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Quality Control Manual

Revision 5

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Approved by:

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RECORD OF REVISIONS:

Revision	Date	Section(s) Revised	Comments
0	01/01/06	All	Original Issue
1	05/23/06	Record of Revisions	Added
		11.4	Added
		13.10	Added
2	3/13/07	13.2	Revised
3	07/02/07	Exhibit A-3, E-1	Revised/Updated
4	02/02/09	Exhibit A-4,A,D	Updated
5	01/21/11	Exhibit A to Rev. 5	Updated
		Exhibit B to Rev. 2	Updated for E2
		Exhibit C to Rev. 2	Updated for E2
		Exhibit D to Rev. 1	Updated for E2
		Exhibit E to Rev. 1	Updated for E2
		Exhibit F to Rev. 1	Revised
		Exhibit G to Rev. 1	Revised
		Exhibit H to Rev. 1	Updated
		Exhibit I to Rev. 1	Revised

1.0 PURPOSE

This document has been created in order to inform prospective customers some of the details of our Manufacturing and Inspection Report Procedures for our Quality Control system. This system applies both to the items we produce and to the items we buy from our suppliers.

As dictated by the complexity of product design, manufacturing techniques used, and customer requirements, a more specific written procedure may be required to implement the policies set in this manual.

2.0 ORGANIZATION CHART

2.1 See Exhibit A

3.0 RESPONSIBLITIES

3.1 The Quality Control Manager handles the Quality Control responsibilities.

3.1.1 The Quality Control Manager reports directly to the plant General Manager.

3.2 The Quality Control responsibilities include:

3.2.1 Planning how to meet customers' quality requirements.

3.2.2 Reviewing customer drawings and specifications and seeing to it that they are complied with.

3.2.3 Determining inspection points

3.2.4 Establishing inspection and test instructions.

3.2.5 Establishing (and making sure employees follow) the most effective and efficient quality assurance procedures possible.

3.2.6 Keeping adequate quality assurance records.

3.2.7 Reviewing quality assurance records and overseeing follow-up for correction and prevention of defects.

3.2.8 Assuring that our suppliers' quality control and follow-up are adequate.

3.2.9 Inspecting all special and standard gages, test equipment, and tooling used to manufacture products when we acquire them and calibrating them on a regular basis.

3.2.10 Coordinating in –plant correction of items rejected by customers, explaining to customers what action will be taken, and evaluating the acts for effectiveness.

3.2.11 Making sure inspectors make unbiased decisions to accept or reject items.

4.0 REVIEW OF CUSTOMER REQUIREMENTS

4.1 The Quality Control Manager conducts a complete review of the requirements to identify and make provisions for the special controls, processes, test equipment, materials, machinery fixtures, tooling and skills necessary to do the job.

4.1.1 Inspection techniques and work instructions are reviewed to assure compatibility of manufacturing, inspection testing and documentation.

4.1.2 When it is necessary, written manufacturing plans (Job Travelers) are provided and put in the folder with the production orders listing critical areas to be noted, sequence of procedures, machines and special tooling to be used, and operators (see EXHIBIT B).

4.1.3 Any exceptions to customer requirements are resolved prior to beginning production.

4.1.4 Plans are reviewed for necessary changes when drawing or specification revisions are received.

5.0 SUBCONTRACTED SUPPLIES

5.1 The Quality Control Manager or an authorized representative must approve all of our purchase orders to suppliers.

5.1.1 When the purchase order is released, our buyer will send, when necessary, our supplier all required drawings, specifications, and other customer requirements with the purchase order.

5.1.2 If there is a drawing or specification change after our order is place with the supplier, our buyer will send the supplier a purchase order change, including our latest Engineering Change and the latest drawings or other specifications.

5.1.3 Copies of all written purchase orders will be kept on file for our customer to review (see EXHIBIT C).

5.2 Receiving Inspection:

5.2.1 All incoming supplies will be checked against our purchase order issued.

5.2.2 All test reports and certifications will be checked to be sure that they satisfy the requirements of the specifications called for in the job purchase order.

5.2.3 Receiving Inspection will assure that when requested in the purchase order, proper certification of physical and chemical test data and or special process certifications of source are with the items before work is begun.

5.2.4 Rejected lots will be identified and segregated until the Quality Control Manager decides on disposition.

6.0 MATERIAL CONTROL

6.1 Raw Material Control

6.1.1 All incoming material is identified for disposition.

6.1.2 All material requiring certifications or other specifications are processed so they are traceable to those records.

6.1.3 Copies of all certifications will be filed with other pertinent documents relating to the purchase order and are available for customer review.

6.2 Material Identification and Routing

6.2.1 A "job order" number is assigned to each lot of parts that is traceable back to the customer purchase order. A Production Order entry sheet (Work Order) is then written for each job (see EXHIBIT D). This is used to process the information to our computer where all information along with methods and history are kept on record. Administration then generates both an office and a shop copy of the job sheet giving all pertinent information.

6.2.2 An individual folder is provided for each job sheet, containing current drawings, specifications, work instructions, special processes, special requirements, delivery requirements, and all inspection forms.

6.2.3 Daily records of all labor performed are completed by each person working on a job. These records are entered into the computer on a daily basis. The computer then records all labor to the jobs worked upon.

6.2.4 Verification is made by inspection personnel to assure operations are performed completely and in sequence.

7.0 NON-CONFORMANCE CONTROL

7.1 In Process Controls

7.1.1 The Quality Control Manager is responsible for non-conforming material and/or jobs.

7.1.2 Material and/or jobs that are non-conforming shall be identified and segregated from conforming material.

7.1.3 A non-conformance report is generated with corrective action (see EXHIBIT E).

7.2 Customer Rejections

7.2.1 Customer rejections are processed through the Quality Control Manager.

7.2.2 Rejected materials and/or jobs are identified and segregated, when practical or are assigned a job number to establish and retain identity.

8.0 IN-PROCESS INSPECTION

8.1 The Quality Control Manager and/or the machine operator will inspect the first run for each new operation.

8.2 In-process inspection will be made by an inspector and/or the operator at intervals adequate for early detection of operations that would produce parts that would not meet tolerance requirements.

8.2.1 The inspection report (see EXHIBIT F) will list the print dimension, the actual dimension, the date inspected, the person inspecting, accepted or rejected, and any other notes the inspector may want to add.

8.2.2 All inspection records will be kept on file for a period of one (1) year.

9.0 DRAWING AND SPECIFICATION CHANGE CONTROL

9.1 Drawing and Specification changes are the responsibility of the Quality Control Manager.

9.2 Any changes to drawing and/or specifications must be substantiated in writing by the company issuing the purchase order.

9.3 Upon receipt of written notice of a change, Quality Control will remove all pre-change drawings and/or orders from the production area.

9.3.1 Any obsolete prints are marked as such and filed or destroyed depending on the degree of completion of the job.

10. CALIBRATION SYSTEM

10.1 The calibration system's objective is to meet NIST requirements.

10.2 All inspection equipment coming under this calibration system is labeled with a sticker showing the:

a. Date of Calibration
b. Due dated for next calibration
c. Serial number or gage number
d. Initial of the inspector

10.3 Calibration Records (EXHIBIT G) will be maintained as appropriate.

10.3.1 Each record card will denote the month and/or date which calibration is due. This date will be based on the recommended interval of time permitted between calibrations.

10.3.2 Date due for re-calibration shall take into consideration the amount of wear that has occurred.

10.3.3 The gage or tool will have serial identification numbers, letters, or symbols or the identification will appear on the tool case.

10.4 All gages such as micrometers will be checked against a transfer standard at intervals that assure control (see EXHIBIT H).

10.4.1 Measurement standards have certifications traceable to the NIST.

10.4.2 Transfer standards will be under the Calibration program.

10.5 Quality Control is responsible for recall.

11. FINAL INSPECTION AND TESTING

11.1 Inspection will follow customer supplied procedures when provided.

11.2 Any parts found to be non-conforming will be segregated and handled as any other non-conforming material (see Section 7).

11.3 Inspection reports are maintained by Quality Control for (1) one year, or for a period of time designated by customer requirements, whichever is longer.

11.4 In the case of on-site work, the MLS Job Completion Authorization form is required to be signed off by the customer (see EXHIBIT I).

12. PACKAGING AND SHIPPING

12.1 All orders will be packaged to meet customer requirements.

12.2 All material will be packaged to prevent damage, deterioration and substitution.

12.3 All packages will be identified to meet customer requirements and/or will include customer name and address, part number, quantities, and any other information necessary to prevent lost and/or misdirected shipments.

12.4 No order will be shipped to customer until all final inspection reports are completed.

12.5 When applicable, no order will be shipped until all required certifications, test reports etc. have been packed with the material in accordance with the customer requirements.

13.0 ATTACHMENTS

13.1 EXHIBIT A – Organizational Chart Detail with Current Occupancies

13.2 EXHIBIT B – Sample Manufacturing Plan (Sheets 1 & 2)

13.3 EXHIBIT C – Sample Purchase Order

13.4 EXHIBIT D – Sample Production Order

13.5 EXHIBIT E – Sample Non-Conformance Report

13.6 EXHIBIT F – Dimensional Inspection Report

13.7 EXHIBIT G – Sample Calibration Record

13.8 EXHIBIT H – Calibration Intervals

13.9 EXHIBIT I – Job Completion Authorization