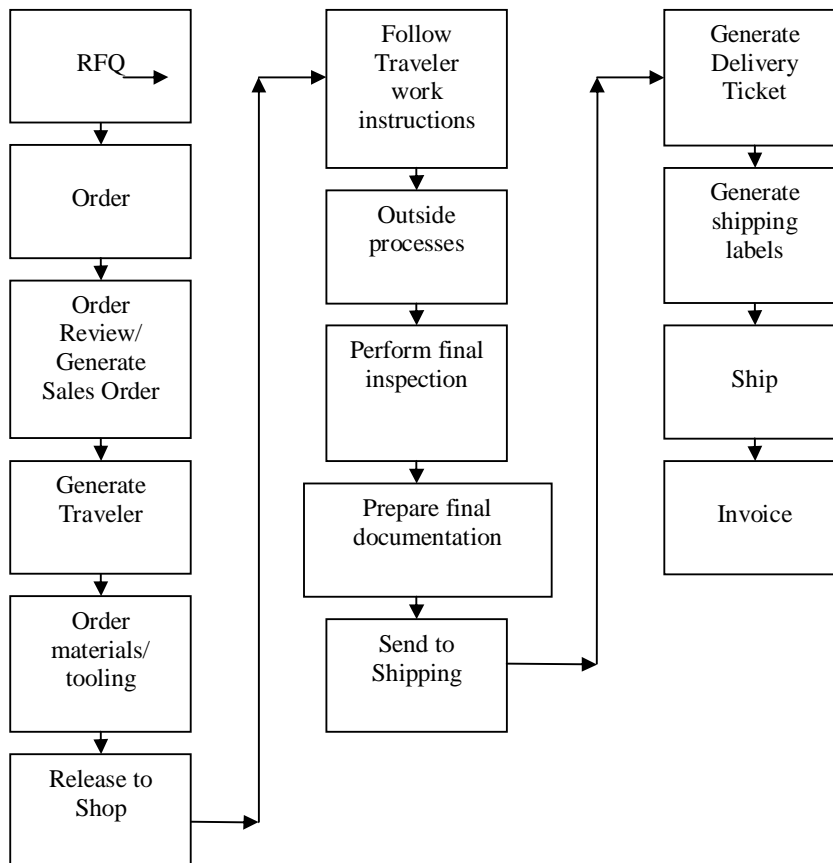
The scope of this procedure includes:

- Planning of the work process. (including validation that it is effective)
- Control of the work process.
- Validation of the work.
- Identification and traceability.
- Customer property.
- Control of associated activities including handling, packing, storage, preservation and delivery.

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**ORDER FLOW PROCESS**

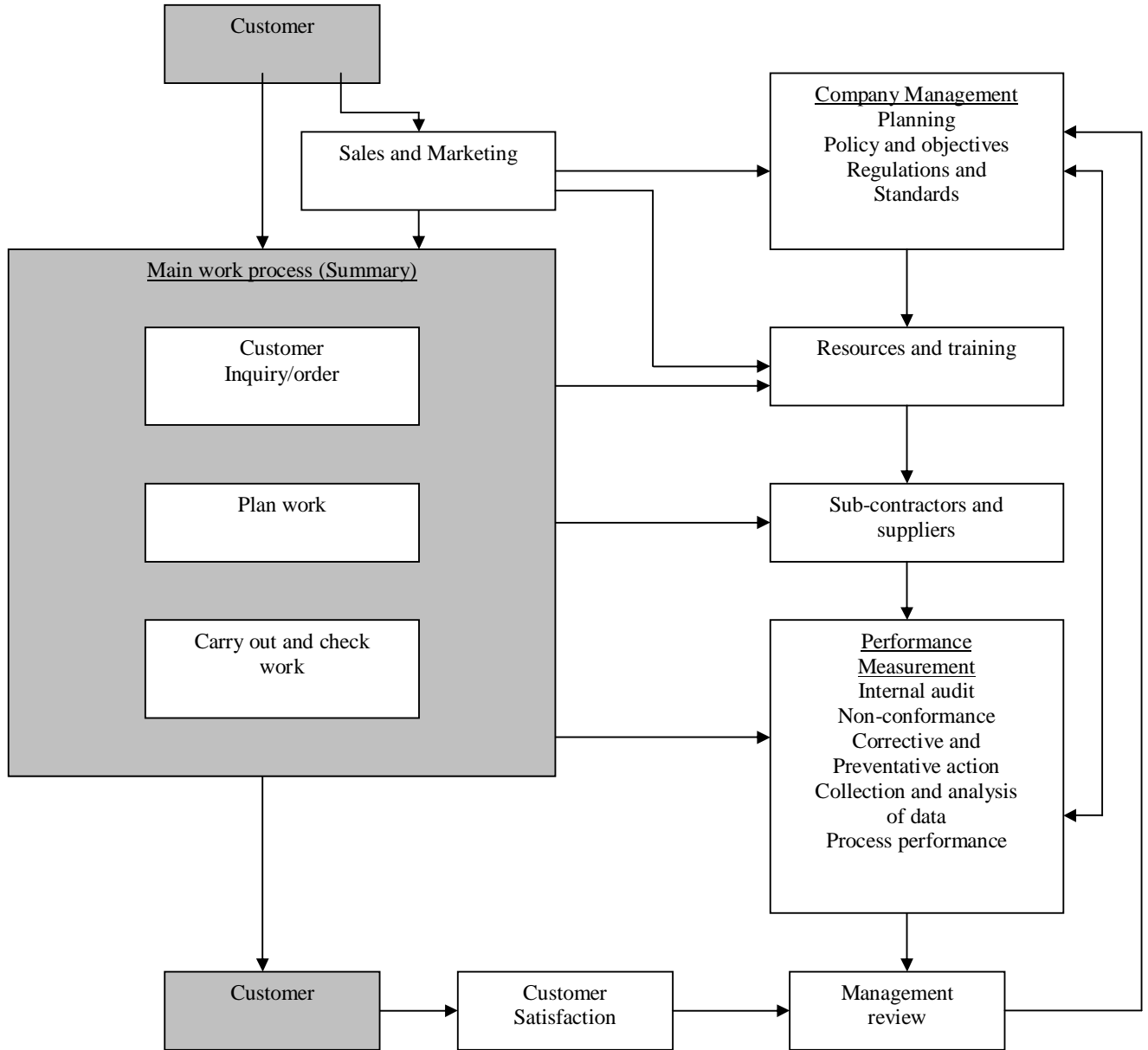


QMF26 REV: A Issued: 4/1/08

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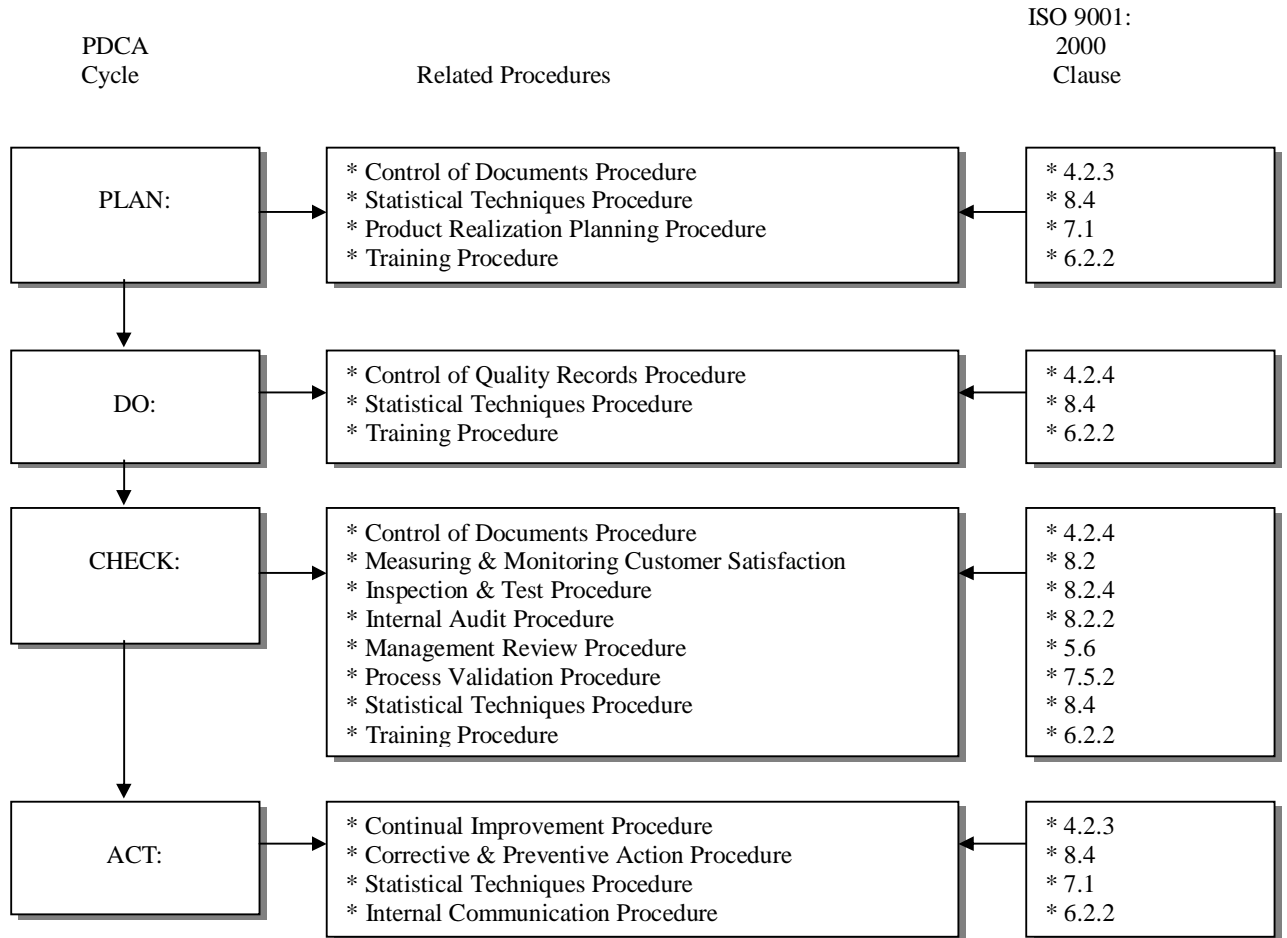
**Flow Chart of Interaction Between the Processes and the Quality Management System**



QMF 33 REV: A Issued: 4/19/08

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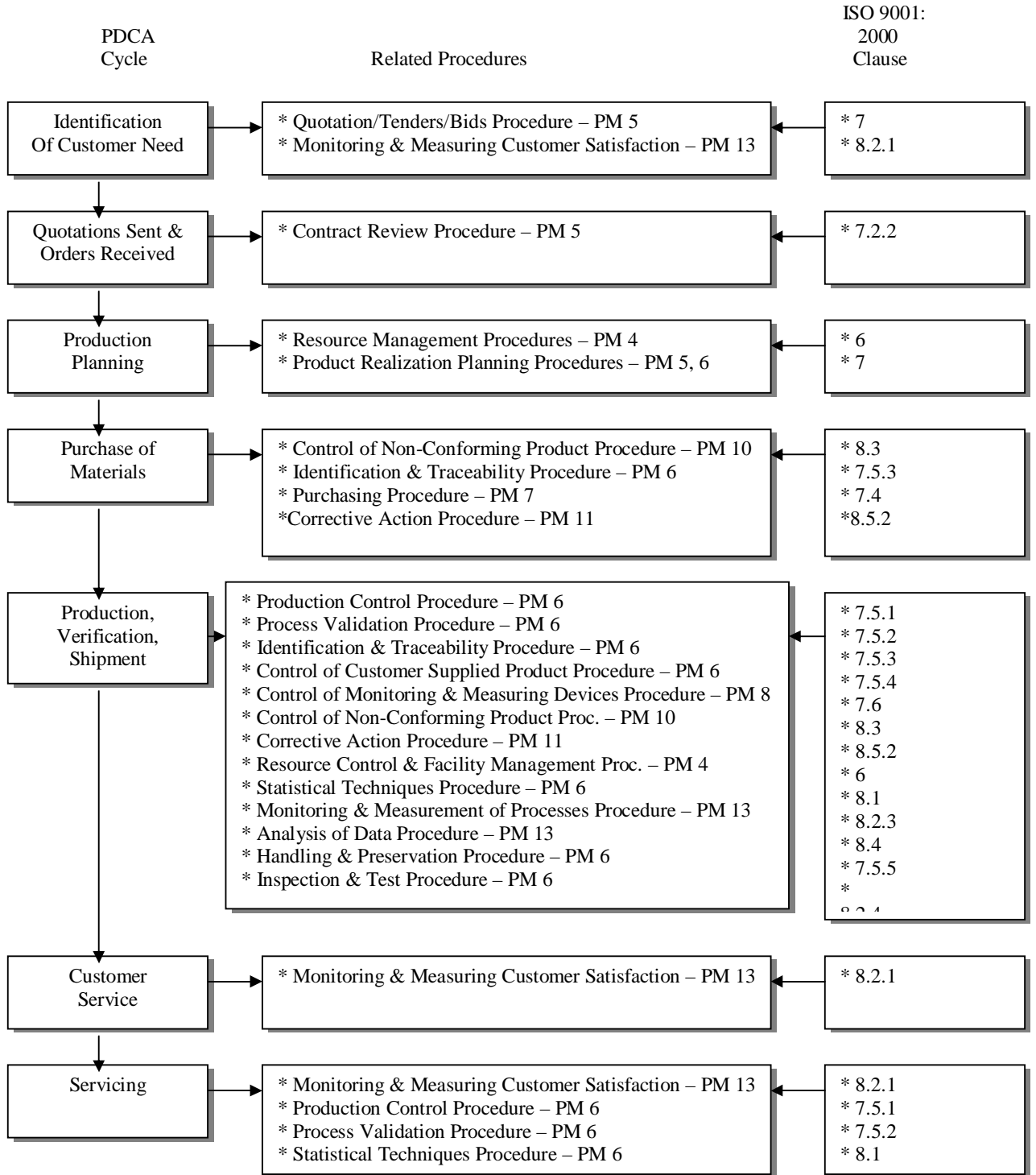
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QMF 29 REV: A Issued: 4/17/08

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## ADVANTAGE MACHINE AND MANUFACTURING

### 3.0 Responsibility

It is the responsibility of ISO/AS Representative to ensure that:

- All work carried out by Advantage Machine and Manufacturing is adequately defined and controlled.
- Appropriate instructions are provided and maintained to ensure that the quality of work is satisfactory and these are readily available.
- Standards of workmanship and criteria for acceptance are defined.
- Suitable personnel are assigned for the work process and for product verification and checking activities.
- Adequate resources are provided in the form of personnel, equipment and a suitable working environment.

The following personnel are responsible for product verification activities and the maintenance of the associated records.

Receipt product verification.	ISO/AS Representative
In process product verification.	ISO/AS Representative
Final product verification.	ISO/AS Representative

It is the responsibility of all personnel to comply with this procedure and seek guidance from their manager or supervisor where clarification is required.

### 4.0 Procedure

#### 4.1 General

- 4.1.1 All work carried out by Advantage Machine and Manufacturing must take into account any applicable Health and Safety requirements and statutory legislation. Good standards of housekeeping will be maintained at all times.
- 4.1.2 All records associated with the work process are kept in accordance with PRM 01 Document Control and Records. Work records are kept both hard copy and electronically by job number and cross referenced by customer name.
- 4.1.3 All personnel carrying out work will be suitably trained and experienced in accordance with PRM 03 Resources.

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- 4.1.4 Measuring equipment will be controlled in accordance with PRM 07 Measuring and Monitoring Equipment.
- 4.1.5 All equipment will be maintained regularly in accordance with the manufacturers or suppliers instructions.
- 4.1.6 Process capability will be addressed in accordance with procedure PRM 11 Measurement and Improvement.

**4.2 Planning**

- 4.2.1 Work will be planned and controlled.
- 4.2.2 Planning must take into consideration:
  - Inputs and outputs required.
  - Allocation of responsibilities.
  - Resources required including those specified by the customer.
  - Validation of the process and analysis of any risks.
  - Legal or regulatory requirements.
  - Procurement of goods, materials or services.
  - Procedures, methods and work instructions. These will be checked to ensure that they are at the correct issue status for the work.
  - Product validation, product verification and other validation processes.
  - Control of changes and modifications to be approved by management.
  - Targets for the completion of the work.
  - Resources necessary to support the operation and maintenance of the product.
  - Records.
  - Other requirements as appropriate to meet the quality objectives.

**4.3 Work Control**

- 4.3.1 The specification of characteristics of the work must be clearly defined by a traveller and/or specifications. Suitable process controls and control plans will be maintained to ensure that the key characteristics can be identified. This will be established by the customer or process engineering using a traveller, process specifications and/or other documentation.

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These must define the standard of workmanship as clearly as possible. (e.g. illustrations, samples etc.)

4.3.2 The means of inspection and product validation will be in accordance with Section 4.9 of this procedure. Planning of inspection and testing activities will include:

- Evidence that all operations have been carried out as planned.
- Identification of inspection points where inspection can not be performed at a later stage.
- Methods for accounting for all parts, part orders etc. during manufacture.
- Prevention, detection and removal of foreign objects.

4.3.3 The work will be carried out according to the work instructions found in QMF35 and the instructions found in the work traveller (QMF11). This will be regularly maintained in accordance with the manufacturers or suppliers instructions. Services will be monitored where they could affect the product. (e.g. compressed air.)

The following should be addressed where applicable:

- Procedure and criteria for release of the product or service.
- Training or qualification.
- Design, manufacture and use of special tooling.
- Control of work temporarily transferred to another organisation. (e.g. sub-contract plating)
- Special processes.

### 4.4 Production Documentation

4.4.1 Production will be carried out in accordance with approved data which clearly defines the production and inspection operations. (e.g. drawings, route cards etc.)

4.4.2 Lists of tools and machine programs together with any associated instructions will be maintained.

### 4.5 Production Changes

4.5.1 Production changes will be made only by authorized staff.

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- 4.5.2 Changes affecting the production process, equipment or programs will be documented. Customer approval of changes will be obtained where required by the contract or regulations.
- 4.5.3 Changes will be checked to confirm that they are effective.

**4.6 Control of Equipment etc.**

- 4.6.1 Equipment, tools and programs will be validated before use to confirm their capability. (e.g. first off inspections). They will be regularly maintained and stored in accordance with the manufacturers, suppliers or other documented procedures.
- 4.6.2 Where the company uses tooling or equipment supplied by the customer, this will be used and stored in accordance with their requirements.

**4.7 Temporary Transfer of Work.**

- 4.7.1 Control and validation of work transferred to a sub-contractor or other outside organization will be clearly defined. (e. g. plating, heat treatment etc.)

**4.8 Servicing**

- 4.8.1 Where servicing is a requirement, relevant service data will be collected and analyzed.
- 4.8.2 Post delivery problems will be investigated and corrected in accordance with contractual or regulatory requirements.
- 4.8.3 Technical documentation will be updated when necessary.
- 4.8.4 Repair schemes will be approved by and will be adequately controlled.
- 4.8.5 Work carried out at the customers or other off-site facilities will be controlled to the same standard as all other work.

**4.9 Validation/Inspection**

- 4.9.1 The procedure for receipt product verification is detailed in PRM 06 Purchasing.

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- 4.9.2 In-process and final product verification must be carried out in accordance with the specified requirements. Product verification records will be travellers, process specification and other documentation.
- 4.9.3 Where any key characteristics have been identified, these will be monitored and controlled throughout the process.
- 4.9.4 Inspection records will be in the form of travellers and other specified documents on the traveller. They must clearly identify the person carrying out the inspection.
- 4.9.5 Any special processes must be qualified and approved. Significant operations and parameters will be documented.
- 4.9.6 Where sample inspection is carried out, the sampling plans will be statistically valid and suitable for the process. They will be approved by the Customer where required.
- 4.9.7 Work will not be handed over to the Customer until all product validation and checking is complete and it meets the specified requirements unless a formal concession is agreed by the Customer or the product is released under a positive recall procedure.
- 4.9.8 Non-conforming work or rejects will be dealt with in accordance with PRM 09 Control of Non-conformance.

**4.10 Inspection Documentation**

- 4.10.1 Inspection records will include the acceptance or rejection criteria, the sequence and stages where the inspection is to be carried out and the details of the measuring equipment used.

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**4.11 First-Article Inspection**

*When required by Advantage Machine and Manufacturing Process Engineering or the customer, first article inspections shall be performed per the traveller. Records must be maintained for each part. The following FAI Reports will be completed:*

- QMF30 – Product Accountability*
- QMF31 – Part Number*
- QMF32 – Characteristic Accountability*

**4.12 Identification and Traceability**

- 4.12.1 All products and materials delivered to Advantage Machine and Manufacturing must carry identification from the supplier unless this is obvious by appearance. If there is a specific requirement for traceability this will be maintained throughout the work process.
- 4.12.2 Work in progress must be clearly identified at all stages of production by the traveller or copy thereof. All records must clearly show the configuration and status of the product.
- 4.12.3 Product verification status will be shown by (\*e.g. Stickers, associated documents, location etc).
- 4.12.4 Where traceability is a specified requirement, the requirements will be made available to the purchasing department who will ensure that purchased items are traceable.
- 4.12.5 Where required by the contract, regulations or other requirements:
  - Traceability will be maintained for the life of the product.
  - Batch traceability will be maintained, including the destination of all products in the batch.
  - Components that are part of an assembly, together with the next higher assembly will be traceable.
  - Production records of the product will be maintained.
- 4.12.6 Split orders will be strictly controlled to ensure that the products and records related to each batch are clearly distinguishable.
- 4.12.7 Where unique identification is required the details will be recorded.
- 4.12.8 Goods or materials not meeting the specified requirements will be dealt with in accordance with PRM 09 Control of Non-Conformance.

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### 4.13 Customer Property

- 4.13.1 The Customers own products or property, including intellectual property, (e.g. design, production and inspection data) will be looked after with care while on Advantage Machine and Manufacturing's premises and during transit to the Customer.
- 4.13.2 Customers property must be clearly identified and stored.
- 4.13.3 Advantage Machine and Manufacturing undertakes to advise the Customer of any changes in the condition of the supplied product and to treat it as though it were their own while it is under their control.

### 4.14 Associated Activities

- 4.14.1 Handling.
  - 4.14.1.1 Goods and materials must be handled in a manner that does not cause any damage or deterioration. Special handling arrangements will be made for sensitive products.
  - 4.14.1.2 Where necessary mechanical handling equipment will be used. (e.g. For heavy loads)
  - 4.14.1.3 Due consideration will be given to Health and Safety requirements for manual handling or for hazardous goods and materials.
- 4.14.2 Storage and preservation.
  - 4.14.2.1 Storage will be within designated areas where conditions are appropriate for the products and materials.
  - 4.14.2.2 Due care will be taken to prevent contamination by foreign objects and where necessary ensure they are detected and removed. Cleaning will be carried out to specified procedures where required.
  - 4.14.2.2 Stock rotation and shelf life control will be carried out in accordance with manufacturers or suppliers recommendations.

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### 4.14.3 Packing.

4.14.3.1 Goods and materials must be packed in a manner that ensures that they are not damaged during storage or transport. Labels will include safety warnings where necessary. Storage areas will be checked periodically to ensure that no changes have occurred that may effect the goods or materials.

### 4.14.4 Transport and delivery.

4.14.4.1 Finished products will be distributed through a variety of methods..

4.14.4.2 When carriers are used, the product will be packed to specifications developed by the trade to ensure safe transit.

4.14.4.3 Packages and containers will be marked to indicate contents and transit care requirements if necessary.

4.14.4.4 Delivery notes will be raised with a copy to the Customer which requires a signature to confirm satisfactory delivery without physical damage.

## 4.15 Associated Documents

*(\*List any Organisation work instructions, procedures etc that may be applicable)*

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**PURCHASING** (ISO 9001:2000/AS 9100 Clause 7.4.1, 7.4.2 and 7.4.3)

### 1.0 Introduction

To ensure that the quality of Advantage Machine and Manufacturing's products or services is maintained, it is essential that brought in products or services are of a high standard. All suppliers utilized by Advantage Machine and Manufacturing as of 4/15/08 are grandfathered in. New suppliers will be selected on their ability to consistently meet Advantage Machine and Manufacturing's requirements.

### 2.0 Scope

All purchased products and services used by Advantage Machine and Manufacturing fall within this procedure.

### 3.0 Responsibility

It is the responsibility of the ISO/AS Representative to ensure that:

- Suppliers are formally assessed to confirm that they can meet Advantage Machine and Manufacturing's requirements.
- Unsatisfactory suppliers are no longer used by Advantage Machine and Manufacturing.
- The requirements for purchased products or services are clearly defined.
- Purchased products or services are inspected or checked.

### 4.0 Procedure

#### 4.1 Supplier Approval

4.1.1 All suppliers of products or services must be reviewed to ensure that they can meet Advantage Machine and Manufacturing's requirements. This review will include (as appropriate):

- Past history and performance.
- Evaluation of a trial order, samples or activity.

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- Evidence of registration by a recognized authority.
  - On site assessment of their capability and quality system.
  - Comparative test results with the same or similar products.
  - Recommendation or references from other users.
  - 100% product verification of all services/products supplied.
  - Financial viability.
  - On time delivery
- 4.1.2 The record of approved suppliers, including the scope of approval will be maintained.
- 4.1.3 Supplier approval must be reviewed at least once per year. This will be based on their performance when meeting orders placed with them over the previous year. The results of the review will be addressed at the Management Review.
- 4.1.4 Any problems must be investigated and where they can not be resolved the supplier will no longer be used.
- 4.1.5 Customer specified suppliers will be used for special processes by both Advantage Machine and Manufacturing and any sub-contractor where required by the contract.

**4.2 Purchasing**

- 4.2.1 Items effecting Organization products or services must be purchased from the Approved Vendor List.
- 4.2.2 Purchase orders must clearly define the product or service required. They will address:
- Product or service required.
  - Any relevant specifications, drawings, standards or regulations that are applicable. These will include the issue status.
  - Any acceptance requirements for design, test and inspection.
  - Any requirements for test specimens, design approval, auditing or any other involvement by Advantage Machine and Manufacturing.
  - Any requirements related to notification and approval of changes to the product or non-conforming material by the supplier.
  - Arrangements for access by Advantage Machine and Manufacturing, the customer or regulatory authorities to the suppliers facilities or records.
  - Requirements for the supplier to pass on relevant purchasing information to lower tier suppliers that they are using for the work.

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- Delivery requirements.
- Any documentation to be supplied. (e.g. Certificates of conformity)
- Price and payment details.

4.2.3 Purchase requirements will be detailed on Company Purchase Order.

The supplier is required to supply to the specification, quantity and price as specified on the purchase order.

4.2.5 Purchase orders may be faxed, written or telephoned. Where orders are placed by telephone, the order numbers will be quoted and recorded.

### 4.3 Verification/Inspection

4.3.1 All goods and services must be checked against the purchase order and where appropriate the delivery note. The purchase order or delivery note will be signed to confirm the product verification.

4.3.2 Any discrepancies will be resolved with the supplier. Any discrepancies must be recorded as part of the supplier assessment process.

4.3.3 Where verification is to be carried out at the suppliers premises, this will be arranged at the time of placing the order. This will not absolve the supplier of their responsibility to provide an acceptable product.

4.3.4 Goods and materials will not be used until they have been inspected unless they have been clearly identified so that they can be recalled if found to be defective at a later inspection.

4.3.5 Where test reports are used for verification, these must meet the requirements of the specification. They will be independently checked periodically to confirm that they are a valid method of verification.

4.3.6 Where verification is delegated to the supplier, the requirements will be clearly defined together with details of those responsible.

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### MEASURING AND MONITORING EQUIPMENT (ISO 9001:2000/AS 9100 Clause 7.6)

#### 1.0 Introduction

If equipment is used to check that the product meets the Customers requirements, then it needs to be properly controlled and maintained. It should be the correct equipment and be capable of making the required measurements to the specified accuracy. Where test software is used, it should be checked on commissioning and rechecked at specific intervals.

#### 2.0 Scope

This procedure covers all product verification, product validation and measuring equipment owned by Advantage Machine and Manufacturing, rented, on loan, owned by employees or provided by the Customer. It also covers test hardware and software.

#### 3.0 Responsibility

It is the responsibility of the ISO/AS Representative to:

- Identify the measurement and tests to be carried out together with the accuracy required and the equipment to be used.
- Ensure that all measuring, test and product verification equipment is identified, maintained, controlled, and checked or calibrated at defined intervals.
- Ensure that test software is validated to ensure its capabilities and accuracy and is released in controlled manner.
- Maintain adequate records.

#### 4.0 Procedure

- 4.1 Measuring and product validation equipment used throughout Advantage Machine and Manufacturing will be identified and logged.

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- 4.2 Feeler gauges, steel rules and steel tapes will be subject to regular product verification by their owner and changed when deterioration is apparent.
  - 4.2 All other measuring and product validation equipment will have a calibration record which will include details of the equipment, method of calibration, acceptance criteria, identification marking, location, checking frequency, calibration dates and results.
  - 4.4 Equipment requiring calibration will be recalled by. *(Add details specific to Advantage Machine and Manufacturing)*
  - 4.5 The method of calibration will be identified e.g. by a calibration laboratory or in house against calibrated standards.
  - 4.6 Equipment failing to meet the required standard must be identified for repair or discarded and the record amended.
  - 4.7 New equipment will be checked or calibrated before issue and the calibration record prepared if necessary.
  - 4.8 After completion of the calibration, the details will be amended on the calibration label on the equipment.
  - 4.9 All measuring and product validation equipment, whether Organisation or employee owned will be used and stored in suitable environmental conditions to ensure accuracy and fitness for use.
  - 4.10 Where equipment is found to be defective or out of calibration the effect on inspections carried out with this equipment will be assessed and any suspect products will be recalled for re-inspection.
- \*The following points must be addressed if test software is used*
- 4.11 *Test software will be validated by Advantage Machine and Manufacturing or software manufacturer.*
  - 4.12 *Existing software is approved on the basis of previous satisfactory performance.*
  - 4.13 *Release of software including changes will be controlled.*

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### INTERNAL AUDIT (ISO 9001:2000/AS 9100 Clause 8.2.2)

#### 1.0 Introduction

Advantage Machine and Manufacturing's quality management system needs to be audited on a systematic basis to ensure that the planned arrangements are being met in practice.

#### 2.0 Scope

This procedure details the method of planning and carrying out the internal audit to check that Advantage Machine and Manufacturing's procedures are being followed.

#### 3.0 Responsibility

It is the responsibility of the ISO/AS Representative to ensure that:

- An internal audit program is prepared to cover all elements of the quality management system.
- Compliance with contract and regulatory requirements is checked.
- Suitable personnel are allocated to carry out the internal audits.

It is the responsibility of the Internal Auditor to carry out the audits, identify any non-conformances and follow them up to ensure that they are corrected.

#### 4.0 Procedure

##### 4.1 Planning

- 4.1.1 An internal audit program must be prepared covering all elements of the quality management system. (QMF04). The program will be structured in such a manner as to ensure each process is audited at least annually.

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- 4.1.2 Suitably trained auditors must be assigned to carry out the audit of each element of the system. Note that the auditor should be independent of the work or area being audited.
- 4.1.3 Additional audits may be scheduled where problems or deficiencies have been found.

### 4.2 Conducting the Audit

- 4.2.1 The Internal Auditor(s), will carry out the audits in accordance with the program.
- 4.2.2 Using **check lists, process flow charts etc.** as the guide, each **process** will be checked to ensure that its requirements are being met and that the overall purpose of the procedure is being fulfilled.
- 4.2.3 Written notes on variances, non-conformance and omissions will be taken (QMF05) and circulated for action to appropriate personnel.
- 4.2.4 Supplementary notes will be taken of supporting information and records checked. e.g. Job numbers, purchase orders.
- 4.2.5 **The Internal Auditor will check compliance with contractual and regulatory requirements.**

### 4.3 Reporting and Closing Out Non-Conformances

- 4.3.1 The Internal Auditor will be responsible for following up designated actions and for the making of information on incomplete items available to the Management Review Meeting.
- 4.3.2 If the Internal Auditor believes that any **process** or method of working is not meeting its intended objectives, could be improved or that further information is required, it will be discussed with the appropriate manager and corrective action taken. This will be reported to the Management Review Meeting.

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### CONTROL OF NON-CONFORMING PRODUCT (ISO 9001:2000/AS 9100 Clause 8.3)

#### 1.0 Introduction

In the event of defective or substandard work being produced, the non-conforming product or service needs to be identified and corrected to prevent potential customer complaints. The causes need to be reviewed to prevent recurrence, if possible.

#### 2.0 Scope

This procedure addresses non-conforming products and services at all stages in Advantage Machine and Manufacturing's work process.

#### 3.0 Responsibility

It is the responsibility of the following personnel to ensure that non-conformances are identified and corrected, the root causes are addressed and the necessary records are maintained.

- Customer complaints. ISO/AS Representative
- Product/service non-conformances. ISO/AS Representative
- Quality system non-conformances. ISO/AS Representative

#### 4.0 Procedure

4.1 Routine product verification and monitoring at all stages in the work process should be aimed at identifying any non-conforming or defective products or services. All personnel must report non-conformances.

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- 4.2 Non-conformances must be **conspicuously** identified by *(\*e.g. labels or tags, segregation)* **until physically rendered unusable**. Due to the size of Advantage Machine, only the President and General Manager are currently authorized to disposition non-conforming material. If and when business needs necessitate, a process for approving additional personnel will be determined.
- 4.3 All non-conforming products or services must be dealt with promptly to prevent the deficiency becoming worse or affecting the Customer.
- 4.4 The non-conformance will be corrected by the most appropriate and cost effective method. *(\*e.g. repaired or reworked, scrapped)*
- 4.5 **Repaired or reworked products will be re-inspected to the same standard and instructions as those used for the original manufacture.**
- 4.6 **Advantage Machine and Manufacturing shall not use dispositions of use-as-is or repair, unless specifically authorized by the customer, if, the product is produced to customer design or the non-conformity results in a departure from the contract requirements.**
- 4.7 **Non-conformances in Organization designed products may be repaired or used as-is, provided that they still meet the customers specified requirements.**
- 4.8 Non-conformances must be recorded together with the action taken to correct them. They must be reviewed to allow identification of the root causes and trends.
- 4.9 Where concessions are required from the customer, regulatory body or other organization, this will be recorded.
- 4.10 Where urgent release is requested before full product verification, the delivery documentation must be endorsed accordingly. The items will be clearly identified.
- 4.11 Where the non-conformance can be traced to a supplier, the stock will be removed from the work area and clearly identified until corrective action is carried out. **The supplier will be notified immediately, especially where there may be an effect on reliability or safety.**
- 4.12 Where non-conformance is identified after the delivery or use, Advantage Machine and Manufacturing will repair or replace the non-conforming product. **Concise details of the product will be provided to enable it to be correctly identified. e.g. serial numbers, quantities, delivery dates.**

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- 4.1.2 Sources of information for corrective and preventive action will include customer complaints, non-conformance records, management review and other management system records, internal audits, customer satisfaction records and process measurements.
- 4.1.3 Corrective and preventive action and customer complaints will be addressed at the Management Review.
- 4.1.4 Records will be maintained to document the non-conformance or preventive action planned, the corrective or preventive action taken and the confirmation that it was effective.

### 4.2 Corrective Action

- 4.2.1 All non-conformances requiring corrective action must be clearly identified.
- 4.2.2 The root cause of non-conformance must be determined and suitable corrective action will be planned and carried out to eliminate or reduce the cause.
- 4.2.3 The corrective action will be resolved with the supplier where they are responsible for the root cause of the deficiency.
- 4.2.4 Checks must be carried out to ensure that the corrective action was effective and has eliminated or reduced the risk of the non-conformance occurring again. Where effective corrective action is not achieved or is delayed, it will be investigated.

### 4.3 Customer Complaints

- 4.3.1 On receipt of a customer complaint the details must be recorded on the Customer Complaint form (QMF06). The form will then be allocated a reference and entered to the complaints register. (QMF07)
- 4.3.2 Customer complaints will be dealt with in the same manner as in section 4.2 above.

### 4.4 Preventive Action

- 4.4.1 All potential non-conformances requiring preventive action must be clearly identified.

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- 4.4.2 The preventive action must be planned and carried out to remove or reduce the risk.
- 4.4.3 Checks must be carried out to ensure that the preventive action was effective and has eliminated or reduced the risk of the potential non-conformance occurring.

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**MEASUREMENT AND IMPROVEMENT** (ISO 9001:2000/AS 9100 Clause 5.2, 8.1, 8.2.1, 8.2.3, 8.4 and 8.5.1)

### 1.0 Introduction

To ensure that high quality standards are maintained and improved, Advantage Machine and Manufacturing monitors the work process to ensure the highest standards of Customer satisfaction. Measurement is aimed at added value and benefit to the Customer and Advantage Machine and Manufacturing. This process is Organization wide and involves all personnel.

### 2.0 Scope

The scope of this procedure includes:

- Planning and control of all processes.
- Collection and analysis of data and information.
- Measurement of customer satisfaction and dissatisfaction.
- Monitoring and improvement of process capability.
- Continual improvement.

### 3.0 Responsibility

It is the responsibility of the ISO/AS Representative to ensure:

- That procedures and initiatives are put in place to measure Advantage Machine and Manufacturing's performance.
- The quality management system is continually improved.
- Customer satisfaction is measured and deficiencies addressed.

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### 4.0 Procedure

#### 4.1 General

4.1.1 The measurement and improvement process must be planned in the same way as other activities carried out by Advantage Machine and Manufacturing. This will include:

- Deciding what to address.
- Setting priorities and objectives.
- Deciding on the methods to be used.
- Allocating resources. e.g. Time and personnel.
- Carrying out the measurements.
- Analyzing the results.
- Communicating the results to the appropriate personnel or organization such that it is clearly understood. (*\*e.g. means of communication, Management Review etc.*)
- Implementing the appropriate action.
- Checking that it was effective.

4.1.2 Other sources of information for the improvement process are covered in:

- PRM 02 Management Review
- PRM 08 Internal Audit
- PRM 09 Control of Non-conformance
- PRM 10 Corrective and Preventive Action

4.1.3 The main discussion point for this process will be the Management Review meeting.

#### 4.2 Collection and Analysis of Data

4.2.1 In order to measure performance a certain amount of data and information needs to be collected. This will address:

- Meeting Customer requirements and measurement of Customer satisfaction and dissatisfaction.
- Performance of suppliers.

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- Assessment of process and product characteristics and trends.  
*(\*This may include reject rates, delivery problems, information on supplier performance, assessment of customer satisfaction and dissatisfaction, data on process and product e.g. downtime, breakdowns, rejects and rework, trends and variations, use of statistical techniques)*

4.2.2 Advantage Machine and Manufacturing must decide what the data is needed for, any specific methodology to be used and the frequency of collection.

4.2.3 Other sources of information detailed in section 4.1.2 may be used as necessary.

4.2.4 The aim will be to improve the efficiency and performance of Advantage Machine and Manufacturing.

### 4.3 Customer Satisfaction and Dissatisfaction

4.3.1 Customer satisfaction and dissatisfaction will be measured to ensure that:

- The product or service has the required characteristics.
- The price is satisfactory.
- The delivery process is satisfactory.
- The Customer feels they are receiving good value for money.

4.3.2 Customer satisfaction and dissatisfaction will be measured by:

Add details specific to Advantage Machine and Manufacturing taking into account the following:

- Feedback from customers. Complaints.
- Feedback from the Customer during sales and ordering activities.
- Direct communication during the course of business.
- Market trends.
- Evaluation of the competition.
- Questionnaires or surveys.
- Analysis of repeat orders.
- Returns and repairs.

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4.3.3 The information obtained must be analyzed and the appropriate action taken to improve Customer satisfaction or eliminate the reason for dissatisfaction.

### 4.4 Monitoring the Process

4.4.1 The work process must be monitored to ensure that it is effective and to identify areas for improvements or savings. (*\*e.g. Review of new equipment or new processes, monitoring achievement of targets, down time, reduction in costs, etc.*)

### 4.5 Planning for Continual Improvement

4.5.1 The overall quality management system will be improved by:

- Setting objectives.
- Monitoring these by means of audits, analysis of corrective and preventive action and customer complaint information.
- Evaluation of effectiveness of each process.
- Taking the appropriate corrective action.

4.5.2 The improvement process will be reviewed and monitored at the Management Review.

4.5.3 New objectives will be set when the current objectives have been achieved.

*Where software design is part of the process, reference should be made to Boeing Document No D6-82479 Addendum 1*

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**ADDITIONAL REQUIREMENTS FOR BOEING CONTRACTS****1.0 Introduction**

The following are additional requirements to be taken into account for any work carried out for Boeing. They should be read in conjunction with the other requirements detailed in the Quality Manual, Procedures Manual and any other quality system documents used by Advantage Machine and Manufacturing. The following requirements will apply to all work carried out for Boeing.

**2.0 Procedure****2.1 Notification of Changes****2.1.1 Quality Management Representative**

The company will notify Boeing when there are any changes to the person carrying out the duties of Management Representative.

**2.1.2 Procedures and Work Instructions**

Any changes to the quality system documentation affecting inspection, conformity or airworthiness will be notified in writing to Boeing requesting their review and approval. Details to be provided include a list of changed procedures together with their revision status, a description of the reason for the change and a signed statement by the Quality Management Representative or member of senior management to confirm that the changes continue to comply with the Boeing requirements.

**2.1.3 Company location**

Any change of location of facilities carrying out work will be notified in writing to Boeing immediately.

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### 2.2 Use of Boeing Guidance Documentation

2.2.1 The company will comply with any mandatory procedures defined by Boeing. These include:

Tooling	D33200 Boeing Suppliers Tooling Document
Use of Digital Datasets	D6-51991 Quality Assurance Standards Reflecting Digital Product Definition from Boeing Suppliers using CAD/CAM/CAI Data
Supplier Sampling Plans	D1-8007 Approval Guide for Supplier Statistical Sampling Plans

### 2.3 Material Control

2.3.1 Non-conformances or faults in products made to a design supplied by Boeing must not be repaired, re-graded or used as-is. They will be scrapped or disposed of in accordance with Boeing requirements.

2.3.2 Any products produced in excess of the contract requirements must be controlled and accounted for to prevent unauthorized use. Suitable records of such products will be maintained.

### 2.4 Inspection

2.4.1 Receiving inspection will be by 100% or sample inspection. In-process and final inspection will be by 100% or sample inspection or statistical process control.

2.4.2 Sampling plans will be submitted to Boeing for approval and will comply with D1-8007 Approval Guide for Supplier Statistical Sampling Plans.

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- 2.4.3 Statistical process control will be in accordance with Boeing document Appendix 1 of D6-82479 Boeing Quality Management System Requirements for Suppliers.
- 2.4.4 Inspection requirements will be clearly defined on drawings or other production documents and these will take precedence over the above document D6-82479.
- 2.5 Record Retention**
- 2.5.1 All records associated with work for Boeing will be kept for at least 7 years after payment of the final invoice unless agreed otherwise in writing by Boeing.

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