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MTM Inspection Method Guidelines

1.0 Scope

This instruction defines guidelines for Manufacturing and Quality personnel to determine appropriate inspection methods when specific inspection method instructions are not provided in the Manufacturing Routing.

2.0 Purpose

This instruction includes basic principles, concepts, and techniques for various gage applications to particular tolerances and features.

3.0 Reference Documents

- [QA-WI-001-1](#), Machined Diameters;
- [QA-WI-001-3](#), Concentricity/Runout;
- [QA-WI-001-6](#), Miscellaneous Examples;
- [QA-WI-010](#), Calibration;
- [SPC-WI-002](#), Gage Analysis;
- [MTM-NQM-CVR](#), ASME Nuclear Quality Assurance Manual;
- [MTM-QAM-01](#), Major Tool & Machine, Inc., Quality Assurance Manual.

4.0 Definitions

5.0 Instructions

5.1 Prerequisites

Gage resolution will be used as a quick reference/guideline for matching gages to product tolerance for the correct precision. When practical, the gage resolution (increments) should be no more than 10% (25% max.) of the product tolerance. When the preferred gage resolution is not available, then the calibrated accuracy must be the criteria for matching gages to product tolerance for the correct precision (see [QA-WI-010](#) for accuracy). The calibrated accuracy of a gage must not exceed 10% (20% max.) of the product tolerance. (If the gages available are not capable of the precision needed due to market supply, state-of-the-art or cost versus part quantity, the assigned CFT member or Quality Manager shall be notified for a solution. If, internally, a solution is can not be provided, then the Project Manager shall contact the customer for a recommended inspection method via the Sales Department.) For SPC characteristics, the MTM Gage Analysis Work Instruction ([SPC-WI-002](#)) applies.

5.2 Index

This work instruction consists of this introductory section (QA-WI-001) and the following sub-sections covering specific topics:

- [QA-WI-001-1](#), Machined Diameters;
- [QA-WI-001-3](#), Concentricity/Runout;
- [QA-WI-001-6](#), Miscellaneous Examples.