



Clause Map – IATF 16949:2016 to ISO/TS 16949:2009

IATF 16949:2016 Clauses	ISO/TS 16949:2009 Clauses
Table of Contents	Table of Contents
Foreword	Foreword
+ Foreword – Automotive QMS Standard	New.
+ History	New.
+ Goal	+ 0.5 Goal of this Technical Specification
+ Remarks for Certification	+ Remarks for Certification
Introduction	Introduction
0.1 General	0.1 General
0.2 Quality Management Principles	0.1 General
0.3 Process Approach (title only)	0.2 Process Approach
0.3.1 General	0.2 Process Approach
0.3.2 Plan-Do-Check-Act cycle	0.2 Process Approach (See NOTE)
0.3.3 Risk-Based Thinking	New.
0.4 Relationship with Other Management System Standards	New. Did not include 0.3 or 0.4 from ISO 9001:2008.
1. Scope	1. Scope
+ 1.1 Scope - Automotive Supplemental to ISO 9001:2015	1.1 General
2. Normative References	2. Normative References
+ 2.1 Normative and Informative References	New.
3. Terms and Definitions	3. Terms and Definitions
+ 3.1 Terms and Definitions for the Automotive Industry	+ 3.1 Terms and Definitions for the Automotive Industry
4. Context of the organization (title only)	4. Quality Management System (title only)
4.1 Understanding the Organization and its Context	New. See old 0.1 General on organizational environment and risks.
4.2 Understanding the Needs and Expectations of Interested Parties	New.
4.3 Determining the Scope of the Quality Management System	1.2 Application; 4.2.2 Quality Manual
+ 4.3.1 Determining the Scope of the Quality Management System - Supplemental	1.2 Application; 4.2.2 Quality Manual
+ 4.3.2 Customer-Specific Requirements	New.
4.4 Quality Management System and its Processes (title only)	4. Quality Management System (title only)
4.4.1 (untitled)	4.1 General Requirements
+ 4.4.1.1 Conformance of Products and Processes	+ 4.1.1 General Requirements - Supplemental
+ 4.4.1.2 Product Safety	+ 6.4.1 Personnel Safety to Achieve Conformity to Product Requirements
4.4.2 (untitled)	4.2.1 General; 4.2.4 Control of Records
5. Leadership (title only)	5. Management responsibility (title only)
5.1 Leadership and Commitment (title only)	5. Management Responsibility (title only)
5.1.1 General	5.1 Management Commitment
+ 5.1.1.1 Corporate Responsibility	New.
+ 5.1.1.2 Process Effectiveness and Efficiency	+ 5.1.1 Process Efficiency
+ 5.1.1.3 Process Owners	New.
5.1.2 Customer Focus	5.2 Customer Focus
5.2 Policy (title only)	5.3 Quality Policy
5.2.1 Establishing the Quality Policy	5.3 Quality Policy
5.2.2 Communicating the Quality Policy	5.3 Quality Policy
5.3 Organizational Roles, Responsibilities and Authorities	5.5.1 Responsibility and Authority; 5.5.2 Management Representative
+ 5.3.1 Organizational Roles, Responsibilities and Authorities - Supplemental	+ 5.5.2.1 Customer Representative
+ 5.3.2 Responsibility and Authority for Product Requirements and Corrective Actions	+ 5.5.1.1 Responsibility for Quality

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6. Planning (title only)	5.4 Planning (title only)
6.1 Actions to Address Risks and Opportunities (title only)	5.4.2 Quality Management System Planning; 8.5.3 Preventive Action
6.1.1 (untitled)	5.4.2.a Quality Management System Planning; 8.5.3 Preventive Action
6.1.2 (untitled)	8.5.3 Preventive Action
+ 6.1.2.1 Risk Analysis	New.
+ 6.1.2.2 Preventive Action	8.5.3 Preventive Action
+ 6.1.2.3 Contingency Plans	+ 6.3.2 Contingency Plans
6.2 Quality Objectives and Planning to Achieve Them (title only)	5.4.1 Quality Objectives
6.2.1 (untitled)	5.4.1 Quality Objectives
6.2.2 (untitled)	5.4.1 Quality Objectives
+ 6.2.2.1 Quality Objectives and Planning to Achieve Them - Supplemental	+ 5.4.1.1 Quality Objectives - Supplemental
6.3 Planning of Changes	5.4.2.b Quality Management System Planning
7. Support (title only)	New. Merged from old 6, 7.6, and 4.2.
7.1 Resources (title only)	6. Resource Management (title only)
7.1.1 General	6.1 Provision of Resources
7.1.2 People	6.1 Provision of Resources; 6.2.1 General
7.1.3 Infrastructure	6.3 Infrastructure
+ 7.1.3.1 Plant, Facility, and Equipment Planning	+ 6.3.1 Plant, Facility, and Equipment Planning
7.1.4 Environment for the Operation of Processes	6.4 Work Environment
+ 7.1.4.1 Environment for the Operation of Processes - Supplemental	+ 6.4.2 Cleanliness of Premises
7.1.5 Monitoring and Measuring Resources (title only)	7.6 Control of Monitoring and Measurement Equipment
7.1.5.1 General	7.6 Control of Monitoring and Measurement Equipment
+ 7.1.5.1.1 Measurement Systems Analysis	+ 7.6.1 Measurement System Analysis
7.1.5.2 Measurement Traceability	7.6 Control of Monitoring and Measurement Equipment
+ 7.1.5.2.1 Calibration/Verification Records	+ 7.6.2 Calibration/Verification Records
+ 7.1.5.3 Laboratory Requirements (title only)	+ 7.6.3 Laboratory Requirements (title only)
+ 7.1.5.3.1 Internal Laboratory	+ 7.6.3.1 Internal Laboratory
+ 7.1.5.3.2 External Laboratory	+ 7.6.3.2 External Laboratory
7.1.6 Organizational Knowledge	New.
7.2 Competence	6.2 Human Resources
+ 7.2.1 Competence – Supplemental	+ 6.2.2.2 Training
+ 7.2.2 Competence – On-The-Job Training	+ 6.2.2.3 Training on the Job
+ 7.2.3 Internal Auditor Competence	+ 8.2.2.5 Internal Audit Qualification
+ 7.2.4 Second-Party Auditor Competence	New.
7.3 Awareness	6.2.2.d Competence, Training, and Awareness
+ 7.3.1 Awareness – Supplemental	+ 6.2.2.4 Employee Motivation and Empowerment
+ 7.3.2 Employee Motivation and Empowerment	+ 6.2.2.4 Employee Motivation and Empowerment
7.4 Communication	5.5.3 Internal Communication; 7.2.3 Customer Communication
7.5 Documented Information (title only)	4.2 Documentation Requirements (title only)
7.5.1 General	4.2.1 General
+ 7.5.1.1 Quality Management System Documentation	4.2.2 Quality Manual
7.5.2 Creating and Updating	4.2.3 Control of Documents; 4.2.4 Control of Records
7.5.3 Control of Documented Information (title only)	4.2 Documentation Requirements (title only)
7.5.3.1 (untitled)	4.2.3 Control of Documents; 4.2.4 Control of Records
7.5.3.2 (untitled)	4.2.3 Control of Documents; 4.2.4 Control of Records
+ 7.5.3.2.1 Record Retention	+ 4.2.4.1 Records Retention
+ 7.5.3.2.2 Engineering Specifications	+ 4.2.3.1 Engineering Specifications
8. Operation (title only)	7. Product Realization
8.1 Operational Planning and Control	7.1 Planning of Product Realization
+ 8.1.1 Operational Planning and Control – Supplemental	+ 7.1 Planning of Product Realization - Supplemental
+ 8.1.2 Confidentiality	+ 7.1.3 Confidentiality

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IATF 16949:2016 Clauses	ISO/TS 16949:2009 Clauses
8.2 Requirements for Products and Services (title only)	7.2 Customer-Related Processes
8.2.1 Customer Communication	7.2.3 Customer Communication
+ 8.2.1.1 Customer Communication - Supplemental	+ 7.2.3.1 Customer Communication - Supplemental
8.2.2 Determining the Requirements for Products and Services	7.2.1 Determination of Requirements Related to the Product
+ 8.2.2.1 Determining the Requirements for Products and Services - Supplemental	7.2.1 Determination of Requirements Related to the Product
8.2.3 Review of Requirements for Products and Services (title only)	7.2.2 Review of Requirements Related to the Product
8.2.3.1 (untitled)	7.2.2 Review of Requirements Related to the Product
+ 8.2.3.1.1 Review of Requirements for Products and Services - Supplemental	+ 7.2.2.1 Review of Requirements Related to Product - Supplemental
+ 8.2.3.1.2 Customer-Designated Special Characteristics	+ 7.2.1.1 Customer-Designated Special Characteristics
+ 8.2.3.1.3 Organization Manufacturing Feasibility	+ 7.2.2.2 Organization Manufacturing Feasibility
8.2.3.2 (untitled)	7.2.2 Review of Requirements Related to the Product
8.2.4 Changes to Requirements for Products and Services	7.2.2 Review of Requirements Related to the Product
8.3 Design and Development of Products and Services (title only)	7.3 Design and Development (title only)
8.3.1 General	New.
+ 8.3.1.1 Design and Development of Products and Services - Supplemental	7.3.1 Design and Development Planning
8.3.2 Design and Development Planning	7.3.1 Design and Development Planning
+ 8.3.2.1 Design and Development Planning - Supplemental	+ 7.3.1.1 Multidisciplinary Approach
+ 8.3.2.2 Product Design Skills	+ 6.2.2.1 Product Design Skills
+ 8.3.2.3 Development of Products with Embedded Software	New.
8.3.3 Design and Development Inputs	7.3.2 Design and Development Inputs
+ 8.3.3.1 Product Design Input	+ 7.3.2.1 Product Design Input
+ 8.3.3.2 Manufacturing Process Design Input	+ 7.3.2.2 Manufacturing Process Design Input
+ 8.3.3.3 Special Characteristics	+ 7.3.2.3 Special Characteristics
8.3.4 Design and Development Controls	7.3.4 Design and Development Review; 7.3.5 Design and Development Verification; 7.3.6 Design and Development Validation
+ 8.3.4.1 Monitoring	+ 7.3.4.1 Monitoring
+ 8.3.4.2 Design and Development Validation	+ 7.3.6.1 Design and Development Validation – Supplemental
+ 8.3.4.3 Prototype Program	+ 7.3.6.2 Prototype Program
+ 8.3.4.4 Product Approval Process	+ 7.3.6.3 Product Approval Process
8.3.5 Design and Development Outputs	7.3.3 Design and Development Outputs
+ 8.3.5.1 Design and Development Outputs - Supplemental	+ 7.3.3.1 Product Design Outputs – Supplemental
+ 8.3.5.2 Manufacturing Process Design Output	+ 7.3.3.2 Manufacturing Process Design Output
8.3.6 Design and Development Changes	7.3.7 Control of Design and Development Changes
+ 8.3.6.1 Design and Development Changes - Supplemental	+ 7.1.4 Change Control
8.4 Control of Externally Provided Processes, Products, and Services (title only)	7.4 Purchasing (title only)
8.4.1 General	7.4.1 Purchasing Process
+ 8.4.1.1 General - Supplemental	New.
+ 8.4.1.2 Supplier Selection Process	7.4.1 Purchasing Process
+ 8.4.1.3 Customer-Directed Sources	+ 7.4.1.3 Customer-Approved Sources
8.4.2 Type and Extent of Control	7.4.1 Purchasing Process; 7.4.3 Verification of Purchased Product
+ 8.4.2.1 Type and Extent of Control - Supplemental	7.4.1 Purchasing Process
+ 8.4.2.2 Statutory and Regulatory Requirements	+ 7.4.1.1 Statutory and Regulatory Conformity
+ 8.4.2.3 Supplier Quality Management System Development	+ 7.4.1.2 Supplier Quality Management System Development
+ 8.4.2.3.1 Automotive Product-Related Software or Automotive Products with Embedded Software	New.
+ 8.4.2.4 Supplier Monitoring	+ 7.4.3.2 Supplier Monitoring
+ 8.4.2.4.1 Second-Party Audits	New.
+ 8.4.2.5 Supplier Development	New.
8.4.3 Information for External Providers	7.4.1.d Purchasing Process (see new 8.4.3.k) 7.4.2 Purchasing Information; 7.4.3 Verification of Purchased Product (see new 8.4.3.f)
+ 8.4.3.1 Information for External Providers - Supplemental	7.4.2 Purchasing Information

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8.5 Production and Service Provision (title only)	7.5 Production and Service Provision (title only)
8.5.1 Control of Production and Service Provision	7.5.1 Control of Production and Service Provision; 7.5.2 Validation of Processes for Production and Service Provision 7.4.3 Verification of Purchased Product (see new 8.5.1.q) 8.2.3.1 Monitoring and Measurement of Manufacturing Processes
+ 8.5.1.1 Control Plan	+ 7.5.1.1 Control Plan
+ 8.5.1.2 Standardized Work – Operator Instructions and Visual Standards	+ 7.5.1.2 Work Instructions
+ 8.5.1.3 Verification of Job Set-Ups	+ 7.5.1.3 Verification of Job Set-ups
+ 8.5.1.4 Verification After Shutdown	New.
+ 8.5.1.5 Total Productive Maintenance	+ 7.5.1.4 Preventive and Predictive Maintenance
+ 8.5.1.6 Management of Production Tooling and Manufacturing, Test, Inspection Tooling, and Equipment	+ 7.5.4.1 Customer-owned Production Tooling
+ 8.5.1.7 Production Scheduling	+ 7.5.1.6 Production Scheduling
8.5.2 Identification and Traceability	7.5.3 Identification and Traceability
+ 8.5.2.1 Identification and Traceability – Supplemental	+ 7.5.3.1 Identification and Traceability - Supplemental
8.5.3 Property Belonging to Customers or External Providers	7.5.4 Customer Property
8.5.4 Preservation	7.5.5 Preservation of Product
+ 8.5.4.1 Preservation - Supplemental	+ 7.5.5.1 Storage and Inventory
8.5.5 Post-Delivery Activities	7.2.1.a Determination of Requirements Related to the Product; 7.5.1.f Control of Production and Service Provision
+ 8.5.5.1 Feedback of Information from Service	+ 7.5.1.7 Feedback of Information from Service
+ 8.5.5.2 Service Agreement with Customer	+ 7.5.1.8 Service Agreement with Customer
8.5.6 Control of Changes	New.
+ 8.5.6.1 Control of Changes – Supplemental	+ 7.1.4 Change Control
+ 8.5.6.1.1 Temporary Change of Process Controls	New.
8.6 Release of Products and Services	7.4.3 Verification of Purchased Product; 8.2.4 Monitoring and Measurement of Product
+ 8.6.1 Release of Products and Services – Supplemental	New.
+ 8.6.2 Layout Inspection and Functional Testing	+ 8.2.4.1 Layout Inspection and Functional Testing
+ 8.6.3 Appearance Items	+ 8.2.4.2 Appearance Items
+ 8.6.4 Verification and Acceptance of Conformity of Externally Provided Products and Services	+ 7.4.3.1 Incoming Product Conformity to Requirements
+ 8.6.5 Statutory and Regulatory Conformity	+ 7.4.1.1 Statutory and Regulatory Conformity
+ 8.6.6 Acceptance Criteria	+ 7.1.2 Acceptance Criteria
8.7 Control of Nonconforming Outputs (title only)	8.3 Control of Nonconforming Product
8.7.1 (untitled)	8.3 Control of Nonconforming Product
+ 8.7.1.1 Customer Authorization for Concession	+ 8.3.4 Customer Waiver
+ 8.7.1.2 Control of Nonconforming Product – Customer Specific Process	New.
+ 8.7.1.3 Control of Suspect Product	+ 8.3.1 Control of Nonconforming Product - Supplemental
+ 8.7.1.4 Control of Reworked Product	+ 8.3.2 Control of Reworked Product
+ 8.7.1.5 Control of Repaired Product	New.
+ 8.7.1.6 Customer Notification	+ 8.3.2 Control of Reworked Product
+ 8.7.1.7 Nonconforming Product Disposition	New.
8.7.2 (untitled)	8.3 Control of Nonconforming Product
9. Performance evaluation (title only)	New.
9.1 Monitoring, Measurement, Analysis, and Evaluation (title only)	8. Measurement, Analysis, and Improvement (title only)
9.1.1 General	8.1 General; 8.2.3 Monitoring and Measurement of Processes
+ 9.1.1.1 Monitoring and Measurement of Manufacturing Processes	
+ 9.1.1.2 Identification of Statistical Tools	+ 8.1.1 Identification of Statistical Tools
+ 9.1.1.3 Application of Statistical Concepts	+ 8.1.2 Knowledge of Basic Statistical Concepts
9.1.2 Customer Satisfaction	8.2.1 Customer Satisfaction
+ 9.1.2.1 Customer Satisfaction - Supplemental	+ 8.2.1.1 Customer Satisfaction - Supplemental
9.1.3 Analysis and Evaluation	8.4 Analysis of Data
+ 9.1.3.1 Prioritization	+ 8.4.1 Analysis and Use of Data

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9.2 Internal Audit (title only)	8.2.2 Internal Audit
9.2.1 (untitled)	8.2.2 Internal Audit
9.2.2 (untitled)	8.2.2 Internal Audit
+ 9.2.2.1 Internal Audit Program	+ 8.2.2.4 Internal Audit Plans
+ 9.2.2.2 Quality Management System Audit	+ 8.2.2.1 Quality Management System Audit
+ 9.2.2.3 Manufacturing Process Audit	+ 8.2.2.2 Manufacturing Process Audit
+ 9.2.2.4 Product Audit	+ 8.2.2.3 Product Audit
9.3 Management Review (title only)	5.6 Management Review
9.3.1 General	5.6.1 General
+ 9.3.1.1 Management Review - Supplemental	+ 5.6.1.1 Quality Management Systems Performance
9.3.2 Management Review Inputs	5.6.2 Review Input
+ 9.3.2.1 Management Review Inputs - Supplemental	+ 5.6.2.1 Review Input Supplemental
9.3.3 Management Review Outputs	5.6.3 Review Output
+ 9.3.3.1 Management Review Outputs - Supplemental	New.
10. Improvement (title only)	8.5 Improvement (title only)
10.1 General	8.5.1 Continual Improvement
10.2 Nonconformity and Corrective Action (title only)	8.3 Control of Nonconforming Product; 8.5.2 Corrective Action
10.2.1 (untitled)	8.3 Control of Nonconforming Product; 8.5.2 Corrective Action
10.2.2 (untitled)	8.3 Control of Nonconforming Product; 8.5.2 Corrective Action
+ 10.2.3 Problem Solving	+ 8.5.2.1 Problem Solving
+ 10.2.4 Error-Proofing	+ 8.5.2.2 Error-Proofing
+ 10.2.5 Warranty Management Systems	New.
+ 10.2.6 Customer Complaints and Field Failure Test Analysis	+ 8.5.2.4 Rejected Product Test/Analysis
10.3 Continual Improvement	8.5.1 Continual Improvement
+ 10.3.1 Continual Improvement - Supplemental	+ 8.5.1.1 Continual Improvement of the Organization + 8.5.1.2 Manufacturing Process Improvement

ISO 9001:2015 Annex A – Clarification of New structure, Terminology, and Concepts A.1 Structure and Terminology A.2 Products and Services A.3 Understanding the Needs and Expectations of Interested Parties A.4 Risk-Based Thinking A.5 Applicability A.6 Documented Information A.7 Organizational Knowledge A.8 Control of Externally Provided Processes, Products, and Services	New.
ISO 9001:2015 Annex B – Other International Standards on Quality Management and Quality Management Systems Developed by ISO/TC 176	New.
+ Annex A: Control Plan + A.1 Phases of the Control Plan + A.2 Elements of the Control Plan	+ Annex A: Control Plan + A.1 Phases of the Control Plan + A.2 Elements of the Control Plan
Bibliography	Bibliography
+ Annex B: Bibliography – Supplemental Automotive	New.