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	Operational Procedure: OOP-23-01	Rev.: A	Pg. 1 of 2

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I PURPOSE

The purpose of this procedure is to provide for a system and instructions, and to assign responsibilities for tool design, fabrication, and management.

II APPLICATION

This procedure applies to molds, dies, templates, patterns, and other special-purpose tooling used in production and product verification.

This procedure concerns Production Engineering and Production departments.

III PROCEDURE

1. Tool Design

- 1.1 Special purpose tools are usually designed by the Tool Design Group within the Production Engineering department. Design of unusual and/or especially complex tools may be subcontracted.
- 1.2 When tool design is subcontracted, the Production Engineer or a designated engineer from from the Tool Design Group is responsible for tracking the design progress and follow up with the subcontractor. Tracking, follow up, and other interfacing with the subcontractor are documented and recorded in the subcontract project file maintained by the engineer.
- 1.3 Whether designed in house or by a subcontractor, the tool design output is documented in drawings and specifications. The documents are identified by the tool name, code/number, and revision level, and the part to which the tool pertains. When designed in house, the design output documents are reviewed and approved by the Production Engineer. Subcontracted designs are also required to be reviewed and approved before

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their release.

2.0 Tool Fabrication and Maintenance

- 2.1 Tools may be fabricated in house by the tool shop, or their fabrication may be subcontracted. When tool fabrication is subcontracted, the Production Engineer or a designated engineer from from the Tool Design Group is responsible for tracking the fabrication progress and follow up with the subcontractor. Tracking, follow up, and other interfacing with the subcontractor are documented and recorded in the subcontract project file maintained by the engineer.
- 2.2 Tools are refurbished, repaired, and otherwise maintained by the tool shop.
- 2.3 All special purpose tools are tested in a production trial run, followed by full dimensional inspection, before they are approved for use in mass production. Tool testing is a part of the Production Part Approval Process (PPAP).

3. Tooling Management

- 3.1 Special purpose tools are marked with their tool code/number and revision level. The tool identification is cross-referenced with part number and revision level of the corresponding parts. Customer-owned tools are marked with the customer name.
- 3.2 All tools and their status are recorded in the tool inventory and maintenance log. The information recorded are tool name/code/number, approval status, change interval, storage location, and maintenance history.