

Cross Technology Inc.
Nu-Tech

Quality Manual

Quality Management Systems - Aerospace – Requirements

TABLE OF CONTENTS

Introduction – Compliance with Quality Policy.....	4
Introduction – Statement of Authority.....	5
Company Background.....	5
Manual Issue and Revision	
1.1 Quality Policy & Objective.....	6
4.0 Quality Management System.....	7
4.1 General Requirements.....	7
Quality Manual System Documentation.....	8
4.2.2 Quality Manual.....	9
4.2.3 Control of Documents.....	10
4.2.4 Control of Records.....	10
4.3 Configuration Management.....	10
5.0 Management Responsibility.....	10
5.1 Management Commitment.....	10
5.2 Customer Focus.....	10
5.3 Quality Policy.....	10
5.4 Planning.....	10
5.5 Responsibility, Authority and Communication.....	11
5.5.1 Responsibility and Authority.....	11
5.5.2 Management Responsibility.....	11
5.5.3 Internal Communication.....	11
5.6 Management Review.....	11
5.6.1 General.....	11
5.6.2 Review Input.....	11
5.6.3 Review Output.....	12
6.0 Resource Management.....	12
6.1 Provision of Resources.....	12
6.2 Human Resource.....	12
6.2.1 General.....	12
6.2.2 Competence, Awareness, and Training.....	12
6.3 Infrastructure.....	12
6.4 Work Environment.....	12
7.0 Product Realization.....	13
7.1 Planning of Product Realization.....	13
7.2 Customer Related Process.....	13
7.2.1 Determination of Requirement Related to the Product.....	13
7.2.2 Review of Requirement Related to the Product.....	13
7.2.3 Customer Communication.....	13
7.3 Design and Development.....	14
7.4 Purchasing.....	14
7.4.1 Purchasing Process.....	14
7.4.2 Purchasing Information.....	14
7.4.3 Verification of Purchased Product.....	14
7.5 Product and Service Provision.....	14
7.5.1 Control of Production Provision.....	14
7.5.2 Validation of Process for Production Provision.....	15
7.5.3 Identification and Traceability.....	15
7.5.4 Customer Property.....	15
7.5.5 Preservation of Product.....	15
7.6 Control of Monitoring and Measuring Devices.....	15
8.0 Measurement, Analysis and Improvement.....	16
8.1 General.....	16
8.2 Monitoring and Measurement.....	16
8.2.1 Customer Satisfaction.....	16

8.2.2	Internal Audit.....	16
8.2.3	Monitoring and Measurement of Process.....	16
8.2.4	Monitoring and Measurement of Product.....	16
8.3	Control of Nonconforming Product.....	16
8.4	Analysis of Data.....	17
8.5	Improvement.....	17
8.5.1	Continual Improvement.....	17
8.5.2	Correct Action.....	17
8.5.3	Preventive Action.....	17
	Manual Approval.....	17
	Appendix A.....	18

INTRODUCTION

Compliance with Quality Policy

This Quality Manual defines the policies and principles of the Company's Quality Management System. It is designed to be used as a basic document and describes and references, in broad terms, the control systems, operating procedures and work instructions to ensure that all customer requirements are met and that Quality standards are maintained.

Implementation of the policies defined herein is by means of operating procedures, which define the responsibilities and essential controls that must be exercised, for the various activities carried out during the course of completing a contract or purchase order. The System and Procedures defined in this Manual are also designed to meet the requirements of AS9100 and ISO 9001:2000.

It is mandatory that the procedures and organizational controls as described in the Quality Manual are adhered to by all personnel at Cross Technology Inc. (*Nu-Tech*).

President: James Inman
James Inman

Date: 1-2-09

INTRODUCTION

STATEMENT OF AUTHORITY

The Quality Assurance Manager is authorized to prepare, implement, and maintain the Quality Program described in this manual. This Manager will also be the management representative of the company in relation to AS9100/ISO 9001 matters.

COMPANY BACKGROUND

Cross Technology Inc. (*Nu-Tech*)[*CTI*] has a dedicated team of employees who specialize in the manufacturing, and assembly of its products as well as the design and development of new products to keep competitive in the world marketplace.

MANUAL ISSUE AND REVISION

The Quality Assurance Manager is responsibility for the issue and revision of the Quality Manual and the maintenance of the issue and revision log. Controlled copies of the Quality Manual are issued to the following positions.

<u>Copy No.</u>	<u>Title</u>
01	President
02	General Manager
03	Quality Assurance Manager
04	Sales Manager

The Quality Manual is periodically reviewed to ensure its conformance to current AS9100 and International Standards, including Customer requirements and Company policies. The minimum frequency for review is once a year.

Revisions to sections of the Quality Manual are indicated by document control codes. The current revision code is identified with the code letter "A" to "Z". The revision letters are listed in the table of contents and are also included on the page of the document.

All revisions will be approved by the President, or designated representative (GM) and the Quality Manager prior to their issue. The revision record for each section of the manual will be signed by both parties to indicate their approval.

Revisions to the Quality Manual are sent to all controlled copy holders. A copy of the Revision Record Sheet will be attached with each recipients copy and will require their signature to indicate receipt of said revisions. This sheet must be returned to the Quality Assurance Manager along with any obsolete pages. An update record of the revisions is kept by the Quality Assurance Manager. The official version of the Quality Manual and all supporting documentation is electronically stored in the UniPoint Data System under the control of the Management Representative.

1.1 QUALITY POLICY & OBJECTIVES

QUALITY POLICY

It is the goal of Cross Technology Inc. and all of its Employees to have total customer satisfaction, while continually striving for improvement of its' Quality Management System.

QUALITY OBJECTIVES

Customer Delivery Satisfaction with our products and services is the primary criteria that each Employee should use in directing their daily activities. Our objective is to provide products and product related services that are within specification, delivered on time, and that are economically attractive.

Sales Revenue Goals

Commitment To Quality; needs to be demonstrated by the actions and behavior of all Employees at Cross Technology Inc. (*Nu-Tech*). The costs of nonconformance are avoidable and measures need to be taken that will eliminate sources of errors and inefficiencies Management has the responsibility to provide the leadership and resources to enable the Employees to meet these Quality objectives.

In conclusion, Cross Technology Inc. (Nu-Tech) is asking everyone to incorporate these objectives into their daily planning and work activities. Commitment to Quality is the crucial factor that will determine Cross Technology Inc. (Nu-Tech)'s future reputation and growth.

James F. Inman, President

James F. Inman
1-2-09

Quality Manual (QM)

4.0) Quality Management System (QMS)

4.1) General Requirements

Cross Technology Inc. and its Executive Management Team is responsible for establishing, documenting, implementing and maintaining this QMS, and is committed to continually improving its effectiveness in accordance with the requirements of the AS9100 Aerospace Standard. The Executive Management Team defines the organizational structure, assigns authorities and responsibilities, appoints the management representative, and periodically reviews the QMS.

The processes needed for the QMS at Cross Technology Inc. and process owners are:

<u>Process</u>	<u>Owner</u>
Human Relations Management	General Manager
Sales	President
Accounting	Sales Manager
Manufacturing	President
QMS	Operation Manager
Purchasing	General Manager
Quality	Purchasing Manager
	Quality Manager

Processes that are outsourced are required to meet the product requirements by the customer and are controlled by the purchasing process.

4.2) Documentation Requirements

4.2.1) General

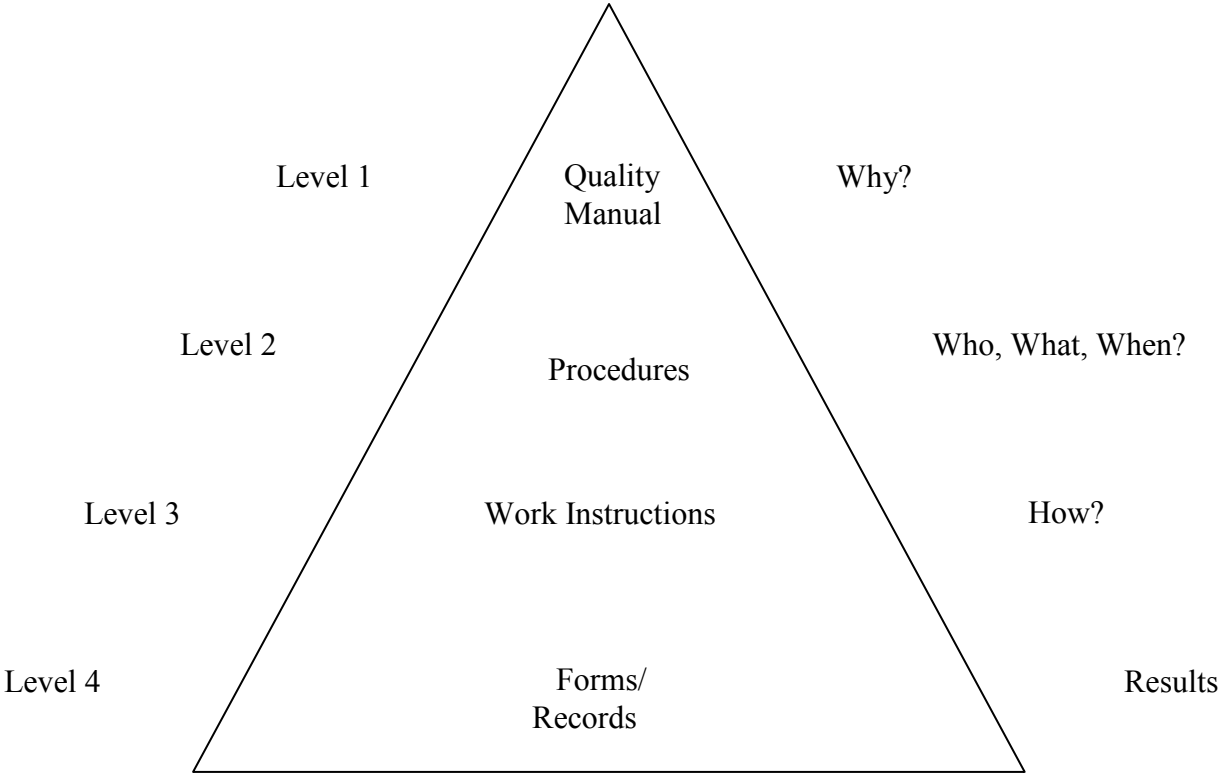
Cross Technology Inc. has the following structure of documentation for the QMS.

- a) Quality Policy
- b) Quality Objective
- c) Quality Manual
- d) Documentation Structure per the *Pyramid Flow Chart*

CTI Quality Assurance Department have ensured that “all” personnel have access upon request to the Quality Management System documentation files.

CTI also grant our Customer and regulatory authorities’ representative full access to the QMS documentation files.

Quality Management Systems Documentation



[Pyramid Flow Chart](#)

4.2.2) Quality Manual

Cross Technology Inc. specializes in fabrication, machining, and assembly of production parts as the scope of this Quality Manual with **Control of Service Operations Sec. 7.5.1.5 and Sec. 7.5.1.4 Control of Work Transferred, on a Temporary Basis, Outside the Organization's Facilities** being the only exclusions taken as these are elements we do not do. This Quality Manual, Procedures, and Flow Charts show the descriptions and interactions between processes of the QMS (see **QMS Process Flowchart**, Appendix 4):

4.2.3) Control of Documents

A documented procedure has been established to provide control of documents that are critical to the function of the QMS. Ref. SOP 4.2.3 [Procedure](#)

4.2.4) Control of Records

A documented procedure has been established to provide control of records that are critical to the function and to provide evidence of conformity to the requirements of the QMS. Ref. SOP 4.2.4 [Procedure](#)

4.3) Configuration Management

Cross Technology Inc. maintains a process that involves the control of all documents that pertains to product interchangeability of components and inventory, such as part drawings, material specifications, part samples (where required), and date codes. This process is controlled through the Job Traveler Data Packet, which identify the part number, revision level, traceability sheet, dimensional inspection data etc. of the parts made or in inventory.

5.0) Management Responsibility

5.1) Management Commitment

Top Executive Management provides evidence of commitment to development, implementation and continually improving the effectiveness of the QMS by:

- Communicating the importance of meeting customer, statutory, and regulatory requirements
- Establishing the quality policy
- Establishing the quality objectives
- Conducting management reviews
- Providing resources as needed

5.2) Customer Focus

Cross Technology Inc. ensures that the customer requirements are determined and are met with the focus of enhancing customer satisfaction by:

- Including the requirements for delivery and post-delivery activities are met.
- Requirements not stated by the customer but necessary for specified or intended use, are addressed.
- Any statutory and regulatory requirements related to the product are addressed.
- The monitoring of information related to the customer perception, as to whether Cross Technology Inc. met their requirements.

5.3) Quality Policy

Cross Technology Inc. has established a Quality Policy, which is communicated and understood by the organization. This Quality Policy also provides the framework for establishing and reviewing the Quality Objectives and is reviewed for continuing suitability.

5.4) Planning

5.4.1) Quality objectives have been established for the product to meet requirements, and at relevant functions within the organization. These objectives are measurable and consistent to the Quality Policy.

5.4.2) The Executive Management Team is responsible for planning and ensuring that the integrity of the QMS is maintained when planned changes are implemented. Planning of the QMS includes meeting the requirements given in 4.1, AS9100 as well as the quality objectives.

5.5) Responsibility, Authority, and Communication

5.5.1) Responsibility and Authority

Executive management ensures that responsibilities and authorities are defined and communicated within the organization by use of the [org chart](#) and job descriptions.

5.5.2) Management Representative

Executive management has appointed the Quality Manager/Engineer to serve as the management representative to ensure that processes required are established, implemented, and maintained that support the QMS. The representative reports to the President on the performance of the QMS and any need for improvement. The management representative also promotes awareness of customer requirements throughout the organization and has the freedom to resolve matters pertaining to quality.

5.5.3) Internal Communication

Executive management ensures the appropriate communication processes are established and communication takes place regarding the effectiveness of the QMS.

5.6) Management Review

5.6.1) General

The QMS is reviewed annually (as a minimum) to ensure its continuing suitability, adequacy, and effectiveness. This review assesses the opportunities for improvement, the need for change to the QMS which includes the quality policy and quality objectives.

5.6.2) Review Input

Management review includes the following:

- Results of audits
- Customer feedback
- Process performance and product conformity
- Status of preventive and corrective action
- Follow-up actions from previous management reviews

- Changes that could affect the QMS
- Recommendations for improvement

This input data is provided by the managers of each critical area of process responsibility.

5.6.3) Review Output

The review output includes any decisions or actions related to the following:

- Improvement of the effectiveness of the QMS
- Improvement of product related to customer requirements
- Resource needs

6.0) Resource Management

6.1) Provision of Resources

Cross Technology Inc. continually assesses the need for resources, and provides them to implement and maintain the QMS with the focus on continually improvement and effectiveness, which will enhance customer satisfaction as customer requirements are met.

6.2) Human Resources

6.2.1) General

Employees at Cross Technology Inc. are qualified based on education, training, skills, and experience.

6.2.2) Competence, Awareness, and Training

Cross Technology Inc. defines required skills for the job, provides training when needed, and evaluates its effectiveness. Employees are informed of the relevance and importance of their work and how it impacts the achievement of the quality objectives. Records are maintained of education, training, skills, and experience for employees. *All fulltime employees hired prior to September 2008 will be "Grandfather Clause" in, based on prior education, job experience, and OJT by CTI.*

6.3) Infrastructure

Cross Technology Inc. determines, provides, and maintains the infrastructure needed to achieve product conformity.

Infrastructure includes buildings, workspace, utilities, process equipment, and supporting services.

6.4) Work Environment

Cross Technology Inc. determines and manages the work environment needed to achieve product conformity by requiring it work force to be involved, for identifying what is needed to assure complete product conformity.

7.0) Product Realization

7.1) Planning of Product Realization

Cross Technology Inc. plans and develops processes needed for product realization and is consistent with the requirements of other processes of the QMS. Planning of the product realization considers the following:

- Quality objectives.
- Requirements of the product.
- Processes, documents, and resources specific to the product.
- Required verification, validation, monitoring, inspection, and test activities, and criteria for product acceptance specific to the product.
- Records to provide evidence that the realization processes and resulting product meet requirements.

These requirements are addressed and covered in the *Job Traveler* Package.

7.2) Customer Related Processes

7.2.1) Determination of Requirements Related to the Product

Cross Technology Inc. reviews product requirements including delivery, post delivery, and requirements not stated by the customer but necessary for use, where known. All statutory and/or regulatory requirements related to the product are determined and any other requirements determined by the organization will be considered.

7.2.2) Review of Requirements Related to the Product

All orders are reviewed prior to acceptance to determine that product requirements are being defined, an in house job number is assigned, any product requirement changes are resolved, and determined that the organization has the ability to meet the defined requirements. Records of the review and actions taken are maintained. If the customer does not provide a documented statement of product requirements, Cross Technology Inc. confirms the customer requirements before order acceptance and ensures the relevant documents are amended and personnel are informed of the changed requirements.

7.2.3) Customer Communication

Cross Technology Inc. utilizes a variety of effective communication tools to communicate with the customer relative to:

- product information
- inquires
- contracts
- order handling
- amendments
- customer feedback,
- customer complaints

7.3) Design and Development

7.3.1) Design and Development Planning

During the design and development planning of new product CTI will determine;

- a) the design and development stages (task sequence, mandatory steps, significant stages and the method of configuration control).
- b) the review, verification and validation that are appropriate to each design and development stage.
- c) the responsibilities and authorities for design and development.

Where appropriate due to complexity, CTI will give consideration to the following activities:

- structuring the design efforts into significant elements;
- for each element, analyzing the tasks and the necessary resources for its design and development

CTI Project Design Engineer will manage the interfaces between difference groups involved in the design and development, to ensure effective communication and clear assignment of responsibility.

Ref. SOP 7.3 [Procedure](#).

7.4) Purchasing

7.4.1) Purchasing Process

Suppliers are qualified based on their ability to provide an acceptable product on time or as mandated by the customer. Ref. SOP 7.4 [Procedure](#).

7.4.2) Purchasing Information

Purchase orders include PO # and a clear description of the product requirements. Any special requirements will be noted on the PO such as;

- a) Inspection instructions
- b) Requirements for test specimens
- c) Requirement for the supplier to notify Cross Technology Inc. of changes in process or product.
- d) The right of access by Cross Technology Inc., our Customer, and Regulatory Authorities to their facility and all facilities involved in order, and all applicable records
- e) Etc.

7.4.3) Verification of Purchased Product

Cross Technology Inc. verifies the purchased product as appropriate by: dimensional requirements, Supplier history, C of C's, and visual means. Purchasing will notify a supplier when there is intention to verify product at their facility prior to shipment and will be noted on the purchasing information.

CTI will also submit at random every quarter, raw material or product for verification from our suppliers.

7.5) Product and Service Provision

7.5.1) Control of Production Provision

A *Job Traveler* is created which contains a blueprint that provides the control characteristics for the product. The identification of in-process verification points when adequate verification of conformance cannot be performed at a later stage of realization. Any special processes and Work Instructions are also provided upon request.

7.5.1.1) Production Documentation

Production operations are carried out in accordance with approved data. This data contains a Job Traveler Package which includes drawings, inspection data sheets, inspection points in the body of the Job Traveler, specific machine required and work instruction if required.

A Manufacturing Data Sheet (MDS) if necessary will be included in the Job Traveler Package. The MDS will include the list of specific production instructions. This information will be in the form of a Production Work Instruction (PWI).

7.5.1.2) Control of Production Process Changes

Cross Technology Inc/Nu-Tech will identify and notify the customer of any production process changes that affect processes, production equipment, tools and programs that is required by contract.

The Operation Forman, Operation Manager, or Project Manager, with the Quality Engineer (or designated representative) has the sole authorized to approve production process changes, not covered by contract requirements.

Written procedures will be implemented to control changes that affect processes, production equipment, tooling and programs, when required by contract.

This procedure will include the verification of the results, related to changes to production process to confirm that the desired effect has been achieved without adverse effects to product quality.

7.5.1.3) Control of Production Equipment, Tools and Numerical Control (NC) Machine Programs

All production equipment, tools and programs are validated prior to production run by 1st piece dimensional verification, by the quality inspection department.

Production equipment will also be periodically inspected and documented on the preventive maintenance log sheet per each machine, to ensure that the equipment is maintained in acceptable operating condition.

CTI do not storage production equipment or tooling.

7.5.1.4) Control of Work Transferred, on a Temporary Basis, Outside the Organization's Facilities

Cross Technology do not transfer any work to outside sources on a temporary basis.

7.5.1.5) Control of Service Operations

Cross Technology Inc/Nu-Tech is not involved in service operations.

7.5.2) Validation of Process for Production Provision

All special processes can be verified by the test procedure generated for each special process, should the need arise; the QMS will be modified if the output cannot be verified.

7.5.3) Identification and Traceability

Cross Technology Inc. identifies the product by a sequence number. Information on the Inspection Record, Job Traveler, and Material Traceability Sheet all provides identification of the configuration of the product and serve as traceability record.

7.5.4) Customer Property

Customer property is identified, verified, protected, and safeguarded while in the control of the organization. If any customers' property is lost, damaged, or otherwise found to be unsuitable for use, it will be reported to the customer and records maintained.

7.5.5) Preservation of Product

Cross Technology Inc. takes care of handling, storage, packaging, preservation, and delivery processes to meet product/customer requirements of the product or constituent parts of the product.

Additional provisions for cleaning, prevention, detection and removal of foreign objects, special handling for sensitive products, marking and labeling including safety warnings, shelf life control and stock rotation, and special handling for hazardous materials is identified on the Job Traveler or Work Instructions.

7.6) Control of Monitoring and Measurement Devices

Cross Technology Inc. determines the monitoring and measurement to be undertaken and determines the appropriate monitoring and measurement devices needed to provide evidence of product conformity to requirements. A documented procedure has been established to control monitoring and measurement devices.

Ref. SOP 7.6 [Procedure](#)

8.0) Measurement, Analysis, and Improvement

8.1) General

Cross Technology Inc. has planned and implemented methods for measuring, monitoring, analysis, and improvement of processes, which demonstrates product conformity, QMS conformity, and focuses on continuous improvement. Statistical Process Control (SPC) shall be applied to processes on a selective basis as determined by the President, Production Manager, or the Business Manager, or at the request of the customer.

8.2) Monitoring and Measurement

8.2.1) Customer Satisfaction

Methods are established for gathering and monitoring information related to customer perception and fulfillment of customer requirements. Sales will monitor and manage data collected and presents a summary for Management Review.

8.2.2) Internal Audit

Cross Technology Inc. has a documented procedure that provides for the execution of internal audits of the QMS. This procedure defines the responsibilities, requirements for planning and conducting audits, and for reporting results and maintaining records. Ref. SOP 8.2.2 [Procedure](#) and SOP 8.2.2.1 [Procedure](#)

8.2.3) Monitoring and Measurement of Processes

Methods are established to measure and monitor the QMS processes to verify the ability of processes to achieve planned results. When planned results are not achieved, appropriate corrective action will be taken to ensure product conformity.

8.2.4) Monitoring and Measurement of Product

Methods are established at appropriate stages of product realization to ensure the product characteristics meet acceptance criteria and/or customer requirements. Records are maintained of inspection results on the inspection log. Product is not shipped to the customer unless it meets requirements or a deviation has been given by the customer. Ref. SOP 8.2.4 [Procedure](#)

8.3) Control of Nonconforming Product

A documented procedure has been established that defines the responsibilities, authorities, and controls to prevent nonconforming product from its unintended use or delivery and ***“Positive Recall”***. ***This notification will include a clear description of the nonconformity, part number, quantity, packing slip #, and date of delivery.*** Nonconforming product detected after delivery or use has started, is controlled by immediate contact to the customer to determine appropriate action. Ref. SOP 8.3 [Procedure](#)

8.4) Analysis of Data

Cross Technology Inc. collects and analyzes appropriate data to determine suitability and effectiveness of the QMS. This data is used to determine if any opportunities for corrective action or preventive action exist. Included is data related to customer satisfaction, conformance of product, supplier performance, characteristics and trends of processes.

8.5) Improvement

8.5.1) Continual Improvement

Cross Technology Inc. improves the effectiveness of the QMS through the quality policy, quality objectives, audit results, analysis of data, corrective and preventive action, and management review.

8.5.2) Corrective Action

A documented procedure has been established that defines requirements for reviewing nonconformities, and their causes. Cross Technology Inc. determines and implements the corrective action to be taken, records the results, and reviews action taken to ensure that nonconformities do not recur. Ref. SOP 8.5.2 [Procedure](#)

8.5.3) Preventive Action

A documented procedure has been established that defines requirements for preventive actions appropriate to the effects of the potential problems. Ref. SOP 8.5.3 [Procedure](#)

Approvals:

President: James F. Jordan Date: 1-2-09
General Manager: Duc Nguyen Date: 1-2-09
Quality Manager: Steve Wyatt Date: 1-2-09

Revision History Record

Revision Level	Revision Date	Revision Made
B1	1/02/2009	See Revision Page

Printed Document is current at print date
1/2/2009 Revision B1

17

Appendix Page

1. **QMS Interaction Process Flowchart**
2. **Standard Operation Procedures (SOP)**
3. **Sale Order and Manufacturing Process**
4. **Quality Manual Revision Page**

Quality Manual Revision History Page

<u>Revision Level</u>	<u>Revision Date</u>	<u>Revision Made</u>
From B too B1	1/02/2009	Section 1.1 Revised the Quality Policy and Objective. Section 4.1 Deleted See Appendix A Section 4.2.2 Quality Manual Added Sec. 7.5.1.5 Control of Services Operation. Added Sec. 7.5.1.3 Storage of Production Equipment and Tooling Added Sec. 7.5.1.4 Control of Work Transferred on a Temporary Basic. Revised Flow Chart to include Special Process & Final Quality
From B1 too C	3/11/2009	All <i>Red Italics</i> entries.