TRUCK TRAILER TRANSIT, INC.

Quality Assurance Policy Manual

Corporate Office: 1601 Theodore
Detroit, MI 48211
800-631-1144
313-832-0020

TRUCK-TRAILER-TRANSIT
Transportation Aftermarket Specialists

TRUCK TRAILER TRANSIT, INC.
Quality Assurance Manual
Index

Truck Trailer Transit, Inc.

1601 Theodore Road

Detroit, Michigan 48211

313-832-0020 fax 313-832-0225

Quality Assurance Manual

Statement of Authority

Truck Trailer Transit recognizes its responsibilities as a manufacturer to fully comply with all contractual provisions and governing regulatory requirements. To this end, **Truck Trailer Transit** has developed a comprehensive quality assurance program and quality system. This program and system establishes controls throughout the entire manufacturing cycle from proposals and bids to end-item delivery. It also assures meeting quality objectives and minimizes the possibility of compromises which could affect product quality, safety and reliability. The Quality Assurance Program is complete and responsive to all requirements of ISO 9001, Model for Quality Assurance in Design/Development, Production, Installation and Servicing.

This Q.A. Manual has been prepared to provide assistance to all Departments in understanding and implementing the quality assurance activities associated with their functions. The Quality Assurance Policy Section is a narrative description of the Q.A. Program designed to provide all our employees, as well as our customers, with an overview and insight into our quality policies and procedures which govern the design, procurement and manufacture of our products.

The Quality Assurance Procedures are directive documents prescribing specific actions and assigning responsibility for these actions as to who, where, when and how each procedure is to be performed. Compliance with the procedures is mandatory for all personnel.

The Quality Assurance Manager of **Truck Trailer Transit** has been delegated the responsibility and authority for assuring full implementation of the complete Quality Assurance Program, including control of the Q.A. Manual and the issuance of procedures.

This manual will be revised and added to as necessary to reflect changes in quality requirements and is issued on a controlled copy basis. It is the goal and purpose of the Q.A. manual to assure the quality and reliability of our products and suggestions for improvement to this manual are solicited from its users.

By:_____ Date Issued:_____

R. David Lawrence, President
Truck Trailer Transit Inc.

Truck Trailer Transit, Inc.
1601 Theodore Road

Detroit, Michigan 48211

Quality Assurance Manual

Policy Section

0.0 Introduction

The purpose of this Quality Assurance Manual is to establish the quality management principles and the quality system elements of **Truck Trailer Transit.** The quality and reliability of the products/services offered by this company shall be maintained at levels consistent with the expectations of our customers and with contractual requirements. The organizational structure of this company is such that technical, administrative and human factors affecting quality are under strict control by management and the quality element. The Quality Assurance Manager has been delegated the authority to implement the quality system with the quality manual being the principal instrument for implementation. Administration and implementation of the company's quality system is designed to address the company's needs and interests while also addressing the needs and expectations of our customers. Management adheres to the concept that risk and cost consideration for both the company and its customers are important factors in achieving quality and attaining the overall company objective towards the optimization and control of quality in relation to risk, cost and benefit consideration for the company and its customers.

1.0 Scope and Field of Application

This document delineates **Truck Trailer Transit's** Quality Management and Quality System program in accordance with the ISO 9001 Quality Assurance Standards. This document is implemented within the scope of contractual requirements imposed by our customers and those prevalent in our industry. This document is applicable to all functions within the company which may, directly or indirectly, have an impact on the quality of our products and/or services. The aim of implementing this standard is to prevent nonconformity during all stages of production from design to servicing. The Quality Management Program and Quality System of this company are subject to review and approval by a duly accredited organization for certification under the applicable ISO standards.

2.0 References

This Quality Assurance manual is in compliance with the requirements of ISO 9001, Model for Quality Assurance in Design/Development, Production, Installation and Servicing as well as ISO 9004, Guidelines for Quality Management and Quality System Elements. The quality assurance management program and quality system are implemented in accordance with all applicable statutory and industry standards.

3.0 Definitions

The definitions used in this manual shall be in accordance with the applicable ISO, ASQC and ANSI standards.

4.0 Quality System

4.1 Management Responsibility

The Management of **Truck Trailer Transit** is dedicated and committed to reaching the objectives and goals set forth in this manual and to provide the necessary resources. This section of the manual clearly sets forth the company's quality policies and shall be used to convey this policy to all employees and vendors/suppliers. Management retains the overall responsibility to insure that the company quality policy and system is understood, implemented and maintained. While management has delegated day-to day responsibilities for the managing of the quality system to the Quality Assurance Manager it is the intent of management that the Manager report regularly to upper management by submitting monthly reports on the status and effectiveness of the quality system. All personnel performing quality functions shall have sufficient, well defined responsibility, authority and the organizational freedom to identify and evaluate quality problems and take appropriate actions.

4.2 Quality System

The quality program within **Truck Trailer Transit** provides a documented system that ensures product conformance to all specified requirements. Documented procedures are provided in this quality manual in accordance with the requirements of ISO 9001. These procedures are supplemented by specific quality plans and work instructions designed to ensure product conformity. The quality system also provides for the identification, acquisition and utilization of appropriate controls, processes and inspection and test equipment required. The system also provides for the review and clarification of standards of acceptability to ensure compatibility of design, production process, installation, inspection and test procedures. All steps involved in the quality systems are documented to ensure the maintenance of adequate quality records.

4.3 Contract Review

The Quality Manager is responsible for conducting a contract review of all new incoming orders at the earliest time possible to determine the internal capability of the organization to meet all contractual quality requirements. The contract review process is documented and, when applicable, clarifications are requested from the customer.

4.4 Design Control

The Engineering organization of the company shall have overall responsibility for translating customer expectations into detailed technical designs and specifications which will enable the company to manufacture products or provide services that comply with the customer's and/or contractual quality requirements at an acceptable, competitive price. All product designs and specifications and their associated processes are reviewed, tested and verified prior to production as an integral part of the quality system. Qualification and verification of design shall include evaluation of performance, durability, safety, reliability and maintainability. The Engineering organization has overall responsibility for new and/or improved product design.

4.5 Document Control

The quality system provides for control over the preparation and issuance of all documents and data that relates to the requirements of this standard. These documents are prepared primarily by engineering and are reviewed and approved by the quality organization. All changes and/or modifications to designs and specifications are controlled and approved by both the Engineering and Quality organizations. Engineering, with concurrence from Quality, issues detailed work instructions for all work affecting quality. Such instructions provide the criteria for performing the work and establish acceptable workmanship standards. Quality verifies that work instructions are properly used at all levels of the company and that obsolete instructions and specifications are removed

4.6 Purchasing

The quality organization has the overall responsibility to ensure that all raw material, assemblies, subassemblies and components integrated into the end product offered by **Truck Trailer Transit** are purchased/procured only from approved sources who have demonstrated the ability to consistently meet the quality required. Quality conducts on-site audits of all approved vendors/ suppliers to assess their capabilities and maintains a receiving inspection program to further confirm and document that all incoming material does in fact comply with all quality requirements, as well as to monitor vendor performance. The level of receiving inspection is commensurate with vendor performance and rating. The purchasing and quality organizations are responsible for providing suppliers with clear documentation, specifications, drawings and quality requirements. Vendors who fail to consistently deliver required quality are considered for deletion from the approved supplier list. Quality and purchasing jointly ensure that all applicable contractual requirements are passed on to all suppliers, including the use of statistical methods and use of an adequate calibration program to guarantee the accuracy of all instruments and equipment used to verify conformance by the vendor/supplier.

4.7 Purchaser Supplied Products

The quality system shall provide for strict control of all customer furnished material such as tooling, raw material, machinery, measuring and testing equipment. Upon receiving such material necessary for the performance of a contract, Quality shall examine and inspect said material for damage and completeness. Periodic inspection shall be conducted and adequate storage provided to prevent damage and/or deterioration. As required, functional testing shall be conducted to determine satisfactory operation. Detailed inventory and condition reports shall be maintained. All customer furnished material shall be used only for the specific contract or purchase order for which it is provided.

4.8 Product Identification and Traceability

The quality organization is responsible for providing positive product identification during all stages of production, delivery and installation. Identification is based on applicable drawings, specifications or other documents. When required or specified, quality also maintains complete traceability of the product by issuing unique product or batch control numbers and/or markings. The product identification and traceability procedure is fully documented to provide objective evidence of compliance with this requirement.

4.9 Process Control

Quality and conditions involving quality from raw material to finished product are controlled during the entire manufacturing cycle to ensure conformity to all applicable specifications. Detailed work instructions are provided which define production methods and processes, workmanship standards and installation of the product. Control of production also extends to the equipment and incorporates preventive maintenance to ensure continued process capabilities. The Engineering and Quality organizations control, review and approve any proposed process changes and verify the effect such changes may have on the end product. When manufacturing involves more complex or special processes, Quality ensures that more detailed work instructions are issued and that proper personnel training or certification is provided. When applicable, special processes, equipment or personnel are qualified and verified by the Quality organization. Documentation is maintained of all qualified processes, equipment and personnel. Quality is responsible for ensuring that only current instructions and specifications are used in the production process.

4.10 Inspection and Testing

The quality system shall provide three stages of product verification beginning with receiving inspection, followed by in-process inspection and completed product final inspection and testing. During each stage, the inspection status of each item must be clearly indicated as to conformance or nonconformance. The extent and level of product verification is based upon contractual and customer requirements. Any completed product found deficient that is reworked or repaired must be fully reinspected and tested.

4.11 Inspection, Measuring and Test Equipment

One of the most critical elements of the quality system is the continuous control of measuring and test equipment used in product inspection, verification and acceptance. Management shall provide the resources necessary for quality to have adequate M&TE to perform product verification and acceptance. Quality maintains an adequate calibration program, traceable to recognized NIST or international standards, to control all M&TE equipment and insure that all equipment is operated within specified tolerances. A maintenance and traceability program shall also be implemented to eliminate the possibility that out of tolerance equipment is used. A recall procedure shall be implemented, so that in the event any out of tolerance conditions are found, customers can be promptly notified and product recalled if necessary. The Quality organization shall make the necessary equipment and personnel available to customer representatives when final inspection and acceptance is conducted at the company's plant or otherwise contractually required to do so.

4.12 Inspection and Test Status

The quality system provides three stages of product verification beginning with receiving inspection, followed by in-process inspection and completed product verification. The Quality organization is responsible for maintaining positive verification of the inspection status of the product during all stages of the manufacturing and production cycle.

4.13 Control of Nonconforming Product

The quality system shall provide an effective and positive method for the identification and segregation in a holding area along with disposition of all nonconforming material and product. Upon detecting a nonconformity, Quality shall make a determination to rework, repair or scrap the item in accordance with approved written procedures and such nonconforming material shall be clearly identified and held in holding area(s) pending disposition. When contractually required, such rework/repair shall be approved by the appropriate Government/customer representative and required documentation maintained. All occurrences of nonconformity shall be documented and appropriate steps taken to prevent recurrence. All costs associated with repair/rework and scrap shall be documented and maintained for review by management and customer representatives.

4.14 Corrective Action

Upon detecting a quality problem and determining its importance, the Quality organization shall take the necessary steps to request that the responsible organization within the company take the necessary corrective action to prevent recurrence and to determine the root cause of the problem. Quality shall regularly inform management as to the status of corrective action and disposition of nonconforming material and product. Each occurrence shall be investigated, documented and analyzed by Quality and appropriate preventive action taken. All steps taken in relation to corrective action shall be documented for review by management and, when required, by the customer.

4.15 Handling, Storage, Packaging

As part of the quality system, the Quality organization shall obtain and maintain adequate procedures and issue specific work instructions to handle, store, identify, package, clean, preserve, install and deliver accepted end products to maintain quality integrity and prevent damage. Products in storage shall be periodically inspected to prevent deterioration or damage. Items with limited shelf life shall be monitored closely. Proper instructions and procedures shall be provided for field assembling, installation and use. Marketing shall communicate to Quality reports of any product failure after delivery so that appropriate action may be taken.

4.16 Quality Records

As part of its quality management program, **Truck Trailer Transit** shall establish a procedure for the identification, collection, indexing, filing, storage,maintenance, retrieval and disposition of pertinent quality records essential to establish objective evidence of quality and the integrity of the quality system. The Quality Manager shall have overall responsibility to maintain quality records to be used in the effective management of the quality system. Inspection records and work instructions shall indicate the quantitative degree of acceptance and/or rejection of product and workmanship. Company and Quality management shall utilize these quality records in the evaluation of the effectiveness of the quality system. Records shall be retained for periods consistent with customer/contract requirements and shall be made available to customer representatives when contractually required.

4.17 Internal Quality Audits

In order to assess internal compliance with all the elements of this quality system and all stated corporate quality objectives and goals, the Quality Manager shall conduct internal quality audits. The Quality Manager shall report directly to top management the results of internal audits along with an evaluation of the quality system based on the level of internal compliance.

4.18 Training

Management recognizes the need for maintaining an adequate training program at all levels as part of the company's quality system. New employees shall receive indoctrination into the quality policies and procedures of the company. When required, special qualification and/or certification training shall be provided to comply with specification and customer requirements. **Truck Trailer Transit's** management further states its commitment to providing proper motivation and quality awareness to its personnel as part of the quality system.

4.19 Servicing

The Quality Manager shall establish a procedure for providing adequate servicing when applicable. **Truck Trailer Transit** is committed to providing competent servicing of its products, including technical advise, logistics back-up and adequate spare parts. When applicable, servicing responsibility shall be clearly assigned to distributors and/or field representatives in accordance with established procedures.

4.20 Statistical Techniques

In achieving its quality goals and objectives, the company shall use, whenever possible, modern statistical methods in all phases of the quality loop. The Quality, Engineering, Production, Purchasing, Human Resources and Marketing organizations within the company shall develop and utilize statistical techniques appropriate to control and verify the quality of their work as it relates to the quality of the end products manufactured by **Truck Trailer Transit.**Contractually required sampling plans shall be in accordance with, and approved by the customer representative.

4.21 Continuous Improvement Plan

In the face of growing worldwide competition, the success of **Truck Trailer Transit** depends on our ability to establish and hit targets aimed at meeting the needs of our customers. To accomplish this we are dedicated to the concept of Continuous Improvement as an ongoing customer-driven process that enables everyone to contribute to the primary business goals of ***Quality, Cost,*** and ***Delivery***. By achieving these goals, we will insure our future.

Continuous Improvement **(Kaizen)** is the constant elimination of waste through betterment of product quality and reduction of costs, both brought about by the collective efforts of employees at every level of the company and in all aspects of the business.

The final quality and costs of a manufactured product are determined, to a large extent by the engineering designs of the product and the manufacturing process.

Continuous Improvement at **Truck Trailer Transit** begins with the top management includes, ***prevention*** as opposed to ***detection*** in its policy and objectives. Management provides the organization and resources for training, information gathering, data analysis and disciplined approaches to situations. The element of training, specifically the effective use of statistical techniques, must be emphasized. Customer expectations can be realized through company-wide quality involvement or the team approach at the earliest possible point in the preproduction process.

I. Purpose

To establish the basic Quality Management Program and Quality System of **Truck Trailer Transit** to assure that products and services offered by this company are in full compliance with customer expectations while meeting the corporate quality objectives and goals.

II. Policy

This Quality Assurance Manual is the principal instrument by which Management communicates to the entire organization the quality objectives and goals of the company as well as how responsibilities for specific quality functions are delegated and responsibilities assigned.

III. Responsibilities and Procedures

0.0.1 General

0.0.1.1 It is the primary concern of **Truck Trailer Transit** to provide quality products and services to its customers. The products and services offered by this company shall meet a well defined need, use or purpose and, in all respects, meet and satisfy customer's expectations at a competitive price.

0.0.1.2 Products and services offered by this company shall comply with all applicable standards and specifications and shall also comply with all statutory requirements of society.

0.0.2 Organizational Goals

0.0.2.1 The management of **Truck Trailer Transit** is organized so that administrative, marketing, engineering, manufacturing and quality personnel whose work affects the quality of our products and services are under control.

0.0.2.2 The Quality Assurance Department shall provide functional and program support for the following functions: quality control, inspection, quality engineering, reliability, maintainability, standards and components, environmental test, laboratory services, internal and external quality audits, calibration and control of measuring and test equipment.

0.0.2.3 The Quality Assurance Department has the authority to establish quality policies, provide interpretation of customer quality requirements, implement quality procedures, issue quality bulletins, issue work instructions and generate management data reports. Quality shall also write quality, reliability and maintainability programs in support of proposals; review and approve engineering drawings; approve design definitions and baseline; approve all test equipment used for product acceptance, review purchase documents; conduct source and receiving inspection; maintain and exercise control over approved suppliers; conduct internal and external quality audits. In addition Quality shall establish and maintain a corrective action system and withhold from acceptance any product not meeting **Truck Trailer Transit** workmanship standards, drawings, and customer or contractual requirements.

0.0.2.4 The Quality Assurance Manager reports directly to the General Manager of this company and has been delegated the necessary authority to accomplish his/her task. The Manager reports monthly to the General Manager on the effectiveness and status of the quality system.

0.0.2.5 It is the responsibility of all company personnel involved directly or indirectly in meeting the stated quality goals and objectives to dedicate their efforts towards the reduction, elimination and prevention of quality deficiencies.

0.0.3 Meeting Company/Customer Needs

0.0.3.1 The quality system provides the method by which the company can attain and maintain the quality of its products and services at an optimum cost by efficiently utilizing all internal resources. The Quality Assurance Manager shall provide objective evidence in the form of monthly quality reports to management confirming that the Quality System is meeting the Company's needs.

0.0.3.2 The quality system provides our customers with the confidence level required for them to be assured of our ability to meet the desired and required quality level for products and services at a competitive price and on time. The Quality Assurance Manager shall provide objective evidence to customers on request showing that the quality system will meet their expectations.

0.0.4 Risks, Costs and Benefits

0.0.4.1 The quality system shall address and provide provisions for risk, cost and benefit considerations for both the company and its customers as this is an important factor of overall quality management.

0.0.4.2 Risk factors affecting the company from deficient products include, but are not limited to, loss of reputation, loss of business, complaints and product liability. For our customers, deficient products supplied by our company could result in health and safety hazards and loss of confidence.

0.0.4.3 Marketing, Engineering, Manufacturing and Quality shall implement procedures to limit the impact defective products can have on the cost of our products. Losses can have an adverse impact on the company from excessive rework and repair, scrap and claims from customers. Excessive cost from defective products can also impact our customers by increasing their cost from purchasing, operating, repairing or disposing of our products.

0.0.4.4 The benefits to be derived from the elimination of defective or deficient products include increased profitability for the company and increased customer satisfaction. The Quality Assurance Manager shall include in his/her monthly report to management data evidencing that consideration has been given to risk, cost and benefit factors of preventing defects.

I. Purpose

To establish responsibilities, guidelines and procedures for the implementation of **Truck Trailer Transit**'**s** quality assurance management program and quality system, and to provide visibility of the quality function's organizational relationship and management reporting structure.

II. Policy

The quality assurance management program and quality system at **Truck Trailer Transit** is in compliance with the ISO 9001 standard and is used to demonstrate our ability and capability to design and supply products in accordance with the quality requirements of this standard.

III. Responsibilities and Procedures

1.0.1 General

1.0.1.1 This quality assurance management program and quality system is subject to review and approval by an accredited organization (registrar) under the ISO 9001 standard.

1.0.1.2 The Quality Assurance Manager is responsible for selecting an accredited organization to register this manual and shall arrange with the selected organization for initial registration of this quality system as well as periodic audits to maintain registered status.

1.0.1.3 This document is implemented within the scope of requirements imposed by European Economic Community customers seeking to have ISO 9001 certified suppliers.

1.0.1.4 This document is applicable to all functions and personnel within **Truck Trailer Transit** who directly or indirectly have an impact on the quality of our products and services. The Quality Manager is responsible for verifying that all functions and personnel within the company, subject to the quality program, are in full compliance at all times.

1.0.1.5 Specifically, the Quality Assurance Department shall ensure product compliance to specification by verifying adequate quality through design, development, fabrication, processing, assembly, inspection, test, maintenance, packaging and shipping, storage and site installation.

I. Purpose

To set forth the applicable ISO 9000 series standards.

II. Policy

The quality assurance management program and quality system shall be implemented in accordance with the following standards and specifications and with applicable statutory (requirements of society) and industry standards.

III. References

2.0.1 General

2.0.1.3 ISO 9001 Quality System
Q.A. in Design/Development, Production, Installation and Servicing

22.0.1.1 ISO 8402-1986
Quality-Vocabulary

2.0.1.2 ISO 9000 Quality Management and Quality Assurance Standards
Guidelines for Selection and Use

.0.1.4 ISO 9002 Quality System
Q.A. in Production and Installation

2.0.1.5 ISO 9003 Quality System
Q.A. in Final Inspection and Testing

2.0.1.6 ISO 9004
Quality Management and Quality System Elements

I. Purpose

To provide standard definitions for use in the quality assurance program and quality system.

II. Policy

All written quality policies, procedures and bulletins shall, whenever practical, use the following definitions and follow a uniform standard format.

III. Definitions

3.0.1 General

3.0.1.1 Organization: A company, corporation, firm or enterprise, whether incorporated or not, public or private.

3.0.1.2 Company: Term used primarily to refer to a business first party, the purpose of which is to supply a product or service.

3.0.1.3 Statutory Requirements: Laws, statutes, rules, regulations, codes, etc., imposed by "Society" in the business environment where a company operates.

3.0.1.4 Customer: Ultimate consumer, user, client, beneficiary or second party.

3.0.1.5 Quality Policy: Overall quality direction/intentions of company as expressed by top management.

3.0.1.6 Quality Management: Overall management function determining and implementing quality policies.

3.0.1.7 Quality System: Organizational structure defining responsibilities, procedures, processes and resources for implementing quality management objectives.

3.0.1.8 Quality Control: Operational techniques and methods used to achieve required quality level.

3.0.1.9 Quality Assurance: Planned and systematic actions necessary to provide internal and external confidence that a product or service will satisfy given requirements for quality.

3.0.1.10 Calibration: Comparison of two instruments or measuring devices, one of which is a standard of known accuracy traceable to a national or international standard, to detect any discrepancy in accuracy.

3.0.1.11 Characteristic: A physical, chemical, visual, functional or any other identifiable property of a product or material.

3.0.1.12 Critical Defect: A defect that judgment and experience indicates is likely to result in hazardous or unsafe conditions for individuals using, maintaining or depending upon the product.

3.0.1.13 Deviation: Written authorization, granted prior to the manufacture of an item to depart from a particular performance or design requirement of a contract, specification, or referenced document, for a specific number of units or specific period of time.

3.0.1.14 Inspection: The examination and testing of supplies and services (including, when appropriate: raw materials, components and intermediate assemblies) to determine whether they conform to specified requirements.

3.0.1.15 Inspection, In-Process: Inspection which is performed during the manufacturing or repair cycle in an effort to prevent defects from occurring and to inspect the characteristics and attributes which are not capable of being inspected at final inspection.

3.0.1.16 Lot: A collection of units of a product bearing identification which are treated as a unique entity from which a sample is to be drawn and inspected to determine conformance with the acceptability criteria.

3.0.1.17 Lot Formation: The procedure of collecting, segregating or delineating production units into homogeneous identifiable groups according to type, grade, class, size, composition or condition of manufacture.

3.0.1.18 Maintainability: A characteristic of design and installation which is expressed as the probability that an item will be retained in or restored to a specified condition within a given period of time, when the maintenance is performed in accordance with prescribed procedures and resources.

3.0.1.19 Major Defect: A defect other than critical, that is likely to result in failure, or to reduce materially the usability of the unit of product for its intended purpose.

3.0.1.20 Material Review Board: The formal Board established internally for the purpose of reviewing, evaluating and disposing of specific nonconforming supplies or services; and, for assuring the initiation and accomplishment of corrective action to preclude recurrence.

3.0.1.21 Measuring and Test Equipment: All devices used to measure, test, inspect, diagnose or otherwise examine materials, supplies and equipment to determine compliance with technical requirements.

3.0.1.22 Minor Defect: A defect that is not likely to reduce materially the usability of the unit of product for its intended purpose, or is a departure from established standards having little bearing on the effective use or operation of the unit.

3.0.1.23 Nonconformance: The failure of a unit of product to conform to specified requirements for any quality characteristic.

3.0.1.24 Objective Quality Evidence: Any statement of fact, either quantitative or qualitative, pertaining to the quality of a product or service based on observations, measurements or tests which can be verified. Evidence will be expressed in terms of specific quality requirements or characteristics. These characteristics are identified in drawings, specifications and other documents which describe the item, process or procedure.

3.0.1.25 Reliability: The probability that an item will perform its intended function for a specified interval under stated conditions.

3.0.1.26 Reliability Assurance: All actions necessary to provide adequate confidence that material conforms to established reliability requirements.

3.0.1.27 Specification: A document intended primarily for use in procurement, which clearly and accurately describes the essential and technical requirements for items, materials or services, including the procedures by which it will be determined that the requirements have been met. Specifications for items and materials may also contain preservation, packaging, packing and marking requirements.

3.0.1.28 Testing: Is an element of inspection and generally denotes the determination by technical means of the properties or elements of supplies, or components thereof, including functional operation, and involves the application of established scientific principles and procedures.

I. Purpose

To provide a quality system that conforms with the requirements of ISO 9001.

II. Policy

Truck Trailer Transit has elected to adopt a quality system in conformance with ISO 9001 in order to obtain registration of its quality system by an accredited registrar.

III. Quality System Elements

Management Responsibility
Quality System
Contract Review
Design Control
Document Control
Purchasing
Purchaser Supplied Products
Product Identification and Traceability
Process Control
Inspection and Testing
Inspection, Measuring and Test Equipment
Inspection and Test Status
Control of Nonconforming Product
Corrective Action
Handling, Storage, Packaging and Delivery
Quality Records
Internal Quality Audits
Training
Servicing
Statistical Techniques
Continuous Improvement Plan

I. Purpose

To establish the responsibility and commitment of company management to implementing and maintaining this quality assurance program and quality system.

II. Policy

The management of Truck Trailer Transit is dedicated and committed to reaching the quality objectives and goals set forth in this manual. Management retains the overall responsibility to insure that its company quality policy is understood, implemented and maintained at all levels of the organization.

III. Responsibilities and Procedures

4.1.1 General

4.1.1.1 While the President/Chief Executive Officer of **Truck Trailer Transit** has delegated the authority to administer and implement the quality system to the Quality Assurance Manager, the General Manager retains overall responsibility. The Q.A. Manager shall report directly to the General Manager.

4.1.1.2 The Quality Assurance Department of **Truck Trailer Transit** is a primary unit of the company and is on the same organizational level as Marketing, Engineering, Manufacturing, Purchasing and Human Resources.

4.1.1.3 The Quality Assurance Manager shall report once per month to the General Manager on the overall effectiveness of the quality management program and quality system.

4.1.1.4 The Quality Assurance Manager shall conduct monthly meetings with all other Department Managers to review and address quality problems and formulate strategies for continuous improvement.

4.1.1.5 **Truck Trailer Transit** has stated a clear corporate quality policy in this manual that must be adhered to by all personnel. Department Managers are responsible for ensuring that all personnel in their department understand the corporate quality policy and that all aspects relevant to their department's functions are implemented and maintained.

4.1.1.6 The Quality Assurance Manager shall conduct regular internal audits to determine if all work (including such activities as purchasing, handling, machining, assembling, fabricating, processing, inspecting, testing, storing, installing) affecting the quality of products manufactured by **Truck Trailer Transit** is in compliance with the quality policies and procedures in this manual. Results of these internal audits, as well as corrective actions shall be documented and reported to the General Manager.

4.1.1.7 Management control procedures shall be evaluated annually by corporate management to measure the degree of compliance with the quality policy.

I. Purpose

To provide a documented quality system that ensures product conformance to all specified requirements.

II. Policy

It is the policy of **Truck Trailer Transit** that all activities which may affect product quality be conducted under a well documented quality system which provides clear procedures and instructions. The Quality Manager is responsible for verifying that the quality system is fully implemented at all levels of the organization.

III. Responsibilities and Procedures

4.2.1 General

4.2.1.1 The quality system is the organizational structure implementing the quality management objectives and assigning responsibilities.

4.2.1.2 The Quality Manager is responsible for the preparation, control, implementation and updating of this manual, as well as maintaining adequate quality records.

4.2.1.3 Quality is responsible for the preparation of quality plans, procedures and work instructions necessary to implement this standard and meeting customer requirements.

4.2.1.4 Quality and Engineering are responsible for identifying any measurement requirement for which capabilities exceed the known state of the art, within a sufficient time period for the needed capability to be developed.

4.2.2 Quality System

4.2.2.1 The quality system defined in this manual is the means by which management's stated objectives and policies are implemented, and is the tool by which management determines if products and services that are offered actually satisfy customer expectations, as well as comply with contractual requirements.

4.2.2.2 The emphasis of this quality system is continuous quality improvement and defect prevention rather than detection after occurrence.

4.2.2.3 As part of the quality system, the Quality organization is responsible for identifying and obtaining the measuring and test equipment necessary to control quality, as well as providing proper techniques and processes or training.

I. Purpose

To provide a procedure for conducting a contract/order review of all new incoming orders at the earliest possible time.

II. Policy

It is the policy of **Truck Trailer Transit** that all new incoming contracts or orders be reviewed by Quality to determine if the company has the internal capability to meet all contractual quality requirements.

III. Responsibilities and Procedures

4.3.1 Contract Review

4.3.1.1 Upon receipt of a new contract or order, the Quality Manager shall schedule a contract review meeting between quality, design engineering and marketing. Quality shall be responsible for documenting each contract review.

4.3.1.2 A log shall be maintained by Quality indicating the date it received the new contract or order, the date the contract review meeting was held, the identification of all parties who attended the meeting.

4.3.1.3 The contract review process shall be used to make the following determinations:

a) that all contractual requirements are clearly defined and documented;
b) that the stated requirements do not differ from the original proposal and/or sales offer;
c) that there are no unusual quality requirements such as special processes or testing;
d) that further clarification of the requirements are needed from the customer.

4.3.1.4 Based on the contract review, the Quality Manager shall be responsible for communicating the need for special quality requirements to the entire organization.

I. Purpose

To establish procedures and responsibilities for the Engineering element to translate customer requirements into specifications and designs, to be used within the company to manufacture and produce products that will meet the customer's requirements and expectations at a competitive price.

II. Policy

All product designs and specifications and their associated processes shall be adequately reviewed, tested and verified by Engineering and Quality prior to production as an integral part of the quality system.

III. Responsibilities and Procedures

4.4.1 General

4.4.1.1 Engineering shall provide for the translation of customer's needs and expectations from the product brief or customer specifications and drawings into technical specifications for materials, products and processes. The design effort shall be geared towards meeting customer requirements while providing an economical production cost which will enable **Truck Trailer Transit** to have a satisfactory return on investment.

4.4.1.2 Engineering is responsible for providing a design which is producible, verifiable and controllable under the proposed production, installation or operational conditions specified.

4.4.2 Design Planning and Objectives

4.4.2.1 The Engineering Manager shall be responsible for all internal and external design functions and shall ensure that all personnel involved in design are qualified and are aware of their responsibilities for achieving quality.

4.4.2.2 The Engineering Manager shall be responsible for the evaluation of design drawings, specifications and proposed changes with respect to their engineering adequacy. The evaluation shall include both the adequacy to standard engineering and design practices and the adequacy with respect to the design and purpose of the product to which the drawing relates.

4.4.2.3 The Quality Manager shall review and approve all proposed designs for completeness and adequacy of the technical data used for procurement of material, performance of production, verification of conformance of products and processes to specification requirements.

4.4.2.4 Manufacturing work instructions and specifications relating to a particular design shall be reviewed by Quality in accordance with established procedures.

4.4.2.5 Based on the product application and complexity, the Engineering Manager shall establish a time-phased design program with built-in design reviews and evaluation. Designers shall give due consideration to the requirements and regulations affecting safety, reliability and environmental conditions.

4.4.3 Product Testing and Measurement

4.4.3.1 The design process shall include specifications for the methods of measurement, test and acceptance criteria to be applied during both the design and production phases.

4.4.3.2 Product testing and measurement parameters shall include performance target values, tolerances and attribute features as well as acceptance and rejection criteria. Test and measurement methods shall be specified as to bias and precision requirements and computer software considerations.

4.4.4 Design Qualification and Validation

4.4.4.1 The design process shall include periodic evaluation in the form of analytical methods such as Failure Mode Effect Analysis (FMEA), fault tree analysis or risk assessment and inspection or testing of prototypes or sample production models. The amount and degree of testing is related to the risk factor identified in the design plan. Adequate numbers of samples shall be examined to provide satisfactory statistical confidence in the results.

4.4.4.2 The test shall include evaluation of performance, durability, safety, reliability and maintainability under expected storage and operational conditions. Inspection shall verify that all design features are as intended and that all authorized design changes have been accomplished and recorded. Computer system and software used shall also be validated.

4.4.4.3 The results of all tests, evaluation and inspection shall be documented throughout the qualification test cycle. Review of test results shall include defect and failure analysis.

4.4.5 Design Review

4.4.5.1 At the conclusion of each phase of the design development process, the Engineering Manager and representatives of all functions affecting quality and the design team shall conduct a design review meeting which is a formal, documented, systematic and critical review of the design results. The design review shall identify and anticipate problem areas to ensure that the final design is in compliance with customer requirements.

4.4.5.2 As appropriate, the design review process shall consider the following elements:

a) comparison of customer needs versus technical specifications for materials, products and processes;
b) validation of the design through prototype tests;
c) ability to perform under expected conditions of use and environment;
d) considerations for safety and liability during unintended use and misuse;
e) safety and environmental considerations;
f) compliance with regulatory requirements, national and international standards;
g) comparison with competitor's design;
h) comparison with similar designs to analyze previous quality problems and possible recurrence.

4.4.5.3 Design review items pertaining to product specification and service requirements to be considered:

a) reliability, serviceability and maintainability requirements;
b) permissible tolerances and comparison with process capabilities;
c) product acceptance/rejection criteria;
d) installation and ease of assembly, storage, shelf life and disposability;
e) benign failure and fail-safe characteristics;
f) esthetic specifications and acceptance criteria;
g) failure modes and effects analysis and fault tree analysis;
h) ability to diagnose and correct problems;
i) identification, warnings, labeling, traceability requirements and user instructions;
j) review and use of standards parts.

4.4.5.4 Design review items pertaining to process specification and service requirements to be considered:

a) manufacturability of the design, including special process needs, mechanization, automation, assembly and installation of components;
b) capability to inspect and test the design, including special inspection and test requirements;
c) specification of materials, components and subassemblies, including approved supplies and suppliers as well as availability;
d) packaging, handling, storage and shelf-life requirements, especially safety factors relating to incoming and outgoing items.

4.4.5.5 When appropriate, design verification shall be undertaken as part of the design review process by the following methods:

a) alternative calculations made to verify correctness of the original calculations and analyses;
b) documented, clearly defined prototype/model testing;
c) independent verification of design activities.

4.4.6 Design Baseline and Production Release

4.4.6.1 Final design review results shall be documented in specifications and drawings defining the design baseline. The final document defining design baseline shall be approved by the Engineering and Quality Managers. This approval constitutes the production release.

I. Purpose

To establish procedures and responsibilities for the Engineering and Quality elements to ensure that only current and approved drawings, specifications, procedures and instructions are used during the manufacturing cycle.

II. Policy

Engineering shall control the preparation and issuance of all documents and data that relates to the requirements of the quality system. These documents are prepared primarily by Engineering but shall be reviewed and approved by Quality.

III. Responsibilities and Procedures

4.5.1 General

4.5.1.1 The Engineering Manager is responsible for controlling the release, change, modification and use of documents that define product baseline and configuration. The Engineering Manager shall also authorize the necessary work to implement routine and emergency design changes during the entire life cycle of a product. All design changes shall be reviewed and concurred to by Quality Management as to the impact on product quality. The configuration management procedure shall provide for the prompt recall and disposition of obsolete drawings and other design related documents.

4.5.1.2 To assure the currentness of drawings and changes, Engineering shall implement requirements for the effectivity point of changes and ensure that obsolete drawings and change requirements are removed from all points of issue and use. Records of this procedure shall be maintained by Engineering and made available to the Government or customer when contractually required.

4.5.1.3 Engineering shall comply with contractual requirements in effecting change control. In contracts where Government approval is required, drawings and specifications shall be submitted to the Government design authority for review and approval before issuance.

4.5.1.4 Quality shall assure that there is complete compliance with contract requirements for proposing, approving and effecting engineering changes.

4.5.1.5 Quality shall assure delivery of correct drawings and change information to the Government in connection with data acquisition.

I. Purpose

To establish procedures and responsibility for controlling the quality of materials, components, assemblies and services procured by **Truck Trailer Transit** for inclusion in end items to be delivered to customers.

II. Policy

The quality system shall provide procedures for controlling the quality of procured items by instituting a review of purchasing documents to ensure that they contain all applicable requirements, establishing an approved supplier list and rating system, conducting vendor surveys and conducting appropriate receiving inspection by Quality. The Purchasing Department shall issue purchase orders for products and services that may affect quality only to approved vendors and only after review of the purchasing documents by Quality.

III. Responsibilities and Procedures

4.6.1 General

4.6.1.1 The quality of products supplied by **Truck Trailer Transit** is directly affected by the quality of materials, components and services (such as calibration) procured from outside sources. It is the objective of Management that the purchasing from outside sources shall be planned and controlled and that purchasing and quality personnel involved in the procurement process shall establish a close working relationship and feedback system with our vendors.

4.6.1.2 The procurement quality planning and control system shall, as a minimum, include the following:

a) clear definition of requirements;
b) purchase orders that include all appropriate drawings, specifications;
c) selection of qualified suppliers;
d) agreement on quality assurance and verification methods;
e) provisions for settlement of quality disputes;
f) receiving inspection plans, controls and records.

4.6.2 Supplier Selection

4.6.2.1 The selection of suppliers and the nature and extent of control and verification shall be related to the type of supplies being procured and the suppliers' demonstrated capabilities to perform as required.

4.6.2.2 The effectiveness of the suppliers' quality systems shall be reviewed by Quality, at intervals consistent with the complexity of the items supplied and supplier performance.

4.6.3 Requirements for Specification, Drawings and Purchase Orders

4.6.3.1 Communication of clear, complete purchasing documents, specifications and drawings shall be the responsibility of the Purchasing Manager. All purchase orders for supplies and services that may affect product quality shall be reviewed and approved by the Quality Department prior to release to the vendor. Purchasing shall obtain, from Quality, specifications or special quality requirements such as first article, statistical process control, material certs and special tests required of the supplier.

4.6.3.2 Material classified as operating or maintenance supplies shall not be subjected to the requirements for specification and review by Quality.

4.6.3.3 The purchasing data package provided to suppliers shall include the following as a minimum:

a) a complete description of the material ordered, including by statement or reference all special design, manufacturing and testing requirements;
b) requirements for routine manufacturing, inspecting, testing, packaging and marking;
c) requirements for source inspection, when contractually required;
d) requirements for special tests and inspection of raw materials;
e) a requirement obligating the supplier to notify and obtain approval from **Truck Trailer Transit** for changes in design.

4.6.4 Selection of Qualified Suppliers

4.6.4.1 It is the responsibility of the Quality Manager to maintain a list of approved suppliers. All potential suppliers shall be evaluated as to their ability to comply consistently with quality requirements. The Quality Department shall develop vendor survey and audit procedures so that all vendors on the approved list have been surveyed and audited. Exceptions to surveys and audits must be approved by the Quality Manager.

4.6.4.2 Quality shall be responsible for the preparation, maintenance and monthly distribution of the approved supplier list. This report must list in alphabetical order, all suppliers who have been surveyed and have demonstrated by performance, their ability to meet the specified quality requirements.

4.6.5 Agreement on Verification Methods

4.6.5.1 It is the objective of Management to minimize difficulties with vendors and eliminate the receiving of deficient materials which lead to increased receiving inspection. In order to prevent this problem, Purchasing and Quality shall ensure that all vendors have clear instructions on the methods that are to be used to verify compliance with all quality requirements stated in the purchase order.

4.6.5.2 When practical, Quality shall request that suppliers provide objective evidence of quality in the form of material certs, certificates of conformance, test data, first article testing and SPC data. Objective evidence provided by suppliers may be used as the basis for adjusting the level of receiving and source inspection.

I. Purpose

To establish policy, procedure and general instructions for the handling of Purchaser supplied product, property or material furnished for use in the production of contract items while under the custodial control of **Truck Trailer Transit** .

II. Policy

It is the policy of **Truck Trailer Transit** that all purchaser furnished material, equipment, special tooling and/or test equipment shall be examined upon receipt and that it shall be properly identified and protected from unauthorized use or disposition. Damage, malfunction or deterioration shall be recorded and immediately reported to the Purchaser.

III. Responsibilities and Procedures

4.7.1 General

4.7.1.1 The Quality Assurance Manager shall have responsibility and custody over all purchaser material and property furnished to **Truck Trailer Transit** . Quality shall maintain accurate property records which shall be made available to cognizant purchaser personnel upon request.

4.7.2 Inspection and Inventory

4.7.2.1 Purchaser furnished material is segregated and inspected upon receipt to ascertain any damage in transit. Damaged items are reported immediately to the customer. Records are initiated and maintained on the quantity and status of items received, including rework, replacement, or modification.

4.7.2.2 Quality shall assign required identification markings, such as property tags, for purchaser property in accordance with contractual requirements.

4.7.2.3 Quality shall ensure that purchaser furnished equipment used for inspection, to verify product conformance is controlled and periodically inspected and calibrated.

4.7.3 Storage and Handling

4.7.3.1 Upon receipt, purchaser furnished material or property will be inspected to the extent necessary and practical to determine that the property is complete and that it is not damaged; and it shall be stored and handled in accordance with the company^{o}s standard procedure, or in accordance with specified contract requirements.

4.7.3.2 Protection, periodic inspections and necessary controls will be provided to assure that quality is maintained, that storage conditions are adequate and that damage or deterioration does not occur in handling or storage.

I. Purpose

To establish the procedure and responsibility for providing product identification and traceability from applicable drawings, specifications and other documents.

II. Policy

The **Truck Trailer Transit** quality system shall provide for positive product identification and traceability during all stages of production, delivery and installation.

III. Responsibilities and Procedures

4.8.1 General

4.8.1.1 The Quality Assurance Manager is responsible for implementing procedures to ensure that, prior to being introduced into production, all materials and parts are in strict conformance with the applicable standards, specifications and other contractual requirements.

4.8.1.2 Materials and parts awaiting introduction into production shall be clearly identified and properly stored, segregated and handled so as to prevent degradation of quality or introduction of substandard material into the system. Materials and parts shall also be properly stored and handled during the production process. Special consideration shall be given to shelf-life and deterioration control.

4.8.2.3 When required to do so, Quality shall maintain traceability of material from receipt of raw material to delivery of the end item. Adequate traceability records shall be maintained by Quality. The Quality Manager is responsible for determining which records are necessary to maintain traceability.

I. Purpose

To establish policy, procedures, responsibilities and general instructions for assuring that all production processing and fabrication is accomplished under controlled conditions, using documented work instructions, adequate production equipment and the proper work environment.

II. Policy

All departments within **Truck Trailer Transit** shall interact as to their quality related functions to establish and maintain control of production during the manufacturing cycle to ensure compliance with all applicable standards and specifications. In establishing the control of production procedures, the Quality Assurance Manager shall give due consideration to the cost impact of proposed inspection and testing.

III. Responsibilities and Procedures

4.9.1 General

4.9.1.1 All personnel involved in the manufacturing cycle shall be subject to this procedure. Quality has the primary responsibility for ensuring control of quality during production at **Truck Trailer Transit** . The Quality Assurance Manager, as the lead representative of the quality loop, shall report to Management on a regular basis as to the effectiveness of the production control system and the ability to meet company and customer quality objectives.

4.9.1.2 Engineering shall be responsible for providing, documenting and maintaining work instructions for use as criteria for performing and accepting production processing and fabrication work.

4.9.1.3 Quality shall monitor the issuance and application of work instructions. Quality shall, when necessary, inspect and/or monitor production, processing and fabrication work to assure product conformance and process control.

4.9.2 Equipment Control and Maintenance

4.9.2.1 All production equipment, including fixed machinery, jigs, fixtures, tooling, templates, patterns and gauges shall be proved for bias and precision prior to use. Computers and software used to control processes shall also be verified for proper functioning. Equipment shall be appropriately stored and adequately protected between use, and verified or recalibrated at appropriate intervals to ensure control of bias and precision.

4.9.2.2 A program of preventive maintenance shall be established to ensure continuing process capability. Special attention should be given to equipment characteristics that contribute to key quality characteristics of the product.

4.9.3 Special Processes

4.9.3.1 Production processes with important or critical quality impact on product characteristics or processes, that are not economically measured or require special skills that cannot be fully verified by regular inspection and testing, shall be verified by the following methods:

a) verify the accuracy and variability of equipment used;
b) verify settings and adjustments;
c) verify the required skills and qualifications of the operators;
d) check temperature, humidity and other environmental factors;
e) check certification records for equipment and personnel.

4.9.4 Documentation

4.9.4.1 The Quality function shall control and verify that only the appropriate current work instructions, workmanship standards, drawings, specifications and procedures are used during the production process.

4.9.5 Process Change Control

4.9.5.1 The Engineering Manager is responsible for authorizing and documenting process changes. All changes to production tooling, equipment, materials and processes shall be documented and implemented in accordance with stated procedures.

4.9.5.2 When required to do so, the Quality Manager shall obtain customer approval prior to implementing process changes.

4.9.5.3 Quality shall evaluate the material, parts or products after implementing a process change to determine and verify that the change had the desired quality impact. The results of this evaluation shall be documented and communicated.

I. Purpose

To establish procedures and responsibilities for product verification from incoming materials and parts to completed product verification.

II. Policy

The **Truck Trailer Transit** quality system shall provide three stages of product verification beginning with receiving inspection, followed by in-process inspection and completed product verification. The Quality Manager shall determine the level and extent of each, so as to minimize the cost impact while ensuring quality.

III. Responsibilities and Procedures

4.10.1 Receiving Inspection, Planning and Controls

4.10.1.1 The Quality Manager is responsible for establishing the receiving inspection procedure. The Manager shall appoint a receiving inspector to conduct receiving inspection in accordance with quality requirement standards. The receiving inspector shall be provided with all the necessary inspection equipment required and with trained personnel to assist as needed.

4.10.1.2 All procured material which influence the manufacture of, or is intended for use as part of, deliverable products shall be subject to inspection and/or test as necessary to verify their conformity to purchase order and contract requirements.

4.10.1.3 Engineering and Quality shall establish the extent to which receiving inspection will be conducted and determine the characteristics to be inspected. Contractual requirements, criticality of the material and previous supplier performance shall all be considered, as well as the cost factor associated with this inspection.

4.10.1.4 Receiving inspection checklist shall be established to provide inspection instructions, sample plans and Acceptable Quality Levels (AQL). The receiving inspection checklist with inspection and/or test results may be used as objective evidence of quality and as a tool for evaluating supplier performance. All material certs, certificate of conformance, inspection/test results and SPC data, provided by the supplier as required, shall be retained by Quality.

4.10.1.6 The receiving inspector shall perform inspection and/or tests as outlined on the receiving inspection checklist. Generally, when material is subject to functional test as well as inspection of physical characteristics, the functional test will be performed last.

4.10.1.7 A receiving inspection station shall be maintained at the point of entry for all incoming material. Material requiring inspection shall be held in a segregated area and so identified. Upon completing the inspection, the inspector shall identify and release material found acceptable, but hold, identify and segregate material that fails inspection. Special care shall be taken to prevent inadvertent use of rejected material. The Quality Manager shall be notified and the material disposed of, in accordance with the procedure for nonconforming material.

4.10.1.8 The receiving inspector shall verify that materials subject to degradation with time and temperature have been properly protected during shipment and have been identified with cure date or manufacture date.

4.10.1.9 The receiving inspector shall forward acceptable material to stock in accordance with established procedure. The receiving inspector shall initiate a Notice of Rejection (NR) when material fails to conform to all requirements of the drawing, specification or purchase order.

4.10.2 In-Process Inspection

4.10.2.1 During production, the Quality function shall conduct required inspection and testing to ensure conformity based on the importance of the characteristics and ease of verification. Engineering and Quality shall establish the extent to which in-process inspection will be conducted and determine the characteristics to be inspected. Contractual requirements, criticality of the material, as well as the cost factors associated with this inspection shall be considered.

4.10.2.2 Documented work instructions shall be used for production processing and fabrication work and for establishing acceptance criteria. Quality shall monitor compliance with work instructions by using both physical inspection and process control. In-process inspection shall be accomplished in a systematic manner which will protect product conformance and process integrity.

4.10.2.3 Based on contractual requirements and level of control required, Quality shall, as appropriate, conduct or provide the following:

a) set-up and first piece inspection;
b) inspection or test by machine operator;
c) automatic inspection or test;
d) fixed inspection stations;
e) patrol inspection monitoring specified operations.

4.10.3 End Item/Completed Product Verification

4.10.3.1 Based on contractual requirements and level of control required, Quality shall, as appropriate, conduct acceptance inspection and testing or product quality auditing of sample units. When required, the Government or customer representative will be notified so that he/she can witness completed product verification.

4.10.3.2 Acceptance inspection or tests are used to ensure product performance and compliance with stated quality requirements by either 100% inspection, lot sampling or continuous sampling.

4.10.3.3 Continuous or periodic product quality auditing of sample units may be used for completed product verification.

4.10.3.4 The completed product verification system shall be used for rapid feedback to report deficiencies in product performance or quality. The quality function shall initiate the required corrective action.

4.10.3.5 Inspection instructions necessary to accomplish the final inspection shall be provided by Quality.

4.10.3.6 Provision shall be made for reporting both success and failure data. Any anomalies, deficiencies or questionable conditions found during final inspection and testing shall be resolved prior to shipment.

4.10.3.7 Completed product found deficient shall be reworked or repaired in accordance with company procedures and contractual requirements. Modified products shall be fully reinspected and retested.

I. Purpose

To establish procedures and responsibilities for the control and calibration of measuring and test equipment.

II. Policy

The Quality Assurance Manager is responsible for establishing and maintaining a system for the strict control of all measuring and test equipment used by **Truck Trailer Transit** in all phases of material and product inspection, testing and acceptance. The level of confidence in the control and calibration system shall be such so as to provide confidence in decisions or actions based on measurement data. All such instruments and equipment shall be calibrated and traceable to the National Institute of Standards and Technology (NIST) or to recognized International Standards.

III. Responsibilities and Procedures

4.11.1 Measurement Control

4.11.1.1 Quality Assurance shall provide control and calibration over all measuring and test equipment used in the development, manufacture, installation and servicing of the company's products. Control shall also be exercised over gauges, instruments, sensors, special test equipment, and computer software.

4.11.1.2 Employee owned measurement instruments used for acceptance shall be registered with Quality and subject to all controls of the calibration system. Employees shall, under no circumstances, use their measurement instruments or equipment if they are not registered.

4.11.1.3 The control and calibration system shall also extend to manufacturing jigs, fixtures, tooling and process instrumentation that can affect, or are used to measure, specified characteristics.

4.11.1.4 Quality shall exercise statistical control over the measurement process itself. Such control shall include equipment, procedures, work instructions and operator skills. Measurement errors detected by or reported to Quality shall be compared with the specified requirement and appropriate action taken when precision and/or bias requirements are not achieved.

4.11.2 Elements of Control

4.11.2.1 As required, the control of measuring and test equipment shall include the following elements:

a) correct equipment or instrument specification and acquisition, including range, bias, precision, robustness, and durability under specified environmental conditions for the intended service.
b) initial calibration procedure prior to first use in order to validate the required bias and precision; the software, and procedures controlling automatic test equipment, shall also be tested.
c) recall schedule for adjustment, repair, and recalibration, considering manufacturer's specification, the results of prior calibration, the method and extent of use, to maintain the required accuracy when in use.
d) documentary evidence with tamper proof tags covering identification of instruments, frequency of recalibration, calibration status, and procedures for recall, handling and storage, adjustment, repair, calibration, installation and use.

e) traceability to reference standards (NIST) of known accuracy and stability, or in industries or products where such do not exist, to specially developed criteria.
f) when an instrument is determined to be within specification for three successive calibration periods, the calibration interval may be increased by approximately twenty percent.
g) when an instrument is found to be out of specification, the interval shall be reduced by approximately twenty percent and after two consecutive occurrences, a complete evaluation shall be conducted.

4.11.2.2 Each Manager or Supervisor shall be responsible for all measuring equipment within their Department and shall deliver such equipment to Quality prior to the expiration date of the certification.

4.11.2.3 Quality shall supply "DO NOT USE" stickers to all Managers and Supervisors to be applied to measuring and test equipment which does not exhibit evidence of proper certification, displays an expired certification date or is damaged. When a sticker is affixed, the Manager or Supervisor shall immediately notify Quality.

4.11.2.4 A mandatory recall system shall be employed to assure compliance to calibration schedules. The instrument user shall be notified two weeks in advance by Quality of the calibration due date in order to plan to have the instrument recalibrated.

4.11.2.5 When practical, instruments shall be sealed with tamper proof seals to prevent unauthorized repair or adjustment. Calibration labels shall be affixed indicating the date calibrated, recalibration due date, identification number and the stamp of the technician who performed the calibration.

4.11.2.6 All calibration results shall be recorded in the instrument record.

4.11.3 Supplier Measurement Control

4.11.3.1 The Quality Manager shall be responsible for extending the control of measuring and test equipment to all approved suppliers. The Quality Manager may exclude suppliers of products and items that have no quality impact on the material or product.

4.11.4 Corrective Action

4.11.4.1 All **Truck Trailer Transit** personnel shall immediately report to the Quality Manager out of control measuring processes or equipment and instruments found to be outside the required calibration limits. The Quality Manager shall immediately evaluate each occurrence to determine the effect on completed work and to what extent reprocessing, retesting, recalibration or complete rejection may be required.

4.11.4.2 When contractually required to do so, the Quality Manager shall immediately notify the customer of the incident and obtain concurrence or approval for the proposed corrective action.

4.11.5 Outside Testing

4.11.5.1 To supplement the capabilities of **Truck Trailer Transit** 's internal calibration lab, the Quality Manager may, as required, utilize the services of qualified outside labs. When required, the Quality Manager shall obtain Government or customer approval to use outside calibration or testing services.

4.11.5.2 The Quality Manager shall maintain all outside services for calibration or testing under the company's vendor approval and rating system to prevent the use of labs who fail to meet quality and performance requirements.

I. Purpose

To establish procedures and responsibilities for establishing the inspection and test status of a product during the manufacturing cycle.

II. Policy

The **Truck Trailer Transit** quality system shall provides positive indication of the inspection and test status so that only a product that has passed the required inspection and test is used.

III. Responsibilities and Procedures

4.12.1 Control of Verification Status

4.12.1.1 Inspection and test status of material, parts and assemblies shall be clearly indicated on the shop traveler and inspection records at all times throughout production. The Quality Manager may authorize the use of stamps, tags, labels, test software or other suitable means to indicate the conformance or nonconformance of the product.

4.12.1.2 The traveler and accompanying records shall indicate the verified or unverified status and indication of acceptance at the verification point. The traveler shall also provide traceability to the preceding operation or process.

4.12.1.3 The Quality function shall conduct periodic checks to ensure that all in-process material is accompanied by a traveler and inspection records that clearly indicate the verification status.

4.12.1.4 It is the responsibility of each machine operator to verify that material or product to be processed is accompanied by documentation reflecting the inspection and test status prior to use.

I. Purpose

To establish procedures and responsibilities for the identification, segregation, review, disposition and documentation of occurrences where materials, components, assemblies or completed product procured, processed or produced by **Truck Trailer Transit** that fails to meet the specified requirements.

II. Policy

Truck Trailer Transit shall establish and maintain an effective and positive system for controlling nonconforming material. The Quality Assurance Manager shall review all occurrences where materials, components, assemblies or completed product fail to meet the specified requirements and he/she shall take appropriate action to prevent recurrence. The Quality Manager shall submit to Management, in his monthly quality report, data on the number of nonconformances found and corrective action taken, as well as the cost impact of such nonconformances. Repair or rework of nonconforming material shall be in accordance with documented approved instructions.

III. Responsibilities and Procedures

4.13.1 General

4.13.1.1 All personnel at **Truck Trailer Transit** shall immediately notify their supervisors, who in turn shall notify the Quality Assurance Manager, when materials, components, assemblies or completed products fail to meet the specified requirements during receiving, in-process or final inspection and testing.

4.13.1.2 Based on the nature and severity of the nonconformance, the Quality Manager shall determine: if previous production lots should be reinspected; if customers should be notified; if a recall is in order.

4.13.1.3 A nonconformance shall be defined as any item, part or product with one or more characteristics which depart from the specification or drawing or other approved product description.

4.13.2 Identification

4.13.2.1 Upon receiving notification of a nonconformance occurring, the Quality Manager shall appoint a Quality representative to be the principal investigator. The Quality Representative shall record the occurrence in the master log and identify the suspected nonconforming items.

4.13.2.2 A nonconformance shall be identified as minor when it does not adversely affect any of the following:

a) health and safety;
b) performance;
c) interchangeability, reliability or maintainability;
d) effective use or operation;
e) weight or appearance (when a factor).

4.13.2.3 A nonconformance shall be identified as major when it may affect any or all of the conditions specified in 4.13.2.2.

4.13.3 Segregation

4.13.3.1 The Quality representative investigating the occurrence shall place a conspicuous quality hold tag on the suspected nonconforming items and place them in Quality's controlled hold area immediately. Suspected items shall not be removed or used unless released in writing by the Quality Manager after the appropriate disposition has been decided by the Material Review Board.

4.13.4 Review

4.13.4.1 The Quality Manager shall convene a Material Review Board (or alternatively a review panel) consisting of Design Engineering, Product Engineering, Manufacturing and Quality Engineering to review the nonconformance occurrence. If contractually required to do so, the customer representative will be notified and asked to participate in the review and disposition process. Selection for participation on this Board or Panel shall be based on technical qualifications and experience to review the nature of the nonconformance.

4.13.4.2 For minor discrepancies that are detected during in-process inspection that are a result of workmanship defects, the shop order will be used by Quality to return the item to manufacturing for rework.

4.13.4.3 For major nonconformances detected during in-process inspection, Quality shall record the defects and the facts involving the incident on a Nonconforming Material Report (NMR), which is then forwarded to the Quality Manager for action.

4.13.4.4 The Board or Panel shall submit its recommendation to the Quality Manager on whether the suspected items can be used as they are or should be repaired, reworked or scrapped. Consideration shall be given to performance, safety and reliability, as well as esthetics. The recommendations of the Board or Panel and the decision of the Quality Manager shall be fully documented.

4.13.5 Disposition

4.13.5.1 Implementation of the decision of the Quality Manager shall be done as soon as possible. Material to be repaired or reworked shall be processed in accordance with authorized procedures and customer approval. Nonconforming material received from suppliers shall be rejected and returned for corrective action.

4.13.5.2 Suspected item accepted "as is" and approved by the Quality Manager shall be accompanied by authorized waivers/deviations if appropriate.

4.13.5.3 Subject to approval by the Quality Manager or the Material Review Board, nonconforming material may be repaired which is subject to an approved process designed to reduce but not completely eliminate the nonconformance. The approved purpose of repair is to bring the material into an acceptable condition.

4.13.5.4 Subject to approval by the Quality Manager or the Material Review Board, nonconforming material may be reworked which is the processing of material to make it conform completely to the drawings, specifications or contract requirements.

4.13.5.5 If a nonconforming item cannot be economically reworked or repaired to usable condition and the dollar value and other criteria are consistent with company policy it shall then be scrapped. Quality shall dispose of all scrap immediately and record the quantity and dollar value in the scrap report.

4.13.5.6 Scrap items awaiting removal shall be positively marked and segregated to prevent use.

4.13.6 Documentation

4.13.6.1 The Quality Manager shall maintain a master log of all reports of suspected nonconformances. Review reports shall be prepared and submitted on standard forms and

Quality shall provide standard Board or Panel review procedures and reports. Quality shall collect and retain all NMR and MRB reports and documentation, logs and scrap reports.

4.13.7 Prevention of Recurrence

4.13.7.1 Upon confirmation by the review process that suspected items are in fact nonconforming to the specified requirements, the Quality Manager shall isolate the root cause of the problem and take appropriate action to prevent recurrence.

I. Purpose

To establish procedure and responsibility for assuring that prompt action is taken throughout all phases of the manufacturing cycle to determine the cause of nonconformances and prevent their recurrence.

II. Policy

Truck Trailer Transit 's quality system shall assure prompt detection and correction of assignable conditions adverse to quality. Corrective action shall extend to the performance of suppliers and shall be responsive to feedback and complaints from customers. The corrective action procedure shall emphasize the prevention of recurrences to minimize losses for the company. Management shall analyze monthly quality reports concerning trends in types of defects, costs of scrap, rework and repair to measure the effectiveness of the quality system.

III. Responsibilities and Procedures

4.14.1 General

4.14.1.1 Implementation of corrective action shall begin with the detection of suspected nonconformances including the taking of appropriate actions to correct the deficiency and prevent recurrence. All customer requests for corrective action shall be routed to the Quality Manager.

4.14.1.2 For major and/or critical quality problems, the Quality Manager may appoint a Corrective Action Board (CAB) consisting of **Truck Trailer Transit** management level representatives from each department. Representatives to the CAB shall have the level of authority and responsibility to assure that causes of nonconformance are identified and corrective action taken by responsible managers.

4.14.2 Assignment of Responsibility

4.14.2.1 The Quality Assurance Manager is responsible for the coordination, recording and monitoring of corrective action related to all aspects of product quality. The Quality Manager shall report to Management significant occurrences necessitating corrective action and steps taken to prevent recurrence.

4.14.2.2 Quality shall issue a corrective action request (CAR) to the appropriate function within the company or the supplier responsible for the nonconforming item. The initiator of the CAR shall record the date of issuance in the master log maintained by Quality and monitor the CAR so that it is responded to within the prescribed time period and that necessary corrective action has been taken.

4.14.2.3 Purchasing shall be sent copies of all corrective action requests sent to supplier to be entered into the supplier performance record. Purchasing shall also be notified of the final disposition of the CAR.

4.14.3 Evaluation of Importance

4.14.3.1 Suspected nonconformances shall be evaluated in terms of potential impact on production costs, quality costs, performance, reliability, safety and customer satisfaction. All suspected nonconformance shall be classified as either minor or major.

4.14.3.2 Corrective action may be taken on the spot for minor nonconformances if authorized by the Quality Manager. Records shall be maintained of all such minor corrective action so that if repetition occurs, formal correction procedures can be taken.

4.14.4 Investigation of Possible Causes

4.14.4.1 Quality, with the assistance of engineering, production and quality engineering shall investigate the root cause of the deficiency and its effect on overall quality. The investigation process shall seek to identify important variables affecting the capability of the process to meet the required standards.

4.14.5 Analysis of Problem

4.14.5.1 Analysis of the quality problem shall be geared toward identifying the root cause of the problem before planning for preventive measures. Careful analysis shall be conducted of all related processes, operations, quality records and specifications which may have contributed to the deficiency. The investigation and analysis of the root cause and preventive measures shall be fully documented by the Quality Manager.

4.14.5.2 The corrective action process shall include analysis of data and examination of product scrapped or reworked to determine the extent and cause of the problem and analysis of trends in processes or performance of work to prevent nonconformances.

4.14.6 Preventive Action

4.14.6.1 As determined by the investigation and analysis of the quality problem, Quality, Engineering and Production shall implement the necessary action to prevent recurrence. Such action shall include, but not be limited to, change in manufacturing process, increased in-process inspection and testing, change in handling and storage methods, revisions to product specification and revisions to the quality system itself. The Quality Manager, with the concurrence of Engineering shall determine the appropriate degree of preventive action required, based on the magnitude of the problem.

4.14.6.2 Quality shall maintain a follow-up system to assure that actions are taken as directed.

4.14.7 Process Control

4.14.7.1 Quality shall monitor the effect of preventive action taken in relation to process control. Quality shall also ensure that adequate control of processes is in place to prevent recurrence of the problem.

4.14.8 Disposition of Nonconforming Items

4.14.8.1 The Quality Manager shall convene the company Material Review Board (MRB) to determine final disposition of nonconforming items. If contractually required, the Manager shall notify the customer representative so that he/she can participate in the Board's decision making process. All MRB actions shall be fully documented.

4.14.8.2 The Quality Manager shall immediately determine the extent of remedial action to be taken for work in progress in order to limit the cost of rework, repair or scrapping.

4.14.8.3 For completed items, the Quality Manager shall determine if a recall shall be necessary for in stock and in transit items. Safety, product liability and customer satisfaction factors shall be considered.

4.14.8.4 All nonconforming items awaiting disposition shall be properly segregated by Quality to prevent inadvertent use.

4.14.9 Permanent Changes

4.14.9.1 The Quality Manager shall determine when permanent changes from corrective action necessitate the issuance of new or revised work instructions, manufacturing processes, product specifications and/or change to the quality system.

I. Purpose

To establish procedures, responsibilities and general instructions for preserving quality during post-production functions and for obtaining customer feedback, complaints or product failure reports after delivery and installation. This procedure applies to all deliverable products.

II. Policy

It is the policy of **Truck Trailer Transit** to extend the quality system to post-production activities to ensure that there is no quality degradation of finished products during packaging, storage, shipping, installation and up to the time of being put into use. It is also the policy to use customer feedback as an early warning system for product deficiencies or failure after delivery.

III. Responsibilities and Procedures

4.15.1 Identification, Packaging, Installation

4.15.1.1 Completed products awaiting packaging, preservation and shipping shall be cleaned and stored so as to prevent damage from vibration, shock, abrasion, corrosion, humidity, temperature or any other conditions occurring during handling and storage.

4.15.1.2 Quality personnel shall monitor the handling of product and material to assure that practices are commensurate with the sensitivity of the products being handled and that storage areas are adequate to prevent damage or deterioration. Limited shelf life items shall be issued on a “first in”, “first out” basis. Product being prepared for shipment shall have been subjected to, and have indication of having passed, a final inspection test.

4.15.1.3 All material and products in storage or awaiting packaging and shipment shall be clearly marked and labeled in accordance with customer specifications. Marking shall be adequate to identify the product in the event a recall or special inspection becomes necessary. Markings shall be in accordance with customer requirements and Quality shall verify that special markings such as bar code has been provided by the shipping function.

4.15.1.4 Engineering shall provide all necessary documents such as instructions for use and installation to be included with the product. These instructional documents shall contribute to proper installation and shall be prepared so as to prevent improper installation or factors that may degrade the quality, reliability, safety and performance of the product. Quality shall review all such instructional documents for completeness and adequacy.

4.15.2 Delivery and After-Sales Servicing

4.15.2.1 All items to be delivered to customers shall be inspected prior to packaging to assure as-ordered configuration compatibility and shall be packaged to assure no degradation of quality during handling and transportation to destination.

4.15.2.2 Shipping activities shall comply with Interstate Commerce Commission rules and other applicable shipping and packaging regulations to assure safe arrival and identification at destination.

4.15.2.3 Engineering shall ensure that special purpose tools or equipment used for handling or servicing product during or after installation are of a valid, proven, functional design.

4.15.2.4 Measuring and test equipment used in field installation and testing shall be incorporated into and controlled by the calibration system.

4.15.2.5 Instructions for use, assembly and installation instructions, commissioning, operation, spares or parts lists and servicing of any product shall be comprehensive and supplied in a timely manner. The suitability of instructions for the intended reader should be verified.

4.15.3 Marketing Reporting and Product Supervision

4.15.3.1 A procedure shall be established by Quality and Customer Service for reporting instances of product failure or shortcomings, particularly for newly introduced products, to ensure rapid corrective action.

4.15.3.2 A feedback system regarding performance in use shall be implemented to monitor the quality characteristics of the product throughout its life cycle. This system shall be designed to analyze, as a continuing operation, the degree to which the product or service satisfies customer expectations on quality, including safety and reliability.

4.15.3.3 Information on complaints, the occurrence and modes of failure, customer needs and expectations or any problem encountered in use shall be made available for design review and corrective action in the supply and/or use of the item.

I. Purpose

To establish procedure and responsibility for the identification, collection, maintenance and use of quality records essential to the economical and effective operation of the quality system at **Truck Trailer Transit** .

II. Policy

The Quality Assurance Manager is responsible for identifying, collecting, indexing, filing, storage, maintenance, retrieval and disposition of quality records and documentation necessary for the operation of the quality system. These records shall be used by management to conduct proper analysis in order to identify quality trends and the need and/or effectiveness of corrective action. Records shall be made available for review by the customer representative.

III. Responsibilities and Procedures

4.16.1 General

4.16.1.1 Records are considered one of the principal forms of objective evidence of quality. Quality shall identify those records which demonstrate the existence and effectiveness of control of quality. Quality shall verify that records are reliable and accurate.

4.16.1.2 Records are maintained as prescribed by contract requirements retention period or as deemed necessary by the Quality Manager. Records and documentation shall be protected and preserved while in storage and shall be easily retrievable for review and analysis.

4.16.1.3 Inspection and test records shall indicate completion of the operation, lot size, sample size and the nature of the observations, together with the number of observations made and the number and type of deficiencies found.

4.16.2 Quality Documentation

4.16.2.1 Documentation demonstrating the achievement of product conformance to quality requirements shall be maintained. Appropriate supplier quality documentation shall be collected by Quality.

4.16.2.2 All documentation shall be legible, dated, clean, readily identifiable and maintained in an orderly manner. Documents shall also indicate revision dates and approval and shall be removed from the system when obsolete or out of date.

4.16.2.3 The following types of documents shall be maintained and controlled as part of this procedure:

a) drawings;
b) specifications;
c) blueprints;
d) inspection instructions;
e) test procedures;
f) work instructions;
g) operation sheets;
h) quality manual;
i) operational procedures;
j) quality assurance procedures.

4.16.3 Quality Records

4.16.3.1 Records shall be maintained to demonstrate achievement of the required quality and verify effective and economical operation of the quality system at **Truck Trailer Transit** .

4.16.3.2 Records for monitoring work performance and for inspection and testing shall indicate the acceptability of work or products and the action taken in connection with deficiencies.

4.16.3.2 The following types of records shall be maintained and controlled as part of this procedure:

a) inspection reports;
b) test data;
c) qualification reports;
d) validation reports;
e) audit reports;
f) material review reports;
g) calibration data;
h) quality cost reports.

4.16.4 Record Audits

4.16.4.1 The Quality Assurance Manager shall verify compliance with this Section during regular internal audits.

4.16.4.2 The Quality Manager shall verify that Department Managers have taken appropriate actions based on results of the review of records.

I. Purpose

To establish procedure and responsibility for the planning and conducting of quality audits at **Truck Trailer Transit** .

II. Policy

The Quality Assurance Manager is responsible for assessing compliance with all elements of the quality system and corporate quality objectives and goals. The Quality Manager shall report directly to upper management audit findings and overall compliance.

III. Responsibilities and Procedures

4.17.1 Auditing the Quality System

4.17.1.1 The Quality Manager shall establish a schedule and procedure for conducting internal quality audits. The purpose of such audits shall be to determine internal compliance with all stated corporate quality objectives and goals as defined in the quality manual, as well as compliance with contractual requirements. The audits shall also evaluate the adequacy of operational methods and compliance to established procedures.

4.17.1.2 An audit report with observations, recommendations and action due dates shall be prepared and distributed at the completion of each audit. Quality shall maintain records of audit reports and actions taken as a result of audit findings.

4.17.1.3 The internal audit procedure shall include the preparation of an audit plan that covers the following items:

a) specific areas and activities to be audited;
b) qualification of personnel performing the audit;
c) type of audit (regular or special);
d) procedure for and content of audit report.

4.17.1.4 Audit findings shall be reported to the Quality Manager who in turn will brief company management. Audit findings shall, at a minimum, cover the following:

a) specific examples of deficiencies found and noncompliance;
b) possible reasons for deficiencies and noncompliance;
c) suggestions for appropriate corrective action;
d) review and assessment of corrective action taken in previous audits;
e) provide a schedule for corrective action follow-up.

I. Purpose

To establish procedure and responsibility for providing training to personnel at all levels of the company in order to achieve quality goals.

II. Policy

It is the policy of **Truck Trailer Transit** to provide adequate training to all personnel so that they understand and are qualified to perform their task. It is the responsibility of management to identify and provide resources for this training and to implement a motivational and quality awareness program.

III. Responsibilities and Procedures

4.18.1 Training

4.18.1.1 Management shall identify the specific training needs of the organization and provide the resources necessary. The Human Resources Manager shall be responsible for implementing and maintaining the training program at **Truck Trailer Transit** .

4.18.1.2 Executive and Management personnel shall avail themselves of the necessary training to ensure that they fully understand the quality system and are able to evaluate its effectiveness. Management shall also take an active role in monitoring the quality system by holding regular quality meetings, reviewing the Quality Manager's monthly reports and reviewing cost of quality data.

4.18.1.3 All personnel in the organization, including new employees, shall receive basic indoctrination into the quality objectives of the company and the relationship of their duties to quality and safety in the workplace.

4.18.1.4 Manufacturing Managers shall be appointed to identify and provide the technical training and qualification program necessary for supervisors and operators to perform their assigned tasks.

4.18.1.5 The Training Committee shall specifically identify training to be given to technical personnel to enhance their contribution to the success of the quality system. All technical personnel, not limited to quality, shall be provided with training in statistical techniques, process capability studies, statistical sampling, data collection and analysis, problem identification, problem analysis and corrective action.

4.18.1.6 The Training Committee shall specifically identify training to be given to production supervisors and workers to enhance their contribution to the success of the quality system and ensure that they possess the required skills to perform their task. Specifically, training shall be provided in the proper operation of instruments, tools and machinery they have to use. Additionally, training shall be provided in proper reading and interpretation of all documentation relating to their work, such as work instructions, drawings and specifications. All personnel shall receive basic SPC training.

4.18.2 Qualification

4.18.2.1 The Quality Assurance Manager shall identify areas where formal qualifications of personnel performing specialized operations, processes, tests or inspections are required and shall provide the necessary training.

4.18.2.2 The Quality Assurance Manager shall identify the need and provide for the certification of personnel in specialized skills such as welding and soldering. Quality shall maintain a record of all certified personnel and implement a recertification program as required.

I. Purpose

To establish procedures, responsibilities and general instructions for providing after sale servicing. This procedure applies to all deliverable products which require servicing.

II. Policy

It is the policy of **Truck Trailer Transit** to provide adequate servicing for it's products. The Quality Manager shall ensure that sufficient training, technical and logistical support are provided.

III. Responsibilities and Procedures

4.19.1 General

4.19.1.1 The Quality Manager is responsible for identifying which products require servicing either by their nature and use or by contractual requirements.

4.19.1.2 When servicing is applicable, it shall be performed only by authorized, qualified personnel who may be employed by **Truck Trailer Transit** or an authorized distributor.

4.19.1.3 The Quality Manager shall develop a training program for all personnel servicing the company's products and shall provide periodic technical updates.

4.19.1.4 Assurance should be provided for an adequate logistic back-up, to include technical advice, spares or parts supply, and competent servicing. Responsibility should be clearly assigned and agreed among suppliers, distributors, and users.

I. Purpose

To establish procedure, responsibility, authority and general instructions for the use of statistical methods in the quality system.

II. Policy

It is the policy of **Truck Trailer Transit** to utilize modern statistical methods during all stages and phases of the quality loop. Effective data analysis is an essential element of the quality management program and quality system of this company. When contractually required to do so, Quality shall obtain prior approval of the Government or customer for the statistical methods or sampling plan to be used. The Quality Assurance Manager shall appoint a qualified, experienced SPC coordinator within the Quality organization to administer the program.

III. Responsibilities and Procedures

4.20.1 Application

4.20.1.1 The use of statistical techniques shall not be limited to inspection but shall also be considered for use in the following functions:

a) market analysis;
b) product design;
c) reliability specification;
d) longevity/durability prediction;
e) process control and process capability studies;
f) determination of quality levels/inspection plans;
g) data analysis/performance assessment/defect analysis.

4.20.1.2 Quality shall, when applicable or specified, utilize sampling inspection to evaluate the production process or to make a decision regarding the disposition of a lot. Continuous sampling may also be used to make decisions relative to disposition of sampled units and severity of inspection frequency.

4.20.2 Statistical Techniques

4.20.2.1 Quality Assurance is authorized to install statistical sampling methods as required. In addition, Quality shall institute statistical methods whenever such methods are suitable and practical to maintain the required control of product conformance.

4.20.2.2 Authorized statistical methods and applications available include, but are not limited to the following:

a) design of experiments/factorial analysis;
b) analysis of variance/regression analysis;
c) safety evaluation/risk analysis;
d) tests of significance;
e) quality control charts/cusum techniques;
f) statistical sampling inspection.

4.20.2.3 Statistical sampling procedures shall be used to estimate the level of quality objectively, and achieve control of a process. The basic statistical methods used in this quality system are process control charts and acceptance sampling which, when required, shall be in accordance with MIL-STD-105 (latest revision).

4.20.2.4 The Quality Manager shall determine which statistical data records shall be retained as objective evidence of quality as part of the required quality records of the company.

I. Purpose

To establish responsibilities, guidelines and procedures for the implementation of **Truck Trailer Transit**'s quality assurance management program and quality system, and to provide a living working Continuous Improvement Plan.

II. Policy

In the face of growing worldwide competition, the success of **Truck Trailer Transit** depends on our ability to establish and hit targets aimed at meeting the needs of our customers. To accomplish this we are dedicated to the concept of Continuous Improvement as an ongoing customer-driven process that enables everyone to contribute to the primary business goals of ***Quality, Cost,*** and ***Delivery***. By achieving these goals, we will insure our future.

Continuous Improvement **(Kaizen)** is the constant elimination of waste through betterment of product quality and reduction of costs, both brought about by the collective efforts of employees at every level of the company and in all aspects of the business.

The final quality and costs of a manufactured product are determined, to a large extent by the engineering designs of the product and the manufacturing process.

Continuous Improvement at **Truck Trailer Transit** begins with the top management includes, ***prevention*** as opposed to ***detection*** in its policy and objectives. Management provides the organization and resources for training, information gathering, data analysis and disciplined approaches to situations. The element of training, specifically the effective use of statistical techniques, must be emphasized. Customer expectations can be realized through company-wide quality involvement or the team approach at the earliest possible point in the preproduction process.

III Responsibilities and Procedures

4.21.1 General

The **CIP** Management team at **Truck Trailer Transit** consists of The Operations Manager, The Plant Manager, and The Managers or their designates from; Quality, Materials, Engineering, Human Resources and Finance.

The **CIP** Management Team meets a minimum of once a month. The Operations Manager is the Chairman and is responsible for setting meeting dates and collecting and filing all department reports.

4.21.2 CIP PLan

The **Truck Trailer Transit CIP Program** is a mirror of the companies long range strategic plan, with the addition of departmental goals and targets identified on a monthly basis. The plan is constantly reviewed and updated on a monthly basis.

4.21.3 CIP Training

Training is regularly scheduled for all employees at **Truck Trailer Transit** and includes;

a. **ISO 9000** Basics
b. **QOS** - Quality System Orientation
c. **SPC -** Statistical Process Control
d. **M&M** - Math and Management
e. **WDI -** Working Drawing Interpretation
f. **GD&T-** Geometric Dimensioning & Tolerancing
g. **TOPS-** Team Oriented Problem Solving
h. **LDP -** Leadership Development Program
i. **WHMIS -** Safety Training,
j. Computer related training programs
k. Machine and process training programs
l. **IAPA -** Safety Programs and Training

4.21.4. CIP Managment Meetings

The **CIP** Management Team meets on a minimum of once per month. The meeting has a standard agenda, each department presents a report of the past month's performance, in addition Quality also reports the summarized **SPC** data for that month. Any active **Team Oriented Problem Solving (TOPS)** teams report their project status at the meeting also.

TRUCK TRAILER TRANSIT, INC.
Quality System Summary

Management Responsibility. Requires that quality policy be defined, documented, and communicated throughout the organization; that responsibility regarding quality be clearly defined; that in-house resources are available for verification activities; that a management representative be appointed to ensure quality system requirements are being met; and that the management representative lead a management review periodically to ensure the continuing suitability and effectiveness of the quality system.

Quality System. Requires that a quality system that meets the criteria of the applicable ISO 9000 series standard be established and maintained (documented as a quality system manual) and implemented as a means of ensuring that product conforms to requirements.

Contract Review. Requires review of contracts to ensure requirements are adequately defined and to ensure the capability exists to meet the requirements.

Design Control. Requires procedures for controlling and verifying product design to ensure that specified requirements are being met and to include procedures for design/development planning, design input/output, design verification and design changes.

Document Control. Requires establishing and maintaining procedures for controlling documentation through approval, issue, change and modification.

Purchasing. Requires that purchased product conform to specified requirements, ensured through subcontractor assessments, clear and accurate purchasing data, and verification of purchased product.

Purchaser-Supplied Product. Requires procedures for verification, storage and maintenance of purchaser-supplied product.

Product Identification and Traceability. Requires procedures for identifying product during all stages of production, delivery and installation, and individual product or batch-unique identification as needed.

Process Control. Requires procedures to ensure that production and installation processes are carried out under controlled conditions, which include documentation, monitoring and control of suitable processes and product characteristics, use of approved equipment and criteria for workmanship.

Inspection and Testing. Requires that procedures for inspection and test at receiving, in-process and final inspection be in place and documented in a quality plan. This procedure must include maintenance of records and disposition of product.

Inspection, Measuring and Test Equipment. Requires procedures for selection, control, calibration and maintenance of measuring and test equipment.

Inspection and Test Status. Requires that markings, stamps or labels be affixed to product throughout production and installation, to show conformance or nonconformance to tests and inspections.

Control of Nonconforming Product. Requires control of nonconforming product to ensure it is not inadvertently used, includes identification, segregation and evaluation.

Corrective Action. Requires procedures for investigating causes of nonconformance, taking action to rectify them and creating controls to prevent future occurrences.

Handling, Storage, Packaging and Delivery. Requires procedures for handling, storage, packaging and delivery of product.

Quality Records. Requires procedures for identification, collection, indexing, filing and storage of quality records.

Internal Quality Audits. Requires a system of internal audits to verify whether quality activities comply with requirements and to determine the effectiveness of the quality system.

Training. Requires procedures for identifying training needs and providing training for all personnel to meet those needs.

Servicing. Requires procedures for performing servicing as required by contract.

Statistical Techniques. Requires procedures for identifying the use of statistical techniques in process, product and service.

TRUCK TRAILER TRANSIT, INC.
ISO 9004 Summary

Quality Management and Quality System Elements

Organizational Goals. Requires that the organizational structure of the company provide control over the technical, administrative and human resources elements that have an impact over the quality of the products and services in order to meet the overall quality objectives. Such organizational control must be oriented towards the reduction, elimination and prevention of quality problems. The extent of the quality management system implemented must be in line with the quality objectives and with the type of operation.

Quality Management System. Requires that the company's quality management system address both the company's needs and interests, as well as the customer's needs and expectations. The system must also deal with the risk and cost factors associated with meeting internal and external needs.

Scope and Field of Application. The extent to which the elements and requirements of this standard will be applied will be commensurate with the type of products or services being offered, production processes involved and customer's expectations.

Management Responsibility. Requires that quality policy be defined, documented, and communicated throughout the organization and that responsibility regarding quality be clearly defined by the highest level of management. Also requires the issuance and adherence of a corporate quality policy. The quality policy must take into consideration all associated risk and cost factors affecting both the company and customers.

Quality System. Requires that a quality system that meets the criteria of this standard be established and maintained (documented as a quality system manual) and implemented as a means of ensuring that all products conforms to requirements. The quality system must provide for interaction between all the elements of the organization such as marketing, design and specification engineering, procurement, process planning and development, production, inspection and testing, packaging and storage, sales and distribution, installation and operation, technical assistance and maintenance and disposal after use. These elements will form the internal quality loop which assures the company of meeting its quality objectives.

Responsibility and Authority. General and specific authority and responsibility must be defined for all activities who have a direct or indirect impact on the quality of products or services. Delegated authority must be sufficient to enable the recipient to accomplish the quality objective independently.

Resources and Personnel. Requires that management provide adequate resources (design, manufacturing, inspection and M&TE) and personnel (training, specialized skills) to achieve the quality objectives.

Quality Manual. The quality manual must be used as the instrument to develop and implement the quality system in the form of written policies, procedures and instructions. The issuance of the manual must be controlled to include and add revisions and modifications.

Quality Planning. Requires review of new contracts or projects to ensure that quality requirements are adequately defined and to ensure the capability exists to meet the requirements. Quality planning must be consistent with the overall quality management system and quality objectives.

Quality System Audits. Requires that internal quality audits of all elements of the quality system be conducted to determine effectiveness and achievement of quality objectives. Also requires that management establish the audit plan which must include specific area and activities to be audited. The plan must include auditing procedures, type of resources required and allocation of personnel to conduct the audit. Documented audit results must be submitted to management for consideration and action. Management must also make provisions for periodic independent comprehensive audits of the quality system to verify the results of the internal audits.

Cost of Quality. The quality system must include methods and procedures to determine and evaluate the impact the cost of quality has on the profitability of the company. The purpose of the cost of quality reporting system is to provide management with a tool to measure effectiveness and identify improvement areas. Quality costs must be regularly reported to management and must include prevention and appraisal costs, internal and external failure costs.

Marketing. Requires that the marketing department take the lead in establishing quality requirements by determining customer needs, defining market demand and communicating customer requirements. The marketing department must also provide a "product brief" which is a formal statement outlining product requirements, performance characteristics, applicable standards, etc. The marketing department is responsible for communicating to the organization customer feedback relating to satisfaction with the products and quality problems encountered. Marketing must also provide early warning of problems encountered with new products shortly after shipment.

Specification and Design. Requires that the specification and design element be responsible for defining and translating the product brief and other customer requirements into technical data that will facilitate production and insure customer satisfaction. The design process must including a design review procedure that addresses quality, reliability, maintainability, serviceability, environmental issues and safety as well as design change control (configuration management). The design process must include product testing and measurement as well as design qualification and validation. Management must provide clear delegation of authority and responsibility for the design process.

Purchasing. Requires that the quality system include procedures to control the quality of all material or services procured from outside sources. All procurement activities must be planned and controlled to address quality requirements and vendor/supplier qualifications. All purchasing documents must include clear and complete specifications and quality requirements. The system must provide for the selection of qualified sources, agreements on quality assurance and verification, receiving inspection and adequate quality records documenting vendor/supplier performance.

Quality in Production. Requires that production be conducted under controlled conditions to ensure quality. Controlled conditions include materials control, equipment, processes, procedures, personnel, environment, software, associated supplies and workmanship standards. Process capability studies must be conducted when appropriate. The system must provide for verification of the quality status during production to minimize rejects and maximize yield. The system must also provide for in-process and final inspection in accordance with well defined criteria.

Control of Production. Requires that material, equipment and special processes be controlled throughout the manufacturing cycle. In-plant traceability must be maintained so that substandard material is not introduced in the manufacturing flow. Production equipment must be properly maintained and calibrated and a preventive maintenance program initiated. Work instructions, drawings and specifications used during production must be controlled and a change control system must be in place. Provisions must be made for the identification and strict control of all nonconforming material.

Product Verification. Requires that all incoming material be checked by the receiving inspection element. In-process inspection must verify conformity by checking and monitoring set-up and first piece inspection, inspection by machine operators, inspection at fixed stations and inspection of specific operations. Acceptance inspection and testing must be conducted using lot sampling, continuous sampling or product quality audits. Acceptance inspection must be in accordance with the terms specified in the purchase order or specification.

Control of Measuring and Test Equipment. Requires control of calibration of all measurement systems used in development, manufacture, installation, servicing of a product. The control system must provide for correct calibrating specifications, initial calibration prior to use, recall procedures, documentation and traceability to reference standards. The control must extend to all suppliers.

Nonconforming Material. Requires that a system be in place to identify, segregate, review and dispose of all nonconforming material to prevent its use. The system must document each occurrence and disposition. Appropriate corrective action must be taken to prevent recurrence and identify the root cause of the problem. The assignment of responsibility and authority to institute corrective action must be clearly defined. Appropriate steps must be taken towards the prevention of recurrences.

Corrective Action. Requires that corrective action deal with minimizing the recurrence of quality problems. Responsibility and authority for instituting corrective action must be clearly defined in the quality system. Corrective action process must include investigation of the cause, analysis of the problem, preventive action, process control, disposition. Permanent changes resulting from the corrective action process must be documented and recorded in work instructions or changes to specifications.

Post-Production Functions. Requires that procedures and instructions be established for the handling, storage, identification, packaging, installation and delivery of products to prevent degradation of quality.

Documentation and Records. Requires that the quality management system include procedures for the identification, collection and filing of all quality records necessary to document the effectiveness of the quality system and the achieving of stated quality objectives. Procedures must also specify length of retention, access control and disposition of records and documents. Specific responsibility must be assigned for the maintenance and collection of quality documentation and records.

Personnel. Requires that the quality system address the human resources and training needs of the organization. Adequate training must be provided to technical personnel and production supervisors and workers. Training must also be provided to personnel requiring qualification and/or certification to perform their assigned task. Proper records must be maintained of all qualified and certified personnel. Management must provide motivation and quality awareness to all workers and recognize quality achievements.

Product Safety and Liability. Requires that the quality system addresses product safety and liability to minimize these issues. The system must identify relevant safety standards, evaluate the design and test prototypes for safety, analyze instruction and installation manuals for safety. The system must also provide for a recall procedure should a product be found to pose a safety hazard.

Statistical Techniques. Requires that specific statistical techniques be used when appropriate to conduct design of experiment analysis, variance analysis, process evaluation, safety evaluation, inspection and testing, quality control and sampling inspection.