

Quality Assurance Manual

In accordance with:
International Standard and American
National Standard ANSI/ISO/ASQC Q9001-2015,

QA Manual: QA 100
Revision Level: F
Date of Issue: February 26, 2018



**Union Machine Co. Inc.
CONFIDENTIAL**

**Quality Assurance Manual
In accordance with
International Standard and American
AS9100 REV D**

**QA Manual: QA 100
Revision Level: F
Date of Issue: February 26, 2018**

*** PROPRIETARY DOCUMENT ***

Copyright © 2003 Union Machine Company Inc.
U:\Quality\QUALITY MANUAL\Union Machine Quality Manual-REV F.doc



Revision Level

Revision	Description	Date	Authorized Signature
A	Original Issue	12/21/95	R.A. Bowles
A	Implementation	1/2/96	R.A. Bowles
	Richard A. Bowles relieved as Quality Manager	6/29/96	
	Gerald E. Welch appointed Quality Manager. Effective this date, I have accepted the position and the correlative authority and responsibility of Quality Manager, Union Machine Co., Inc. I have reviewed the Union Machine Co., Inc., QA Manual (QA100, Revision Level A). I concur with its contents. In the exercise of my authority and discharge of my responsibility, I will adhere unequivocally to its implementing procedures. Gerald E. Welch	7/1/96	
B	Updates	7/1/96 to 7/15/02	GE Welch
B	QA 100 PARA 3.3 PARA 11.4 PARA 13.4 QAP' S 003, 008, 009, 013 009, 011	01/07/97	G.E. Welch
B	QA 1001	10/22/98	G.E. Welch
B	Reviewed (No Changes)	10/99	G.E. Welch
B	Reviewed (No Changes)	11/00	G.E. Welch
B	Revised QAP QAP 003 to Rev B QAP 006 Rev. B QAP 008 to Rev B QAP 009 to Rev B QAP 009B Rev. B QAP 009D Rev. B QAP 011 to Rev B	6/01	G.E. Welch
B	Q.A. 100 Reviewed to Rev B (No Changes)	7/15/02	G.E. Welch
C	Update to ISO9001:2008 and AS9100A from ISO 9002:1994	10/6/03	GE Welch



C	<p>Updates</p> <p>QAP 009 Rev. B QAP 017 Rev. B QAP 018 Rev. B QAP 022 Rev. B</p>	10/6/03	G.E. Welch
D	<p>Updated:</p> <p>Para 1.7 QAP 002 Purpose and Scope QAP 006 Purchasing Procedure QAP 009B Receiving Inspection QAP 009C In Process Inspection QAP 009D Final Inspection QAP 017 Internal Quality Audit Procedure QAP 020 Statistical Techniques Appendix A: Organizational Chart</p> <p>Added:</p> <p>QAP 023 Rev A Configuration Mgt QAP 024 Rev. A Inspection Stamps QAP 025 Rev. A List of Forms Form F-006-4 Purchase Requisition Form F-009B-1 Mtl Ctrl Log Book Form F-017-2 Quality Sys Audit Rpt Form F-022-2 Building Maintenance Schedule Form F-025-1 Mgt Review History Form F-026-1 Nonconforming Report Appendix C: Quality Procedures Cross Ref. Appendix D: Master Production Flowchart</p>	3/9/04	G.E. Welch
D	<p>Updated:</p> <p>Para 1.1 AS9100A: 2002 ISO9100: 2000 ANSI/SO/ASQ Q9004-2000</p>	3/18/04	G.E. Welch
D	<p>Michael V. Rallo appointed Quality Manager.</p> <p>Effective this date, I have accepted the position and the correlative authority and responsibility of Quality Manager, Union Machine Co., Inc. I have reviewed the Union Machine Co., Inc., QA Manual (QA100, Revision Level C). I concur with its contents. In the exercise of my authority and discharge of my responsibility, I will adhere unequivocally to its implementing procedures.</p> <p>Gerald E. Welch</p>	3-24-04	Mike Rallo



D	Revised: F-003-4 Change Request to Rev B F-003-1 Contract Review to Rev B	4-15-04	M. Rallo
D	Revised: PARA 1.1 AS9100 REV.A TO AS9100 REV.B This was a administrative change only to the spec. Added: F-003-5 ASSEMBLY PROCEDURES,ALSO ADDED IT TO QAP:009 PAR 9.2 F-003-6 ACCOUNTABILITY SHEET,ALSO ADDED IT TO QAP:009 PAR 9.2	4-19-04	M. Rallo
D	Revised: QAP 006 Rev C To add para 6.5,6.5.1,6.5.2 ,6.5.3,6.5.4 and change to Rev D	6-17-04	M. Rallo
D	Revised: QAP 013 Rev A to change para 13.3 to 13.4 and rewrite para 13.3 and change to Rev B	7-13-04	M. Rallo
D	Revised: F-003-1 Contract Review to Rev C	11-8-04	G.E. Welch
D	Reviewed Manual w/ minor verbiage changes	3-19-05	G.E. Welch
D	Reviewed Manual w/ minor verbiage changes	4-18-06	G.E. Welch
D	Reviewed Manual w/ minor verbiage changes	4-2-07	G.E. Welch
D	Reviewed Manual w/ minor verbiage changes	3-22-08	G.E. Welch
D	Rick Ludwick appointed Quality Manager. Effective this date, I have accepted the position and the correlative authority and responsibility of Quality Manager, Union Machine Co., Inc. I have reviewed the Union Machine Co., Inc., QA Manual (QA100, Revision Level C). I concur with its contents. In the exercise of my authority and discharge of my responsibility, I will adhere unequivocally to its implementing procedures.	6-11-08	Rick Ludwick
D	Revised: QAP 011 Rev C To add para 11.1 – 11.18 and change to Rev D	09-30-08	Rick Ludwick
D	Revised QAP's 003, 005, 006, 007, 013, 017, 018, 019, 024 as part of a self-identification review with DCMA.	01-05-09	Rick Ludwick



D	Reviewed procedural forms and made minor updates while removing obsolete forms which are taken care of through work instructions or on other forms. Forms removed include: F-003-5 ASSEMBLY PROCEDURE, F-013-5 ADDITIONAL PROCESSING REQUIRED, F-023-1 CORRECTIVE ACTION REPORT & F-023-2 CORRECTIVE ACTION FOLLOW UP	01-07-2009	Rick Ludwick
D	009D – ADDED REINSPECTION CLAUSE WHEN A LOT FAILS.	3/13/09	Rick Ludwick
D	11.3 – ALL PERSONAL GAGES TO BE CALIBRATED	3/25/09	RICK LUDWICK
D	15.9.5 – STORAGE OF HAZARDOUS MATERIAL	4/15/09	RICK LUDWICK
D	Following internal audit –ref. (9.E) new procedure adopted	4/30/09	Adam Timothy
D	HANDLING, STORAGE, HAZMAT	5/8/2009	RICK LUDWICK
D	RECEIVING INSPECTION	5/9/2009	RICK LUDWICK
D	15.9.2 – INCOMING MATERIAL (IE. HT #, CERTS)	5/11/2009	RICK LUDWICK
D	NON CONFORMING-MATERIAL REV. BOARD	5/15/2009	RICK LUDWICK
D	13.1.2 – MATERIAL REVIEW BOARD	5/15/2009	RICK LUDWICK
D	17.4.5 – INTERNAL AUDIT PROCEDURE-HARDWARE	5/27/2009	RICK LUDWICK
D	18.6 – TRAINING PROCEDURE	5/28/2009	RICK LUDWICK
D	9.C.1.2 & 9.C.2 – IN PROCESS INSP-SPOT CHECKS, INST. TO OPERATOR	5/28/2009	RICK LUDWICK
D	13.1.2 – NON-CONFORMING-TRAINING INVOLVED EVERY 2 YEARS	6/3/2009	RICK LUDWICK
D	PLANNING OF PRODUCT REALIZATION	6/10/2009	RICK LUDWICK
D	9.B.7 SECTION A – FORM TO RECORD RESULTS	7/9/09	RICK LUDWICK
D	009B 9.B.7 section A – DOCUMENTS FOR OUTSIDE VENDOR RECEIVING	7/18/09	RICK LUDWICK
D	ADDED “INV. JOB FORM” F-003-7	8/3/09	RICK LUDWICK
D	ADDED FORMS (LASER) F-028-1 & F-029-1	8/12/09	DAVID HARPER
D	Added Form F-009B-2	9/15/09	Rick Ludwick
D	Added Forms F030-1 thru F035-1 (Laser Division)	9/28/09	David Harper



D	Updated 13.0 Non-Conforming Product Procedure	11/2/09	Rick Ludwick
D	Updated 9.D.2 (b) – Final Inspection	5/11/2010	Rick Ludwick
D	UPDATED 17.4.7 & 17.7A – ADDED SUNDAY BUSINESS SYSTEM	11/15/2010	RICK LUDWICK
D	Updated 13.3.5-Scrap/Disposition of CSI Parts – Also parts dispositioned for scrap used for set-up must be colored.	11/22/2010	Rick Ludwick
D	ADDING BONDED MRB AREA	11/23/2010	RICK LUDWICK
D	Wes Frazer appointed Quality Manager. Effective this date, I have accepted the position and the correlative authority and responsibility of Quality Manager, Union Machine Co., Inc. I have reviewed the Union Machine Co., Inc., QA Manual (QA100, Revision Level C). I concur with its contents. In the exercise of my authority and discharge of my responsibility, I will adhere unequivocally to its implementing procedures.	5-04-11	Wes Frazier
E	Updating Various Procedures for AS 9100 REV C Added: QAP 023 Rev A Risk Management for AS9100 REV C Updated: QAP 005 Rev C Document Control QAP 006 Rev F Purchasing QAP 009B Rev E Receiving Inspection QAP 009C Rev D In Process Inspection QAP 014 Rev B Corrective/Preventive Action QAP 017 Rev E Internal Quality Audits QAP 018 Rev C Training	06-15-11	
E	Updated Quality System Scope and removed section 19.0 for Servicing or post-delivery support		A. Timothy
E	Updated Management Listing and Organizational Chart	3/28/2013	Robin Trickett
E	Removed references to obsolete specs	9/15/2014	A. Timothy
E	Updated AS9100 references to REV D	8/24/2017	A. Timothy
E	Added paragraph concerning obtaining new knowledge to management reviews and updated mission statement	1/18/2018	A. Timothy
E	Added 1.9 Communications Policy	1/22/2018	A. Timothy



F.	Added 1.1 Context of the Organization, 1.2 Needs and Expecations of Interested Parties. Updated QMS scope. Removed policies past 2 considered redundant with Procedures.	2/26/2018	A. Timothy
F	Updated page numbering and revised Appendix C – Cross Reference with appropriate AS9100 REV D Sections	5/31/2018	A. Timothy
F	Updated Quality Policy to more clearly address requirements of REV D Standard	9/5/18	A. Timothy

Note:

The revision level of each individual QAP is listed by revision level, date, and approval signature in the Table of Contents.

NOTE:

Table Of Contents

1.0	INTRODUCTION - MANAGEMENT RESPONSIBILITY	2
1.1	REFERENCES	2
1.1	CONTEXT OF THE ORGANIZATION	2
1.2	NEEDS AND EXPECTATIONS OF INTERESTED PARTIES	3
1.3	QUALITY POLICY	4
1.4	MANAGEMENT COMMITMENT.....	4
1.5	ORGANIZATION	5
1.6	MANAGEMENT RESPONSIBILITY AND AUTHORITY	5
1.7	VERIFICATION RESOURCES AND PERSONNEL	6
1.8	MANAGEMENT REPRESENTATIVE	6
1.9	MANAGEMENT REVIEWS.....	7
1.10	COMMUNICATION POLICY.....	8
1.11	APPLICABLE DOCUMENTS.....	9
2.0	QUALITY MANAGEMENT SYSTEM	11
2.1	PURPOSE	11
2.2	SCOPE	11
2.3	POLICY.....	11
2.4	RESPONSIBILITIES:	11
2.5	MONITORING/MEASUREMENT:.....	11
2.6	CONFORMANCE AND CONTINUOUS IMPROVEMENT:	12
2.7	APPLICABLE DOCUMENTS.....	12
2.8	RESPONSIBILITY	12
APPENDIX B -	MANAGEMENT RESPONSIBILITIES	14
	PRESIDENT/CEO	14
	GENERAL MANAGER.....	15
	QUALITY MANAGER.....	17
	PRODUCTION MANAGER	18
	ENGINEERING MANAGER	19
	MATERIAL MANAGER	20
	CONTRACT ADMINISTRATOR	21
	INSPECTION GROUP.....	22
	SETUP MACHINIST (CLASS A).....	23
	MACHINIST (CLASS B).....	24
APPENDIX C –	QUALITY PROCEDURE CROSS REFERENCE	25
APPENDIX D –	MASTER PRODUCTION FLOW	26

1.0 Introduction - Management Responsibility

This manual describes the quality system of Union Machine Co., Inc. It defines the policies regarding all activities at Union Machine Co., Inc., that directly affect the quality of our products, especially as it relates to the ISO 9001 Standard (ANSI/ISO/ASQC Q9001-2015) as well as other contractual requirements.

1.1 References

ANSI/ASQC A3	Quality Systems Terminology
ISO 8402-1986	Quality - Vocabulary
9001:2015	ISO 10012-1
	Quality Assurance Requirements for Measuring Equipment
ANSI NCSL 2540.1	Calibration Laboratories and Measuring and Test Equipment - General Requirements
DOD-STD-480/MIL-STD-481/ MIL-STD-973	Configuration Control-Engineering Changes, Deviations and Waivers
Quality and Reliability Assurance Handbook H50	Evaluation of a contractor's Quality Program
Quality and Reliability Assurance Handbook H51	Evaluation of a contractor's Inspection System
MIL-S-52779	Software Quality Assurance Program Requirements
AS9100 REV D	Aerospace basic quality system standard
ISO9001- 2015	Quality Management System Requirements

1.1 Context of the Organization

Union Machine is a manufacturer of machined parts (predominantly aircraft engine components) for both military and commercial applications, serving O.E.M. and government accounts.

As a manufacturer in the aerospace industry we are keenly aware of the challenges associated with maintaining tight tolerances, dealing with high temperature alloys in forms that are often difficult to procure, recruiting and retaining a capable workforce, ensuring conformity of features critical to flight safety and the crucial niche we serve in a market where we are at times one of only a couple suppliers on mission critical hardware.

In order to thrive in this space and provide the level of service our customer's demand, we aim to continually maintain and upgrade our facilities, our technology and our people.

1.2 Needs and Expectations of Interested Parties

By understanding the expectations of all interested parties, we seek to provide a model where all stakeholders are able to come away with their needs met and able to continue in their support of the organization.

Interested Parties	Requirements QMS Relevance	Associated Risks
Customers (GE, DoD)	Communication, On time delivery (capacity planning), Quality of product/services, packaging/shipping. fulfilling applicable T&C's/regulatory requirements, care of customer supplied material, Continual Improvement	Payment of consideration for late delivery, loss of goodwill and trust associated with quality escapes and/or quality issues with customer supplied product, rising costs over time
External Providers (Approved Supplier List)	Communication Purchasing requirements Payment per terms	Reduction in supply base through acquisition, difficulty in procuring certain materials, increasing lead times, maintaining product specific approvals, payment delays due to contractual issues
Local Agencies	Infrastructure development	Delay of capacity expansion
Employees	Leadership, organizational knowledge, resources, communication, awareness, oversight, Continual Improvement	Turnover and recruiting costs Human Errors Aging workforce
Owner	Leadership, resources, Profitability and Stability of organization	Quality/contractual issues tying up capital Jobs that don't meet expected margins Ability to find/finance resources needed
Environmental Agency	Control of HAZMAT / Development of facilities	Delay of capacity expansion Fines
OSHA	Product and Employee Safety	Fines and production delays
US Govt.	Contractual statutes (Material Procurement)	Inability to use product, delays, fines
Engineering Authority	Source Approval requirements, Waiver/Deviations, First Article/Production Lot Approvals	Shifting requirements, Regulatory changes preventing access to technical data Failed first article / significant delays and potential cancellation
Quality Registrars (OASIS, NADCAP)	QMS conforms to outlined standards	Auditor availability, self-audit preparation

1.3 Quality Policy

We are a TEAM of professionals who take pride in solving and surmounting the challenges of precision aerospace manufacturing.

We are committed to meeting our customers' requirements and we believe that every individual on this team has essential contributions to make towards that end.

This includes the quality of our products, addressing the safety requirements inherent in aerospace manufacturing and our capacity to provide products in a timely fashion.

We treat each day as an opportunity to improve, to do a little better than we did yesterday or last week or last year.

We aim to be successful in executing on these aspirations, so we measure our individual and collective contributions against our customers' requirements and our own expectations for excellence.

In this manner we will always know where we stand, where we need to go from here and how to get there together.

1.4 Management Commitment

Management will give our employees the resources, training, and support to provide our customers with reliable products and services that meet or exceed their expectations. A Management/Quality Plan will encapsulate our basic business policy. This quality manual supported by second level procedures and third level instruction forms will provide the framework and tools to implement a sound quality system.

Union Machine Co. will encourage excellence in all members of our organization.

We will continually improve the methods we employ in marketing, design, manufacture, and service of our products to ensure industry leadership. This policy shall be integrated and implemented through an active involvement by the entire organization. Our ultimate goal is the absolute and complete satisfaction of our customers.

1.4.1 ISO Steering Committee:

The purpose of the ISO Steering Committee is to administer the Quality Management System. The ISO Steering Committee is defined to include the President, Quality Manager, Manufacturing Operations Manager, and the Materials (Purchasing/Administrative) Manager.

The ISO Steering Committee is ultimately responsible for establishing, implementing, maintaining, and improving the quality system. Management commitment is demonstrated by communicating to the organization the importance of meeting requirements, establishing the quality policy and objectives, conducting management reviews of the quality system, and ensuring the availability of necessary resources.

The ISO Steering Committee has the responsibility for defining the policies to comply with the requirements of the AS9100 standard. The president has the responsibility of approving all policies.

1.4.2 Customer Requirements:

The ISO Steering Committee is committed to communicate the importance of meeting customer as well as legal and regulatory requirements. The President and the Quality Manager are responsible for implementing this commitment by promoting awareness of customer requirements throughout the organization.

1.4.3 Quality policy and Objectives:

The ISO Steering Committee defines the purpose and objectives of the Quality Management System. They are documented and communicated in a form of a quality policy and quality objectives.

1.4.4 Resources:

The president is committed to providing the necessary resources for establishing, implementing, and improving the Quality Management System.

1.5 Organization

See organizational chart - Appendix A

1.6 Management Responsibility and Authority

The President of Union Machine Co., Inc., assumes the ultimate responsibility for the quality system and for reporting to the Steering Committee.

The Quality Manager and the ISO 9000 Coordinator /Auditor of Union Machine Co., Inc., working in conjunction with the Steering Committee and the Managers of Union Machine, have the authority and responsibility for ensuring that the quality system mandated herein is implemented and maintained, and shall report status to the President and the Steering

Committee. The President shall be the ISO 9001:2015 Administrator. The President has the authority and responsibility to coordinate the implementation of the ISO 9001:2015 program working in conjunction with Quality Manager and the ISO 9001:2015 Coordinator.

The system is maintained by the quality organization. The managers and supervisors are responsible for implementing and communicating the quality system in their departments to their employees. Responsibility must be delegated to subordinates as required, but the delegator retains ultimate responsibility. It is the responsibility of the management of Union Machine Co., Inc., to create a system and an environment that supports the ongoing communication of our quality policy, quality objectives, and that records are kept of the results and verification of the work being performed.

1.7 Verification Resources and Personnel

The Quality Manager oversees the verification activities. These activities include production, installation, and servicing of the processes of products manufactured by Union Machine Co., Inc. Management/Quality reviews and audits of the quality system, processes and/or product are carried out by this group or other personnel independent of those having direct responsibility for the work being performed.

The President is committed to provide adequate resources for the implementation and improvement of the quality system, and for addressing customer satisfaction. Resources may include management, workers, supplies, information, work environment, and financial resources.

The Quality Manager and other management personnel involved in the quality system are responsible in determining resource requirements for the adherence and improvement of the quality system.

The principal forum for determining and communicating resource requirements are management reviews.

1.8 Management Representative

The Quality Manager (or Manager's Designee) is the designated management representatives for the quality system, reporting directly to the President of Union Machine Co., Inc.

The management representative has the authority to:

Ensure that the Quality management System is implemented, maintained, and continuously

improved. Promote awareness of customer requirements throughout the organization. Report to the ISO Steering Committee on the performance of the quality system, including needs for continuous improvement. Coordinate communications with external parties on matters relating to the quality system and AS9100 registration.

1.9 Management Reviews

Management reviews are used to ensure the quality system is effective at Union Machine, Inc. These reviews will also identify areas or needs for continuous improvement, risks that need to be addressed, resource requirements and potential changes to the Quality Management System.

Management reviews shall be held at a minimum of one annually. These reviews will be chaired by the President and conducted by the Steering Committee. The agenda shall include the following inputs:

- Results of Actions from Previous Review
- Changes in external/internal issues relevant to QMS
- Customer satisfaction/Feedback (including OTD)
- Quality Objective performance
- Process performance and product conformity
- Nonconformities & Corrective Actions
- Monitoring and Measurement results
- Audit Results
- External provider performance
- Adequacy of existing resources
- Effectiveness of Actions to address risks/opportunity
- Recommendations for improvement

In addition, when addressing changing needs and trends affecting the organization, consideration should be taken of existing organizational knowledge and the need and means for acquiring any necessary additional knowledge.

Personnel in attendance shall include, but not be limited to, the President, the General Manager, the Quality Manager, the Material Manager, and the Manufacturing Operations Manager. These formal reviews are documented and records maintained.

In addition to a formal annual management review, weekly reviews are normally held according the following calendar:

Mondays – Operations Meeting

Attending: President, Quality Manager, GM, Asst GM, Engineering, Shop Foremen

1st Friday – Engineering Review

Attending: GM, Engineering Personnel

2nd Friday – Business Development

Attending: President, GM, Asst GM, Quote Mgr, VP Marketing & Sales, Consultants

3rd Friday – Quality Review

Attending: GM, Asst GM, Quality Manager

4th Friday – New Job Review

Attending: GM, Asst GM, Quality Manager, Engineering

1.10 Communication Policy

We recognize good communication as critical to our operation and our ability to consistently serve our customers' needs. Therefore as an organization we will endeavor to provide consistent communication both verbal and written as needed as follows:

1.10.1 Customer Communications

External Communications with customer is reserved for management level within the organization. Quality control will discuss any quality issues, concerns, requests for deviation/waiver or escapes. Engineering will discuss changes or technical requirements. Sales and contracting will discuss contractual terms, delivery, price, expediting and delinquencies. Production will discuss day to day delivery issues with farmout operations or critical deliveries. Shipping and receiving will communicate with logistics suppliers to ensure timely pickup and delivery of product. Accounting will discuss accounts receivable, terms and payments. General manager will discuss any items which cannot be readily resolved at a lower level.

1.10.2 External Provider Communications

Communications with external providers is primarily handled by subcontracts manager acting under purchasing. They will discuss quotes, delivery, expediting and contract status. Purchasing manager will communicate with new provider prior to adding to approved supplier list. Quality communicates with external providers whenever there is a nonconformity or potential nonconformity in the provision of services or products which require resolution.

1.10.3 Internal Communications

Internal communications will follow chain of command beginning with floor personnel communicating issues to lead hands in their areas and to quality or engineering as needed. Lead hands shall communicate with shop foreman, quality or engineering as required.

Management shall maintain communication in the form of regular meetings regarding production, quality, new orders and sales. In addition management shall be responsible for conducting training, providing reviews of employees and communicating both company objectives and progress regarding those objectives to the organization as a whole.

1.11 Applicable Documents

ISO 9001:2015, paragraph 5.1, 5.3, 5.4.1, 5.5.1, 6.1, 6.2.1, 5.5.2, & 8.5.1
APPENDICIEES A & B

Commitment

The President of Union Machine Co., Inc., is committed to the continual implementation of this Quality Assurance System, and has delegated complete authority to the Quality Manager and the AS 9100 Coordinator/Auditor to insure full compliance with, and proper implementation of all systems prescribed by this manual. The Quality Manager and AS 9100 Coordinator/Auditor are committed to fulfilling all responsibilities and duties delegated by this authority.

Eric Harper
President
Union Machine Co, Inc.

Wes Frazer
Quality Manager
Union Machine Co, Inc.

David Harper
ISO 9001 Coordinator
Union Machine Co, Inc.



2.0 Quality Management System

2.1 Purpose

The purpose of the Union Machine Co., Inc., quality system is to ensure that products meet or exceed specified requirements and to continuously improve its effectiveness, in conformance to ISO 9001:2015 and AS9100.

2.2 Scope

The quality management system is a mechanism for understanding and serving the needs of both the organization and interested parties defined in 1.2.

As such consideration is made of both high level strategic factors and risks (both internally and externally) affecting the organization as well as the day-to-day operations across the various Federal Way facilities of Union Machine Co., Inc. which affect our ability to manufacture machined aircraft engine components.

The AS9100 standard is used as a framework for the QMS with the exclusions Design and development (8.3) as all requirements and characteristics are defined by our customer.

2.3 Policy

Union Machine Co., Inc., quality system consists of this quality manual, secondary documented procedures, and third level instructions modeled after AS9100. The quality management system shall include specific quality goals and objectives with measurable targets for improving operational performance and ensuring product conformity.

Implementation is achieved by adherence to this manual, documented procedures and work instructions. Quality audits of the are performed and documented to assure compliance.

2.4 Responsibilities:

The Quality Manager is responsible for determining resources and information requirements necessary to support operation and monitoring of the quality system processes, and for communicating these requirements to the ISO Steering Committee. The ISO Steering Committee is responsible for ensuring the availability of necessary resources and information required.

2.5 Monitoring/Measurement:

Union Machine Co., Inc., has established a system and procedures for quality planning to ensure that all products are manufactured in accordance with customer drawing, specifications, and requirements. Quality product planning shall include a documentation of manufacturing and quality controls, processes, testing, possible problem areas, verification

hold points, acceptance standards, and record requirements. The performance of product planning and procedures is monitored by internal quality audits. The overall performance of the quality system is monitored by measuring customer satisfaction and its effectiveness at identifying opportunities for improvement.

2.6 Conformance and Continuous Improvement:

Quality management system and procedures/processes are reviewed periodically by the ISO Steering Committee to identify potential problems/issues, and to identify opportunities for improvement. Actions or plans developed to address problems or potential problems and to improve the quality system are implemented through corrective/preventive actions and/or management improvement projects.

Purchased Products/Supplies: When processes are outsourced or purchased Union Machine Co., Inc utilizes policies and procedures to ensure specified criteria/requirements are met by their suppliers. Section 6.0 of this manual defines policies, procedures, and controls for purchased products.

2.7 Applicable Documents

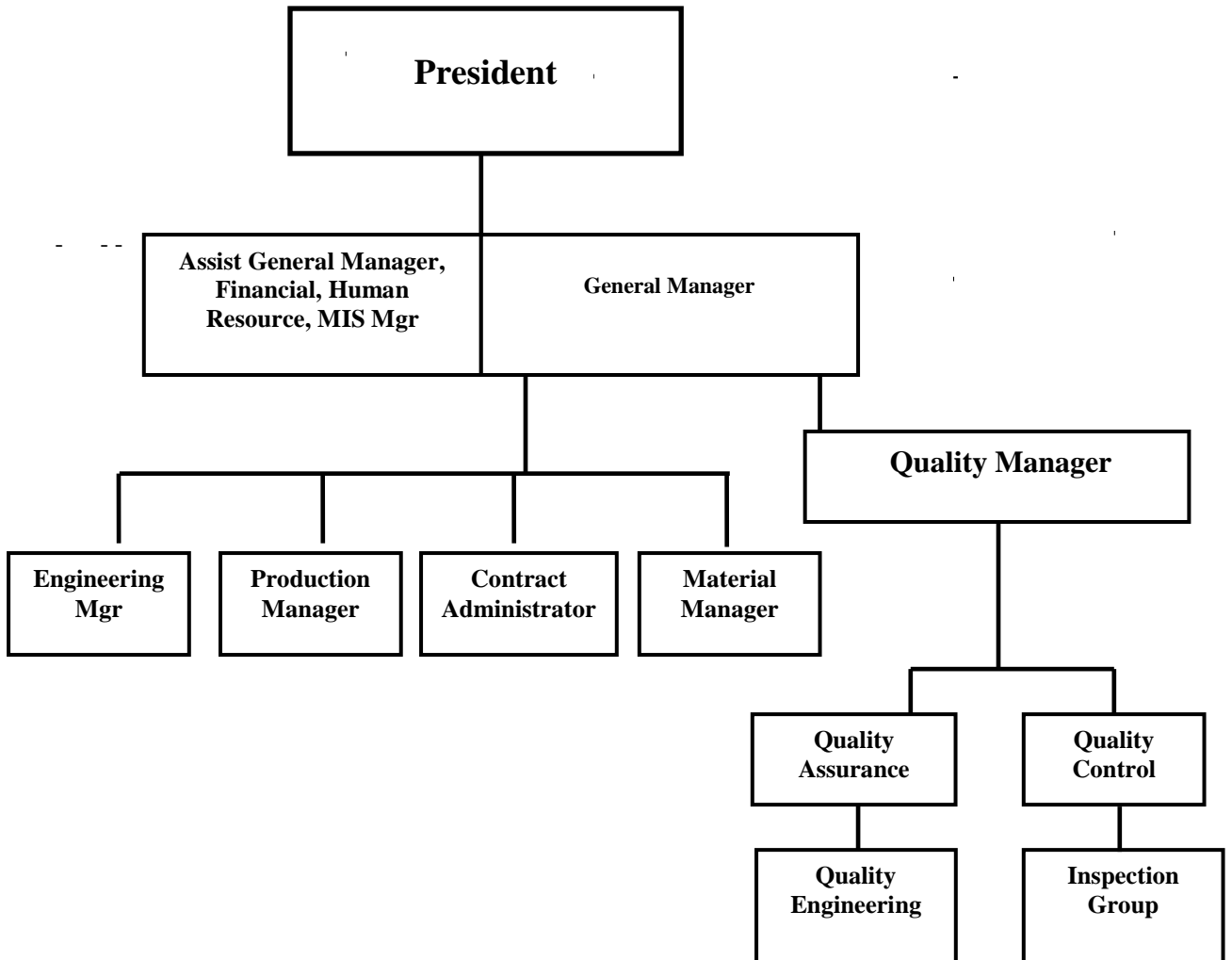
ISO 9001:2015, paragraph 4.1, 4.2.1, 4.2.2, 5.4.2, & 7.1
UM Q.A.P. 002

2.8 Responsibility

Quality Manager
President

APPENDIX A - FUNCTIONAL ORGANIZATION CHART

UNION MACHINE CO., INC. FUNCTIONAL ORGANIZATION CHART



APPENDIX B - MANAGEMENT RESPONSIBILITIES

President/CEO

Responsibilities:

- **Works with General and Assistant General Managers to guide overall business strategy and short and long term company objectives.**

Competency Requirements:

Bachelors Degree in related field and/or 10 years experience.

General Manager

Responsibilities & Duties:

Marketing & Sales

- Lead sales strategy and biz-dev efforts through preparation & presentation of strategic market analyses, forecasts and sales metrics
- Managing customer relationships
- New product development and SAR oversight
- Contract Review and Legal Research

Operations

- Oversight of day-to-day execution of operational objectives including resource allocation, scheduling, auditing, and policy implementation
- Monitors all engineering, programming, processing, and manufacturing functions
- Coordinates with Assistance General Manager and Materials Manager for outside vendor quotes presents cost estimate, and reviews with President/CEO.
- Conduct initiatives to improve lead times, reduce costs and ensure on-time deliveries
- Direct technology modernization efforts involving the development and integration of various ERP, technical and quality systems

People

- Works in conjunction with Assistant General Manager for recruiting efforts, conducting employee reviews and disciplinary action
- Employee training and incentive programs
- Internal communications (company addresses, newsletters, re-branding initiatives etc.)

Reporting Relationship:

- Reports directly to President/CEO

Competency Requirements:

Bachelors Degree in related field required (MBA preferred) and/or 10 years experience

Assistant General Manager

Responsibilities & Duties

Marketing & Sales

- Leads in conjunction with General Manager, sales strategy and biz-dev efforts through preparation & presentation of strategic market analyses, forecasts and sales metrics
- Manages customer relations and quoting.

Operations

- Assist General Manager with oversight of day-to-day execution of operational objectives including resource allocation, scheduling, auditing, and policy implementation

Financial

- Initiate, maintain, and oversee all financial processes and reporting to meet legal, accounting, tax, and business requirements. Take action required to maintain assigned balance sheet levels investigate and report any items considered abnormal to President

Human Resources

- Works in conjunction with General Manager for recruiting efforts, conducting employee reviews and disciplinary action
- Employee training and incentive programs
- Oversee all employee/employer records and compliance matters
- Select and maintain insurance programs, retirement plan, and payroll systems
- OSHA reporting

MIS

- Maintain computer network and management information system
- Perform daily system backups; make certain offsite storage rotation procedure is followed
- Maintain current database, take lead position in overseeing “JobBoss” MRP system

Reporting Relationship:

- Reports directly to President/CEO

Competency Requirements:

Bachelors Degree in related field required (MBA preferred) and/or 10 years experience

Quality Manager

Responsibilities: Development of all quality systems required to meet customer/mil standards, including measurement and gauging techniques

Reporting Relationship: Reports directly to General Manager

Duties:

- Perform internal system audits to insure processes/procedures are being followed
- Maintain records and documentation as evidence of compliance or basis for corrective action
- Review all outside purchase orders for completeness (i.e., quality standard remarks called out, and correct process/procedure or material being ordered)
- Log, inspect, and process incoming material
- Expedite waivers and case records
- Final inspection of products for submission to customers
- Source inspection/government quality representative
- Maintain M.R.B. inventories
- Shipping and receiving materials to spec. testing

Competency Requirements:

Bachelors Degree in related field and/or 10 years experience.

At least 3 Years ISO/AS9100 audit training and applicable experience

Production Manager

Responsibilities: Management of all shop floor operations, including

- Personnel
- Efficient production schedules
- Provide feedback for quoting based upon production runs
- Monitor production and personnel performance to meet established methods and standards at the required quality levels

Reporting Relationship:

- Reports to General Manager

Duties:

- Acts as hub of information and directs flow of parts through the shop
- Maintenance of all equipment
- Monitors tool use and completes tooling requisitions
- Log time tickets
- Assures shop is clean, safety glasses are worn, fixtures are marked and put away
- Ensure employees are on time and maintain attendance records

EPA:

- Monitor EPA requirements for proper waste management removal
- Spill control/prevention.

Competency Requirements:

Bachelors Degree in related field and/or 10 years relevant experience.

Engineering Manager

Responsibilities: Maintain CNC Programs, Job Planning, Process Drawings, ensure that end product meets customer requirements.

Reporting Relationship: Reports to General Manager

Duties:

- Engineering
 - Produce manufacturing plan, CAD drawings and CNC programs
 - Plan manufacturing sequence of each job
 - Assist in material P.O. if required.
 - Flag any operations that may need special attention
 - Maintain and control engineering files
 - Review “revision request log” once a month to make sure all revisions are incorporated.
 - Incorporate customer changes as required.
 - Assist in quote as required
 - Review blueprint/process drawings for fixturing and any special tooling requirements.
 - Design tooling/fixturing as required.
 - Review material certifications for incoming material requirements

- Programming
 - Develop CNC programs and associated tooling sheets as required
 - Maintain program files and update to revision changes as they occur
 - Develop and prove out C.M.M. Programs

Competency Requirements:

Bachelors Degree in related field and/or equivalent experience.

Material Manager

Responsibilities: Management of

- All material
- Outside processes
- Expedite deliveries
- Determine (with Operations Manager) schedule requirements
- Negotiate, order, and monitor raw material required to support the production needs of Union Machine Co., Inc., products
- Monitor inventory, raw stock, as well as hardware, to establish requirements needed to Establish and maintain inventory level objectives

Reporting Relationship: Reports to General Manager

Duties:

- Production control/manufacturing support:
 - Maintain master manufacturing schedule reflecting customer requirements in Job Boss
- Material management:
 - Expedite material and outside vendor services
 - Prepare termination documentation for submission to Financial Manager maintain finished goods, raw material
- New job administration:
 - Conduct new job meetings, reviewing all items on new job checklist.
 - Assign job numbers, create folder, and enter data into computer
- Purchasing:
 - Obtain quotes from vendors
 - Reconfirm pricing
- Purchase materials (hardware, tooling, and all shop supplies required to support newly created jobs.

Competency Requirements:

Bachelors Degree in related field and/or 7-10 years experience.

Contract Administrator

Responsibilities:

- Solicitation and Contractual Review
- Flow down of contractual information to production and engineering
- New Job Review Meetings
- Updating ERP system
- Contract Modifications
- Document Control

Reporting Relationship: Reports to General Manager

Duties:

- Reviewing Solicitations for Latest Revision of Technical Data and Specs
- Entering quotes into the system
- Inputting Jobs once a contract is made official
- Assembling folders for Quality and Contracts
- Compiling packages (SAR, FAT/PLT, Final Inspection, Archival/Scanning)
- Reviewing Progress Payments/Payment Houses in solicitations
- Accounts Receivable
- WAWF and Shipping Documentation
- Export Control (managing customer print distribution and returns)
- Master Document List - maintaining list of the most current documents in house
- Updating IMS/Final Inspection Sheets (shared with Renee)
- Preparing packages for Production
- Reviewing Contracts Once Received
- Requesting Contract Modifications
- Updating Jobboss when Modifications are received
- Checking DIBSS and EDA for Mods
- Reviewing and maintaining certifications

Competency Requirements:

Bachelors Degree in related field and/or 4-5 years experience.

Inspection Group

Responsibilities:

- Liaison between production and management
- Verification of product conformance
- Non-conforming Material Reports
- Measurement equipment verification
- Calibration

Reporting Relationship: Reports to Quality Manager

Duties:

- 1st piece, in-process and final inspection using B&S Micro-Hites, CMM, Optical comparators and standard hand gages
- Work directly with machinists
- Record inspection results
- Review contracts at final inspection to assure product compliance
- Identify, label and segregate non-conforming material
- Input data for non-conformances
- Calibrate gages

Competency Requirements:

Good Understanding of Geometric tolerancing

At least 2 years experience with relevant training.

Setup Machinist (Class A)

Responsibilities:

- Manufacturing
- Organization of fixtures, paperwork and area
- Machine troubleshooting
- Inspection
- Training

Reporting Relationship: Reports to Production Manager

Duties:

- Setup new jobs per print and setup-instructions
- Inspect own parts per IMS specifications
- Record data for inspections
- Train operators to run parts post setup
- Ensure jobs are properly Broken down and put away when finished
- Input data on jobs completed

Competency Requirements:

Good Understanding of Geometric tolerancing
5-7 years experience minimum

Machinist (Class B)**Responsibilities:**

- Manufacturing
- Organization of fixtures, paperwork and area
- Inspection

Reporting Relationship: Reports to Production Manager**Duties:**

- Setup new jobs per print and setup-instructions
- Inspect own parts per IMS specifications
- Record data for inspections
- Input data on jobs completed

Competency Requirements:

Good Understanding of Geometric tolerancing
2-3 years experience minimum

APPENDIX C – QUALITY PROCEDURE CROSS REFERENCE

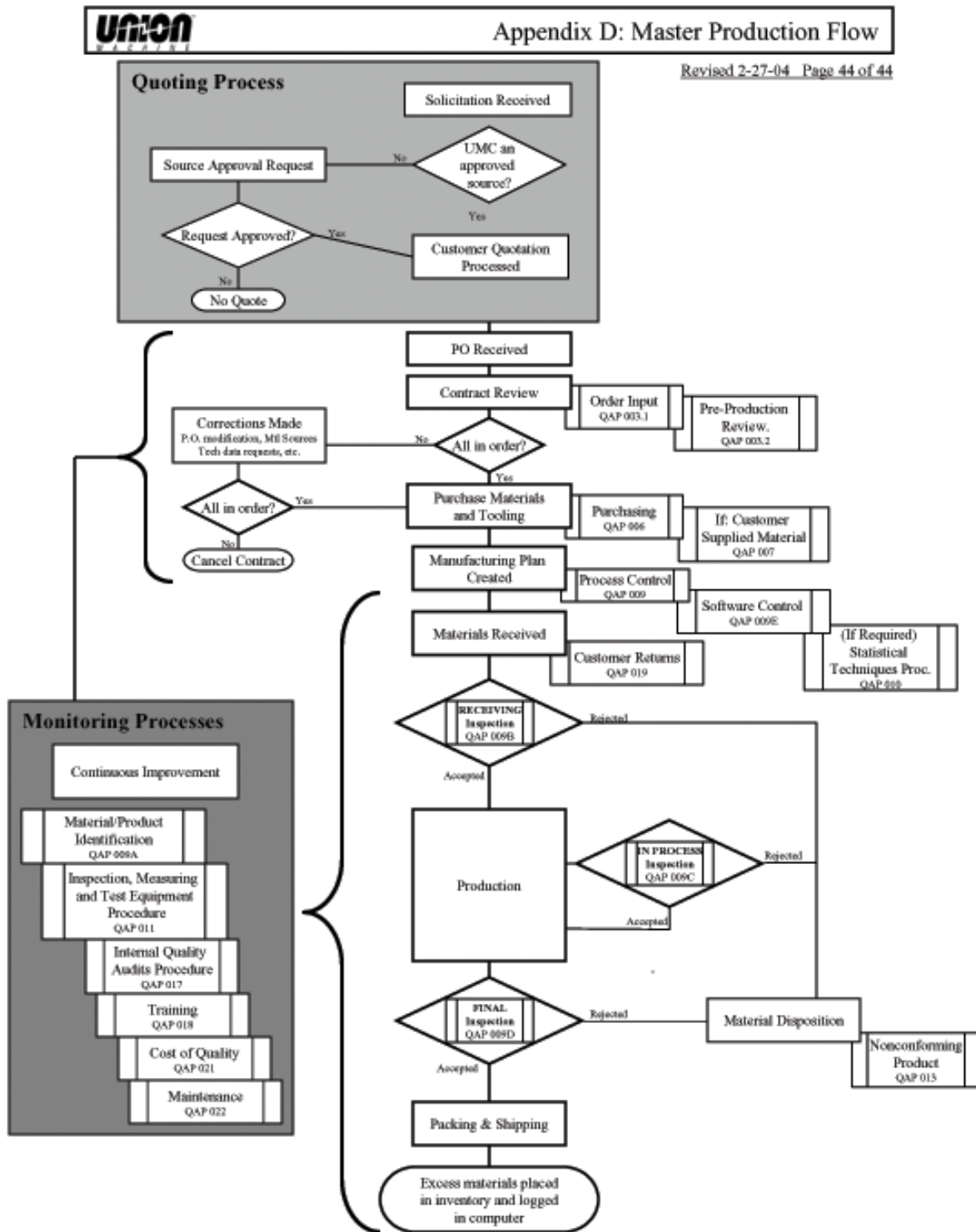
Quality Procedures Cross Reference

Procedure No.	Title	Reference in AS9100 D
QAP 001	Introduction	
QAP 002	Purpose and Scope	Sect. 1
QAP 003	Contract Review	Sect. 8.2
QAP 005	Document & Data Control	Sect. 7.5
QAP 006	Purchasing	Sect. 8.4
QAP 007	Control of Cust. Supplied Prod	Sect, 8.5.3
QAP 008	Product ID & Traceability	Sect. 8.5.2
QAP 009	Process Control	Sect. 8.5.1
QAP 009A	Procedure for in Process Mat'l & Prod Control	Sect. 9.1
QAP 009B	Receiving Inspection	Sect 8.4.2
QAP 009C	In Process Inspection	Sect, 9.1.1, 8.5.1.2
QAP 009D	Final Insp.	Sect. 8.6
QAP 009E	Software Quality Control Procedure	Sect. 7.1.3
QAP 010	Insp. Test Procedure	Sect. 9.1.1
QAP 011	Insp. Measuring & Test Equipment	Sect. 7.1.5
QAP 012	Inspection and Acceptance Media	Sect 8.5.2
QAP 013	Control of Non-conforming Prod.	Sect. 8.7
QAP 014	Corrective & Preventive Action	Sect. 10.2
QAP 015	Handling, Storage, Packaging Preservation & Delivery	Sect.8.5.4
QAP 016	Control of Quality Records	Sect. 7.5
QAP 017	Internal Quality Audits	Sect. 9.2
QAP 018	Training	Sect. 7.1.6, 7.2, 7.3
QAP 019	Servicing	n/a
QAP 020	Statistical Techniques	Sect 8.1, 8.4.2
QAP 021	Cost of Quality Procedure	Sect 9.1.3
QAP 022	Planning of Product Realization	Sect. 8.1, 8.2
QAP 023	Risk Management	Sect. 8.1.1

APPENDIX D – MASTER PRODUCTION FLOW

The following chart is the Master Production Flow Chart for Union Machine Co.





*** PROPRIETARY DOCUMENT ***

Copyright © 2003 Union Machine Company Inc.

U:\Quality\QUALITY MANUAL\Union Machine Quality Manual-REV F.doc