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1 Purpose

- 1.1 This procedure describes the responsibilities and means for planning and carrying out production so that activities are consistently carried out under controlled conditions and that instruction is delivered in a clear practical manner.

2 Scope – *applies to where & when the procedure is used*

- 2.1 This procedure applies to all manufacturing production processes per the Test Division Quality Manual scope.

3 Definitions and Acronyms

- 3.1 Test Manufacturing Production controlled items

3.1.1 Production Order:


A production order contains the information required for producing product and has the following elements:

Which materials are used and when they are used; Which operations and suboperations are performed at which work centers; The dates these operations are carried out; Which materials and activities must be procured externally for the order; The receivers to which the actual costs can be settled

3.1.2 Production Route:

An SAP generated document (electronic or paper) that describes the work centers where an operation will be performed, the steps required to perform the operation, and the sequence in which these steps are to be completed.

3.1.3 Shop Paper (Job Packet)

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A packet of information that contains a copy of the route, Bill of Materials, Part Prints and other related information. Components routed to specific NC work centers will also have an electronic version of programs available for manufacturing. There may also be other information such as tool lists, set up sheets etc.

3.1.4 Work instruction:

Controlled instructions that describe and direct how we manufacture in a clear practical manner. Acceptable instructions may be comprised of more than one type of format and may be located in more than one controlled location.

3.1.5 Equipment, Fixtures, Jigs and Tooling:

Equipment, fixtures, jigs and tooling are items that are required as part of the production manufacturing processes. These items are identified and controlled to the extent they affect product quality.

3.1.6 Infrastructure (Facility):

Facilities include the building structure and the site, including work space, utilities and supplies such as water, compressed air, electricity and chemical products to the extent they affect product quality.

3.2 Test Design and Development controlled items

3.2.1 Models, drawings, bills of materials (BOMs), calibration plans, checkout plans and other controlled engineering documentation as-required for purchasing and production activities.

4 Graphic (if needed)

Not required.

5 Responsibilities

5.1 Operation Supervisor


5.1.1 Plans and supervises execution of daily activities in assigned area(s).

5.1.2 Develops and implements local and shorter-term solutions supporting departmental, divisional and corporate policies and decisions.

5.2 Operations Manager


5.2.1 Directs and coordinates the operation of a designated group or groups to provide efficient, cost effective and timely provision of high quality goods and/or services.

5.2.2 Assures the product of service of the assigned area meets all applicable quality requirements (i.e. engineering, project specific, product and industry

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standards).

- 5.3 Planning Inventory Control Manager
 - 5.3.1 Provides leadership and direction for the purchasing function to ensure effective business management through compliance with standards and procedures while meeting production schedules, cost and inventory targets, and quality requirements.
 - 5.3.2 Responsible for the development and implementation of inventory plans and forecast for purchased materials
- 5.4 Facilities Manager
 - 5.4.1 Develops policies, procedures, plans, and models related to building and site utilization to assure that physical space is effectively and consistently deployed and integrated.
- 5.5 EHS Manager
 - 5.5.1 Develops, maintains and directs the implementation of Test environmental, health and safety policies, procedures and programs ensuring compliance with organizational, legal and other requirements.
- 5.6 Director of Operations
 - 5.6.1 Directs and manages all areas of Manufacturing through subordinate management to ensure approved products are manufactured on-schedule and within quality standards and cost objectives.
 - 5.6.2 Translates the implications of the strategy on manufacturing, sets direction and develops short- and long-range plans to meet business strategies and goals.

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6 Procedure

- 6.1 Control of planning and carrying out of production
 - 6.1.1 The planning and carrying out of production activities are controlled through the “Control of Production procedure”. The Control of Production procedure will include the identification of production locations, and will include the means of planning and carrying out production per categories as listed below (per Quality Manual 7.5), and will clearly identify exceptions in categories and/or locations..
 - 6.1.1.1 Production Planning
 - 6.1.1.2 Production Documentation
 - 6.1.1.3 Control of Production Process Changes
 - 6.1.1.4 Control of Production Equipment, Tools and Numerical Control Machine Programs
 - 6.1.1.5 Control of Work Transferred, on a Temporary Basis, Outside the Organization’s Facilities
 - 6.1.1.6 Validation of Processes for Production
 - 6.1.1.7 Identification and Traceability
 - 6.1.1.8 Customer Property including Government Furnished Property
 - 6.1.1.9 Preservation of Product
- 6.2 Monitoring and Measuring the planning and carrying out of production
 - 6.2.1 Monitoring and measuring activities will account for the categories listed in section 6.1 and may include additional items as-needed to support overall objectives.
 - 6.2.2 Operations management shall periodically review the planning and carrying out of production to assure it is operating at acceptable targets and drives necessary action to maintain acceptable levels of operations.
 - 6.2.3 Operational metrics are monitored by management to assure planning and carrying out of production activities are within control.
- 6.3 Analysis of data related to the planning and carrying out of production
 - 6.3.1 Management assures the analysis of data related to planning and carrying out of production activities to enable improvement activities.
 - 6.3.2 Analysis of data will account for the categories listed in section 6.1 and may

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include additional items as-needed to support overall objectives.

- 6.4 Improving the planning and carrying out of production
 - 6.4.1 Management proactively plans the evolution of control of production activities to assure production capability meets long range business needs.
 - 6.4.2 Improvement will account for the categories listed in section 6.1 and may include additional items as-needed to support overall objectives.

7 Associated Quality Records – as stated in the Quality Records List

Required Record
Operations management periodic review records (Agenda, minutes and RAIL)

8 Reference Forms / Templates / Documents


Form / Template / Document Title	Location
Control of Production procedure	QMS Manufacturing
Workmanship Standards that relate to MTS-Test are located in the Quality QMS	QMS Quality – Workmanship Standards

9 Current Revision's Training Requirements

Training requirements are determined by the document owner – either awareness or formal.

Select One (mark X)	Training Type	Training Definition
	Awareness	Awareness training is conducted by communication, which is sent/delivered by the approver/author/owner of the document to the affected employees/groups.
X	Formal	Formal training requires the approver/author/owner to collect/store evidence that the affected employees/groups were trained.

- 9.1 Formal Training: Per Learning Management System course MFG124_OLT, Documentation of Production Control
 - 9.1.1 Assignment of training is defined within the Training Needs Assessment for course MFG124_OLT.

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10 Revision History & Approval

REVISION HISTORY			
Rev	Description of Change	Author	Effective Date
E	Added to multiple sections per CA 3077	S. Jordheim/T. Paal/D. Winslow	10/02/2015
D	Added additional detail to section 6.2.2	E. Tessman	08/12/2013
C	Added workmanship standards	P. Allan	12/19/2012
B	Added detail on how we comply with 7.5.1.2	A. Rivers	08/08/2011
A	New release	K. Schmitz	9/1/2010

APPROVAL OF CURRENT REVISION		
Name / Function	Signature	Date
Garry (Gene) Simon / Director of Operations	<Approval on file>	
Stephen Jordheim / Quality Manager (QMS)	<Approval on file>	