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PROCESS OPERATOR INSTRUCTIONS

Operational Procedure: OOP-09-02

Rev.: A

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I PURPOSE

The purpose of this procedure is to provide for a system and instructions, and to assign responsibilities for establishing process operator instructions.

II APPLICATION

This procedure applies to key production and assembly processes.

This procedure directly concerns Production Engineering, Production and Quality Assurance.

III PROCEDURE

1. General

- 1.1 Process operator instructions are established for key processes identified by the Production Engineer. At a minimum, the processes that require instructions are 1.) processes that affect Special Characteristics; and 2.) processes, the results of which cannot be fully verified by subsequent nondestructive inspections (such as welding, plating, painting, casting, etc.). Processes with complex set-ups may also require instructions.
- 1.2 For each key process, the Production Engineer determines requirements for process operator instructions.
- 1.3 Operator instructions are intended for operators of complex processes and supervisors. Assisting personnel and those carrying out simple processes and tasks need only be familiar with relevant portions of the instructions and/or are verbally instructed by their supervisors.

Written by:

Original Issue Date:

Approved by:

Date:

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- 1.4 Complexity and importance of the process, and operator qualifications and training, are considered in determining how detailed operator instructions ought to be.
- 1.5 Operator instructions are unique to the operation and to the part to which they pertain. The operation name and number keyed to Process Flowchart, and the part name, number and revision level are identified on operator instructions. This policy does not preclude use of standard instructions that may be adopted with or without changes for a specific part and/or process.

2. Document Stations

- 2.1 There are several document stations in the production areas. The stations contain binders with documents defining products and the manner of production. As applicable, the stations include such documents as product engineering drawings and specifications, applicable manufacturing and engineering standards, Control Plans, process instructions, SPC requirements, tool change intervals and job set-up instructions, inspection and testing instructions, workmanship standards, samples, and so forth.
- 2.2 The Production Engineer is responsible for establishing, maintaining, and updating document stations. The stations are included in document distribution lists and are continuously updated with new and revised documents.

3. Operator Instructions

When applicable, the following instructions are available to process operators (some only when processes affect Special Characteristics):

- 3.1 **Work Orders:** The form and contents are prescribed in Procedure OOP-09-01 Production Work Order. Work orders communicate the required product quantity and completion due date; list all operations and verification activities necessary to complete the products; and provide a platform for in-process inspection sign-offs and referencing traceability records.
- 3.2 **Job Set-up Instructions:** Usually in the form of data sheets with process set-up parameters. Job set-up instructions include such information as tools and gauges requirements, tool speed, tool change intervals, cycle times, process temperature and pressure, cooling time, etc.
- 3.3 **Process Instructions:** Usually in the form of a procedure. Process instructions explain how to feed or fix material, operate the process equipment, stop the process, clear out material, inspect tools, change tools, handle finished parts, and so forth.
- 3.4 **Control Plans, and Inspection and Test Instructions:** Usually in the form of checklists, data sheets, drawings, and/or visual standard samples. The plans and instructions designate Special Characteristics and other characteristics that require inspection and/or testing; and instruct in evaluation/measurement techniques, sample

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sizes and frequencies, product/process tolerances (acceptance criteria), reaction plans, reporting requirements (records), and so forth. For more information about inspection and test instructions refer to Procedure QOP-10-02 In-Process Inspections.

- 3.5 **Statistical Process Control (SPC) Instructions:** Usually combined with Control Plans and inspection instructions, which provide gauge and instrumentation requirements, evaluation/measurement techniques, product/process tolerances, sample sizes, frequencies, and other instructions required for collecting data. The SPC instructions themselves determine which kind of control charting is to be used, instruct how to calculate control limits and/or what the control limits are, explain how to interpret patterns or trends within the control limits, and instruct what action to take when the process is outside of a control limit or shows a non-random pattern. Blank control chart samples are provided with the instructions. For more information about SPC instructions refer to Procedure OOP-09-03 Statistical Process Control.
- 3.6 In addition to the specific process instructions listed above, process operators are familiar with and have access to all relevant operational procedures, and in particular those relating to product identification, process control, inspection and testing, control of nonconforming product, and corrective action. A full set of operational procedures is available in at least one document station in the production areas.

IV ASSOCIATED DOCUMENTS

- Production Work Order — Oper. Proc. OOP-09-01
- Statistical Process Control — Oper. Proc. OOP-09-03
- In-Process Inspections — Oper. Proc. QOP-10-02
- Document and Data Control — Oper. Proc. QOP-05-02