

Formula 1

Content placeholder

Formula 2

Content placeholder

Related Content

Title	Type	Slug
CNC Machining Optimization - Complete Guide	hub	cnc-machining-optimization-complete-guide
CNC Machining Optimization - Complete Guide	main_page	cnc-machining-optimization-guide
CNC Optimization Parameter Matrix (Aluminum/Ti/Inconel/Steel)	resource	cnc-parameter-matrix
Tool Path Strategy Decision Tree PDF	resource	tool-path-decision-tree
GD&T Warpage Compensation Checklist	resource	gd-t-warpage-compensation-checklist
CNC Machine Rigidity Mapping Template (Excel + MATLAB script)	resource	machine-rigidity-mapping-template

Detailed Explanation

AS9100 Rev D mandates rigorous control over product realization data—including the BOM—as a foundational element of configuration management and design integrity. A compliant BOM must be unambiguous, consistently structured, formally approved, and synchronized across engineering,

manufacturing, procurement, and quality systems. The audit guide operationalizes these requirements by defining evidence criteria for BOM ownership, revision history, hierarchical accuracy (e.g., single/multi-level vs. flat), part numbering consistency, classification of components (e.g., COTS, custom, customer-furnished), and integration with change control (ECR/ECO) and traceability systems (e.g., lot/batch/serial number linkage). Furthermore, it emphasizes risk-based verification—such as assessing BOM impact on safety-critical items, regulatory compliance (e.g., ITAR/EAR), and counterfeit parts prevention—especially where BOM errors could lead to nonconforming product, rework, or flight safety hazards. The guide also addresses interface requirements: how BOMs interact with ERP/MRP (e.g., SAP, Oracle), PLM (e.g., Teamcenter, Windchill), and MES systems to ensure real-time data fidelity and audit trail completeness. Finally, it incorporates auditor guidance on sampling strategies, interview questions for cross-functional stakeholders (engineering, supply chain, QA), and objective evidence evaluation techniques (e.g., verifying BOM approval signatures against document control procedures).

Key Components

#	Component
1	BOM Structure & Hierarchy Validation
2	Configuration Management Integration
3	Change Control & Revision Traceability

Applications

#	Application
1	Internal Quality System Audits
2	Supplier Readiness Assessments
3	AS9100 Certification Pre-Audits

Related Concepts

#	Concept
1	Configuration Management (per EIA-649C)
2	Design FMEA (DFMEA)
3	Counterfeit Parts Prevention (AS5553)

Tags

aerospace, quality-audit, configuration-management