Supplier Quality Assurance Manual

JTEKT North America Corporation

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JTEKT Europe Bearings spo -

JTEKT Bearings Czech Republic

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1. Quality System Requirements

1.1 Scope

The Supplier Quality Assurance Manual (SQAM) defines the requirements for all suppliers for **JTEKT North America Corp** (hereinafter referred to as JTEKT) in addition to requirements defined in the purchase order, general agreement, terms and conditions, ISO14001, ISO 9001 and IATF 16949 (latest revision), and any additional requirements as determined by JTEKT. In the event of any conflict between the SQAM and Buyers Terms of Conditions of Purchase, the buyer's terms shall prevail. "Supplier" or "direct material supplier" in this SQAM refers to sites where production materials, production or service parts specified by the customer are manufactured. Also included are providers of heat-treating, coating, plating or other finishing services. Suppliers of indirect materials and service providers adding no manufacturing value are not within scope of this SQAM. All internal JTEKT locations are also not within scope of this SQAM.

This manual serves as the cornerstone for building a solid partnership between JTEKT and its supply base through open communications and defined roles and responsibilities. This manual provides the capability to enhance communication and efficiency between the supplier and JTEKT to meet all requirements of JTEKT. The supplier is fully responsible for the quality of their goods (sub-suppliers) and/or services. Suppliers shall ensure their goods and/or services conform to all JTEKT requirements, including this document, purchase orders, terms and conditions, general agreements, drawings, specifications, test requirements, and IATF 16949. If any conflict exists between IATF 16949 and this document, the Supplier Quality Assurance Manual shall be the governing document.

1.1.1 Purpose

The Supplier Quality Assurance Manual provides detailed information pertaining to the required quality assurance activities in all processes of order receiving, manufacture, shipment and delivery, disposition of defects, etc. that must be executed by suppliers to assure product quality of parts and materials being supplied to JTEKT to satisfy set requirements. In particular, for the purpose of preventing defects, it is most important so that systems enable continuous improvement in daily activities be established such as the company-wide quality management system as exemplified below.

NOTE: JTEKT requests those suppliers who deliver parts and materials under the scope of IATF 16949 to comply with the requirements set forth in the current IATF 16949: standard and this document. Our goal is to develop a supply base of zero defects.

JTEKT companies are certified to IATF 16949 and it is JTEKT's belief that the underlying structure given by adherence to the basic principles of IATF 16949 makes a company stronger and more competitive while improving the satisfaction of customers, preventing defects, and accelerating continuous improvement. JTEKT understands the supplier's quality and performance has a direct impact to JTEKT's quality and performance; therefore, the supplier and JTEKT must continuously improve to stay competitive in the automotive market. Details are provided of required quality assurance activities in all processes of receiving, manufacturing, packaging, engineering changes, disposition of nonconforming material, etc. These quality requirements should be the basis for continuous improvements by the supplier. The supplier should monitor JTEKT's satisfaction and evaluate all feedback to continuously improve on quality and performance.

Figure 1.0, Model of Process-Based Quality Management System, below illustrates the processes of an effective quality management system.

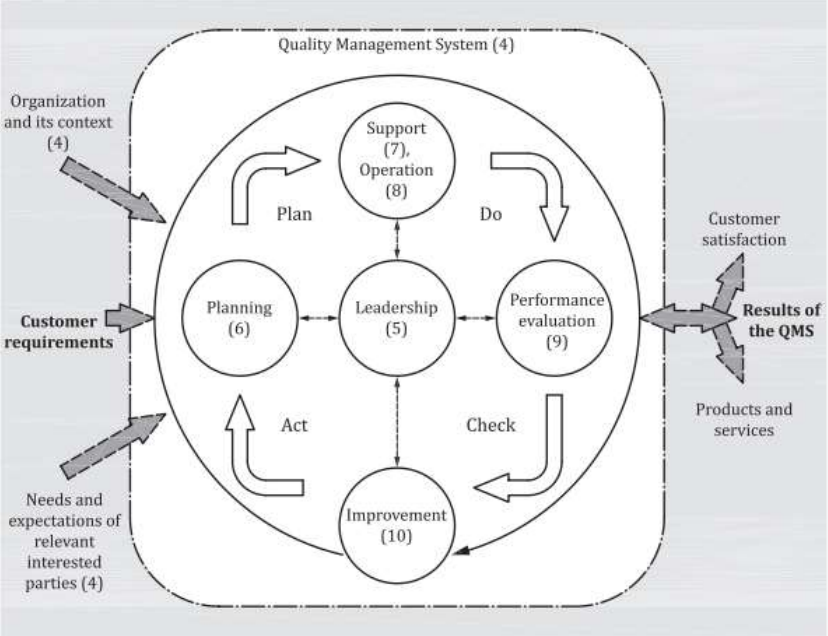


Figure 1.0 Model of Process-Based Quality Management System

1.1.2 Manual Control

Suppliers to JTEKT are responsible for obtaining and following this document via JTEKT Supplier Network website, (https://portal.jtekt-na.com) Suppliers are required to check the website periodically for revisions and updates to this document and any applicable specifications.

Suppliers to JTEKT are responsible to cascade all JTEKT requirements down the supply chain to the point of manufacture.

1.1.3 Inquiry

Any inquiries on this manual shall be sent to JTEKT's Supplier Advancement Organization or they may contact the Quality Assurance Department at the applicable manufacturing location.

1.2 Certification of Direct Material Suppliers

All direct material suppliers, at a minimum, shall establish a quality management system in accordance with ISO 9001 and shall provide the certification of ISO 9001 (latest edition), by an accredited third party organization, to JTEKT. If a supplier is certified to ISO 9001, JTEKT requests, in addition to the current certification, that the supplier develops a plan to establish a quality management system to include IATF16949 requirements. The ultimate objective for suppliers who are delivering parts used for automotive industry is to become certified to IATF 16949.

The supplier shall provide an updated copy of any renewal certifications to Purchasing, on a repeated basis, indicating compliance with the stated requirements of ISO9001, IATF 16949 & ISO 14001. This is required for all suppliers regardless of the part/material provided.

Conformity with ISO 9001 (latest edition) shall be demonstrated by third party certification / registration through a certification body bearing the accreditation mark of a recognized IAF MLA member and where the accreditation body's main scope includes management system certification to ISO/IEC 17021.
For a list of IAF MLA accreditation bodies and their accreditation marks, go to http://www.iaf.nu.

Table no. 1

Type of supplier		STANDARDS											
		ISO 9001		IATF 16949		AS9100		NADCAP		ISO 14001		ISO 45001 (OHSAS 18001)	
		Establish system	Certification	Establish system	Certification	Establish system	Certification	Establish system	Certification	Establish system	Certification	Establish system	Certification
Automotive		**REQUIRED**	**REQUIRED**	**REQUIRED**	RECOMMENDED (note 2)	-	-	-	-	RECOMMENDED (note 2)	RECOMMENDED (note 2)	RECOMMENDED (note 2)	RECOMMENDED (note 2)
Finished products suppliers	Non-automotive	**REQUIRED**	**REQUIRED (note 1)**	**REQUIRED**	RECOMMENDED (note 2)	-	-	-	-	RECOMMENDED (note 2)	RECOMMENDED (note 2)	-	-
	Automotive	**REQUIRED**	**REQUIRED**	**REQUIRED**	**REQUIRED**	-	-	-	-	RECOMMENDED (note 2)	RECOMMENDED (note 2)	RECOMMENDED (note 2)	RECOMMENDED (note 2)
Other than the above suppliers		**REQUIRED**	RECOMMENDED (note 2)	RECOMMENDED (note 2)	-	-	-	-	-	RECOMMENDED (note 2)	RECOMMENDED (note 2)	-	-
Aerospace suppliers		**REQUIRED**	**REQUIRED**	RECOMMENDED (note 2)	-	**REQUIRED**	RECOMMENDED (note 2)	**REQUIRED**	RECOMMENDED (note 2)	-	-	-	-
Service providers adding no manufacturing value		**Refer to NOTE 3**	**Refer to NOTE 3**	-	-	-	-	-	-	-	-	-	-

Note 1: Machine Tools Division product shall not be applicable, just recommended

Note 2: Unless otherwise specified by the customer.

Note 3: Service providers, e.g. distributors adding no manufacturing value, logistics, sales office do not need to have certification but they need to supply Certification of manufacturing site they are selling. Certificate of the manufacturing location shall be posted in GASL.

Note 4: Unless otherwise agreed by JTEKT, external providers of calibration services shall be accredited to ISO/IEC 17025 or national equivalent.

Automotive: Suppliers who produce and deliver the parts used in automotive business

Finished products suppliers: Suppliers who produce and deliver the finished products for automotive, which require no further process (processing/assembling) on the products by JTEKT.

***Those suppliers unable to achieve the required level defined in table no. 1 at this moment shall apply for approval of the general manager of JTEKT quality management department with the clear declaration in writing for the achievement plan and target date.**

Suppliers are required to notify, on a timely basis, the appropriate JTEKT Supplier Advancement Engineer, (SA Eng.) if an IATF 16949 registered supplier quality management system is notified of special status conditions (such as new business hold – quality, needs improvement status, Q1 revocation) by any of the IATF (International Automotive Task Force) or other organizations.

1.2.1 Preparation and Maintenance of Procedures, Work Instructions, and Instruction Manuals
Suppliers shall prepare documented procedures of operations and inspections for controlling manufacturing processes. Such procedures should conform to the Control Plan (refer to attachments FSQM-010). The following subjects must be described or referenced in the Work Standard or Work Instruction.

- Name or Number of Operation
- Established and Revised Date, person approving the manual
- Indication of material
- Critical and/ or special characteristics, control characteristics
- Judgment criteria for quality
- Method to detect defective parts and how to handle the defective parts
- Product name and JTEKT number
- Required dies, tools, and measuring equipment
- Gauges and other devices used
- Frequency of quality check and the number of products to be checked
- Requirements for documentation
- Frequency of tool and die exchanges

Suppliers should revise the procedures without delay whenever the following occurs; design changes, process changes, instability of processes, or lack of process capability.

1.3 Customer Support

The supplier shall support JTEKT throughout the life of the program plus 1 year, including mass production and service production. Service production may be up to or more than 10 years. This support includes, but is not limited to the following:

- Design and process development, including measurement systems
- If required, activities supporting supplier development
- Preparation of all preliminary planning and PPAP documentation
- Performance of Early Production Control on new releases
- Conducting product launch and identifying any special handling, application, storage, or other considerations that will improve the product launch and achieve ZERO defects
- Resolution and containment of any production and service issues associated with the supplier's product
- Achievement and maintenance of **Zero** quality defects

Company JTEKT generally applies a zero defects strategy. In addition to the supply contract regulations on defective and other liability complaints, the supplier must agree a quality improvement programme with the respective Supplier Advancement Engineer in writing if faults occur. If no written agreement exists, the supplier shall be required to halve any faults that occur every year.

- Achievement and maintenance of **Zero delay**
  JTEKT applies also a zero delay strategy. In case of any logistic complaints, the supplier must agree an improvement program (PDCA) with the respective Buyer in writing.
- Strategy and activities supporting **Zero Environmental Load**
  JTEKT Group aim to realize a sustainable society business activities
  Suppliers are expected to continuously improve their environmental management system and strive to achieve environmental goals and performance.
    - Complying with environmental laws and regulations and focusing on pollution prevention
    - Reducing the production of substances with an environmental impact such as CO2 and chemicals and moving towards a low-carbon, recycling-oriented society
    - Working to protect biodiversity and ecosystems in harmony with local communities

  Suppliers should, on request, submit relevant information about the activities related to the Zero Environmental Load strategy in their company.
- Warranty Issues:
    - May require the supplier to support the redesign or change to the supplier's process if the subject parts are the root cause of a warranty issue
    - The supplier shall be responsible for any cost associated with an out-of-specification condition from their product which results in warranty claims

The supplier shall make available trained and knowledgeable personnel for the above-mentioned issues. These activities may require onsite presence at both JTEKT and our customer(s). All written and verbal communications regarding quality issues or development should be directed to the Supplier Advancement Engineer. JTEKT's Supplier Quality Engineer (**SQE**) who works in the plant will serve as the technical liaison and primary contact for all quality issues for suppliers unless the supplier has been identified as a developmental supplier. A Supplier Advancement Engineer will be assigned to suppliers that are categorized as needing "Development", reference Section 8.0. A JTEKT buyer serves as the primary facilitator for new product quotes, tool transactions, releases, supplier launch schedule, and all matters other than supplier quality or technical assistance. Note "releases supplier launch schedule" may come from a JTEKT plant.

All JTEKT suppliers are required to submit the proper documents in all phases of pre-production, production, development, and/or continuous improvement as a supplier to JTEKT. In addition, JTEKT

reserves the right to perform an on-site audit as deemed appropriate to verify conformance of supplier Quality Management System or to verify effectiveness regarding corrective or preventive actions related to supplier audit or escalation. Escalation (Section 10.9): – An increased level of activity with a supplier to JTEKT as a result of a failure to perform in the areas of product quality, delivery or cost.

The supplier will provide access to all manufacturing processes and facilities that are associated with the production of JTEKT component.

The supplier must designate a representative as the primary JTEKT contact regarding quality matters and alternative contacts for each shift of operation. The supplier representatives and contacts should be recorded on the Designated Quality Assurance Representative Form *FSQM-002*. Supplier contact information will be recorded in GASL (Global Approved Supplier List). Forms shall be submitted to JTEKT Purchasing Administration and applicable plant SQE. The supplier must notify JTEKT of any permanent changes to personnel within ten working days after the change. The supplier's quality manager and sales manager contact information is important to be correctly loaded in GASL, since these individuals are linked to automated communication tools like Supplier Scorecards, DMR (Discrepant Material Report), CARPAR, (Corrective Action Request/Preventive Action Request) and for expire Quality Management System certificates.

The supplier's quality or sales contact loaded in GASL is considered as a Product Safety Responsible associate from the supplier and due to that this person must have external qualification for the basics of Product Safety and Product Liability law. Product Safety Responsible Associate is required to train all relevant supplier associates in product safety characteristics and processes.

1.4 Lot Traceability

Each product shall be identified in accordance with JTEKT's drawing. The supplier should be able to use JTEKT's release number to identify raw material, lot number, manufacturer's date, shift, and where possible, the operator or other means to identify the date, shift and cavity from which the product was produced. In addition, a lot number or traceability number will be required on any Kanban card. If this is not possible, JTEKT must approve the supplier's alternative traceability method.

For products with safety characteristics the supplier shall ensure product traceability by manufactured lot (at a minimum) throughout the supply chain unless otherwise agreed with JTEKT in written form.

Traceability of the raw material, work in process, and finished products must be established and maintained from the receipt at the supplier's facility through delivery to JTEKT. Raw material includes all material used in component parts that produce the final product. Lot control must provide traceability of material from the point of usage back to the point of manufacture, where parts are put into assemblies at the supplier's locations, to the assembled product. Records indicating inspection, test results, and final inspections must reference principle or subordinate lot codes.

Heat separation is needed unless otherwise specified/agreed in written by JTEKT.

The supplier traceability internal controlled document records include but are not limited to:
lot numbers, raw materials and sub-components receive dates / consumption dates, production dates / range, process and machine parameters history, maintenance-repair history, manpower changes, inspection dates and evaluation test results, finished goods ship dates, process changes etc.

The supplier must have FIFO at their plants and shall confirm their lower tier's FIFO to support and sustain traceability.
FIFO must be followed for all materials and sub-components through all production stages and parts completion, until finished goods delivery.

1.5 SPC/ Capability Requirements

Suppliers shall monitor process performance using the appropriate statistical techniques in accordance with AIAG Statistical Process Control manual.
Suppliers are required to use statistical methods for the control and continuous improvement of control characteristics and/or process parameters. Suppliers shall illustrate that new products and engineering changes to products conform to all specifications, including process capability. The supplier shall demonstrate process capability according to AIAG PPAP manual using Ppk process capability index acceptable level is Ppk ≥ 1,67 unless otherwise agreed with JTEKT. Details see section 2.2.3.

The Inspection Standard (FSQM-004) will specify all characteristics in addition to the control characteristics illustrated on the product drawing. Process Capability Index (Cpk) on a stable process shall be ≥ 1.33 at least 125 parts with appropriate random sample shall be taken.
Process Performance Capability Index (Ppk) shall be ≥ 1.67. Ppk acceptance criteria shall be used to evaluate any data from a period less than one month. The supplier may be requested to provide a summary of Cpk results over a certain period of time along with the X-bar and R charts. Should characteristics be identified during launch, production, and/or customer end use that were not originally deemed as a control characteristic but have later been proven to be significant, the supplier may be requested to provide statistical evidence of control and capability, if supplier cannot meet Cpk or Ppk specifications, corrective actions shall be taken such as:

- Investigate and determine root cause and perform corrective actions
- Execute 100% inspection and improve capability by continuous improvement

When used in the monitoring and measurement of specified requirements, the ability of computer software to satisfy the intended application shall be confirmed. This shall be undertaken prior to initial use and reconfirmed as necessary.

Confirmation of the ability of computer software to satisfy the intended application would typically include its verification and configuration management to maintain its suitability for use.

1.5.1 Control Characteristics

Control characteristics identifying product characteristics when found to be defective can result in a failure of the basic function of the product. This potentially may cause direct/ indirect serious injury. To prevent the occurrence of this kind of non-conformity, suppliers shall appoint responsible persons and implement the control of characteristics. These control characteristics, as designated by JTEKT, include **Significant, Critical, Manufacturing,** and **Additional** characteristics.

Control characteristics are designated as follows:

Table no. 2

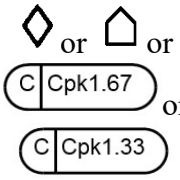
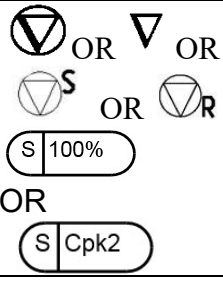
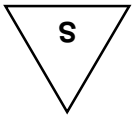
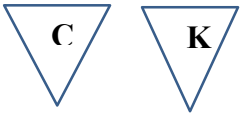
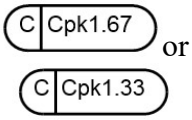
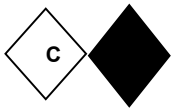
	JTEKT EU	JTEKT USA	JTEKT NA
Key Characteristic (Not Relating to Safety or Legal Consideration)		KPC F/F <D>	NOT USED
Key Characteristic (With Safety or Legal Consideration)		KPC S/C <SC> means customer driven	
Significantly Important Characteristic SIC		SIC	
Targeted Characteristic		TC	NOT USED
Tooling/Reference Characteristic	NOT USED	TOOL/REF (listed on detail print only)	NOT USED
Documentation Required	NOT USED	DR	NOT USED
Critical Characteristic		NOT USED	
Manufacturing Characteristic		NOT USED	M
Additional Characteristic	NOT USED	NOT USED	

Table no. 3

Description	Gauging	**JTEKT Requirements** (unless otherwise specified on drawing or agreed with JTEKT)
Significant or Key Characteristic	Variable	Ppk ≥ 1.67 Cpk ≥ 1.33 Cmk ≥ 1.67 Cg/Cgk ≥ 1.33 Gage R&R ≤ 10%
Critical Characteristic	Variable	Ppk ≥ 1.67 Cpk ≥ 1.33 Cmk ≥ 1.67 Cg/Cgk ≥ 1.33 Gage R&R ≤ 10%
Manufacturing Characteristic	Variable	Ppk ≥ 1.67 Cpk ≥ 1.33 Cmk ≥ 1.67 Cg/Cgk ≥ 1.33 Gage R&R ≤ 30%
Additional Characteristic	Attribute	Ppk ≥ 1.67 (ST), Attribute-Gage R&R = Attribute Study

Most “M & A” designations as referenced in the table no. 2 will be used by JTEKT due to manufacturing concerns and the requirements will be placed on the Inspection Standard (FSQM-004) to define requirements unless shown on the prints. The supplier’s documentation, i.e., control plan, process flow, PFMEA, work standards, inspection instructions, inspection standards, etc., shall contain the designations shown above. Triangle “K, C, & S” and Diamond “C/◆” designations may be found on notes related to testing and/or material requirements. Any deviations to these designations require written approval from JTEKT.
The supplier shall work with Supplier Advancement and or the Supplier Quality Engineer to gain approval.

1.6 Quality Chain Management

JTEKT believes that quality chain management is a vital tool to evaluate and determine weakness in the controls of a given process. For those customers who require a quality chain management process, this will determine the baseline for continuous improvement of quality controls of the supplier’s process. The Part Flow Diagram (FSQM-008) will evaluate the controls and inspection gates of each process and provide a rating to determine if future improvements are required. The Part Flow Diagram should illustrate each sub-supplier and the item being supplied along with sub-supplier’s name and contact information. These documents should be submitted with the PPAP package and upon request.

1.7 Process Controls

A control plan (FSQM-010) shall exist for JTEKT’s production processes. All control characteristics shall be identified on the control plan, PFMEA, work standards, inspection instructions, and inspection standards. A machine checklist should exist for all process or equipment parameters that affect the quality of JTEKT’s part. This machine checklist should be utilized a minimum of once per shift for all processes unless otherwise agreed to by JTEKT’s Supplier Quality Engineer (SQE). The frequency and quantity of process and product checks should be approved by JTEKT’s representative, in most situations, the SQE or Supplier Advancement Engineer.

1.7.1 Inspection Standards

Inspection standards define the dimensional features, performance tests, and other drawing requirements to be checked, test equipment (gages and fixtures) to be used, inspection methods, acceptance criteria, and sampling plan for mass production inspection activities. The Inspection standards may be amended based upon the continuing results of process qualification and production capability results. It is the responsibility of the supplier to prepare inspection standards for review and obtain approval from JTEKT prior to PPAP submittal, see FSQM-004. Once approved, SQE will keep a copy of the inspection standard and forward the original to the supplier.

1.7.2 First-Piece Approval

The supplier should have a written procedure that describes the method and responsibilities for approving a new or revised setup prior to running a production lot. Setup parts and material must be identified and segregated from production material. Setup parts or material can be tagged, labelled, color-coded, or destroyed, but must be moved out of the process flow to prevent mixing with acceptable products or material. First-piece inspections are required prior to production runs and after each machine setup, die change, or process change to enhance compliance to specification during a run. This inspection shall be consistent with the acceptable judgment criteria as specified by JTEKT. First-piece parts or material should be identified and retained, on the particular equipment until the job is complete. These parts shall be used as proof of conformity and for comparison in the event of any detected non-conforming conditions.

1.7.3 Final Audit of Process/Engineering Changes

Check all impacted product characteristics, (dimensions and materials).
The supplier is responsible for performing an audit of all the changed dimensions or requirements on the first six shipments (release orders) of an engineering change which includes design and/or process changes. The audit will, at a minimum, include the dimension(s) affected by the change and feasible control characteristics. The supplier should submit to the SQE all changes to the Inspection Standard for approval and revise all applicable documentation.

1.7.4 Early Production Control- (Pre-launch Control Plan / Safe Launch)

Early production control is required for products or processes that are being developed by JTEKT, new part releases, and/or significant changes to the supplier's product or processes. This process is the supplier's effort to gain control of its processes and provide ZERO quality issues during ramp-up of mass production. The supplier shall develop a pre-launch control plan which shall include significant enhancements to the supplier's production control plan. The supplier shall perform 100% visual inspection and the criteria approved by the SQE. The early production control should be performed on all parts until three months after the supplier's start of mass production excluding minimal builds for samples. The supplier can stop early production control after the completion of the required duration if all quality issues have been resolved or corrected. The supplier should maintain all records; i.e., inspection checklists, pre-launch control plan, etc. during early production control.

1.8 Packaging

Suppliers shall submit a packaging proposal to be evaluated and approved by JTEKT. Packaging provided by the supplier shall protect the supplied parts from any damage, upon receipt at the JTEKT facilities. The supplier's proposal shall be submitted on JTEKT's Packaging Approval Request form (FSQM-006).

Production shipment and packaging requirements discussions should begin during APQP activities or Feasibility Review and discussed and agreed with receiving plant. All requirements shall be finalized prior to first shipment and PPAP submission.

The total pack shall contain bar code labels on two sides of the total pack in accordance with the Packaging Approval Request form. The labels should be submitted to JTEKT's Production Control

Department at each facility for approval prior to shipment to any facility. The packaging approval request must indicate the shipping method of the parts to be delivered (shipping, route, delivery location, packaging style, and shipping unit). If parts are required to be mixed, the shipment must have an 8½" x 11" notification on two sides of the shipment stating "Multiple Part Numbers." MIXED SHIPMENTS MUST BE PREVIOUSLY APPROVED BY JTEKT's PRODUCTION CONTROL AT EACH JTEKT FACILITY.

Large containers such as castings, rack bars, jacket assemblies, and short gears should be evaluated on an individual basis considering the size and weight of the total package. Also, the location of storage and use should be considered. The large containers should include the supplier's name or JTEKT's plant name for return information. These containers also may be required to include the tare weight, label holders, and AIAG bar code labels. Where containers are similar, JTEKT may provide a label (to be placed on two sides of the container) on the packaging for return identification purposes.

Small hand-held containers can be used and should contain a quantity of even multiples of 5 and have an AIAG label attached. Since JTEKT North America Operations, typically uses Orbis or Schaefer containers, small containers should be to the JTEKT requirements and must be approved by JTEKT prior to use. The target weight for a full container should be 25 pounds with a 30-pound maximum weight.

Returnable containers shall ship on a standard AIAG 45" x 48" returnable pallet with a lip, maximum height of 48 inches. The palletized shipment shall be stretch wrapped or banded. When banding is used, a returnable top cap is required. Containers should be marked with the supplier's name or the JTEKT facility name for return purposes. Containers should include at least one label holder (Orbis example: CHS0491 Cardholder). Dunnage shall be used as required to protect the part(s) during transportation and storage and should be permanently attached to the container. JTEKT must approve expendable dunnage on an individual basis. All suppliers are to submit on the Packaging Request for Approval form, a secondary packaging design to JTEKT for emergency use.

1.8.1 S-Specification

In some cases, JTEKT designates 'S'-Specifications to define shipping and packaging requirements.

Requirements in any 'S' specification shall be considered an extension of the purchase order and /or product drawing / agreement.

Unless alternate methods have been agreed upon in writing with the receiving location, all production shipments must include or be preceded by the following:

- Material certifications as specified in all applicable material specifications.
- Applicable Statistical Process Control (SPC) data (for all print designated special or critical characteristics) unless instructed differently otherwise from the receiving location.
- Labelling, or bar code labelling, must be in accordance with appropriate AIAG guidelines or plant specific requirements.

Production shipment and packaging requirements discussions should begin during APQP activities, Design or Feasibility review. All requirements shall be finalized prior to first shipment and PPAP submission.

2. Production Part Approval Process (PPAP)

The supplier shall have a system established that will provide adequate planning to support obtaining PPAP approval in accordance with the due date provided by JTEKT's purchase order.

2.1 Advanced Product Quality Planning (APQP)

The supplier shall investigate, confirm and document the manufacturing feasibility of the proposed products and submit it with the quote response, (FSQM-018). JTEKT and JTEKT customers are afforded the right to verify conformance to product at the supplier premises upon 24-hour notification to the supplier.

The supplier shall have an established project management system to develop and track all new and modified products (Figure 2.0 Product Quality Planning Timing Chart). The supplier shall submit, at a minimum a monthly Production Preparation Plan or as required by JTEKT (refer to attachments FSQM-011). The supplier shall identify all milestones that are significant to the successful launch of the product. Status of the design of the processes and gauges, manufacturing of tooling and gauges, completion of runoffs, completion of inspections and testing, submission of PPAP package, receipt of a signed Part Submission Warrant (PSW), and start of production shall be tracked by the supplier. The product development process must identify all phases and milestones significant to the project (Figure 2.0, Product Quality Planning Timing Chart). The process is used to develop a product plan to ensure that specific inputs, outputs, and/ or deliverables are sequenced at the proper time. The supplier shall have routine cross-functional assessments and feasibility commitments of the project to assure that the project meets JTEKT's submission date of the PPAP package as well as submission of samples to the correct level on time. All JTEKT suppliers are required to submit the proper documents in all phases of pre-production, production, and continuous improvement. In addition, JTEKT and JTEKT customers are afforded the right to verify conformance of product at the supplier premises upon 24-hour notification to the supplier.

The supplier shall support and participate, when requested or required, in JTEKT's product development process. This shall include, but not limited to, an onsite audit using the Supplier Readiness Check sheet (refer to attachment FSQM-012). The supplier may be required to perform periodic reviews using the Supplier Readiness Check sheet, Machine Capability Analysis, PPAP runoff, high volume production trials, and a production readiness review prior to start of production with JTEKT. These activities will ensure production readiness and production part approval on time.

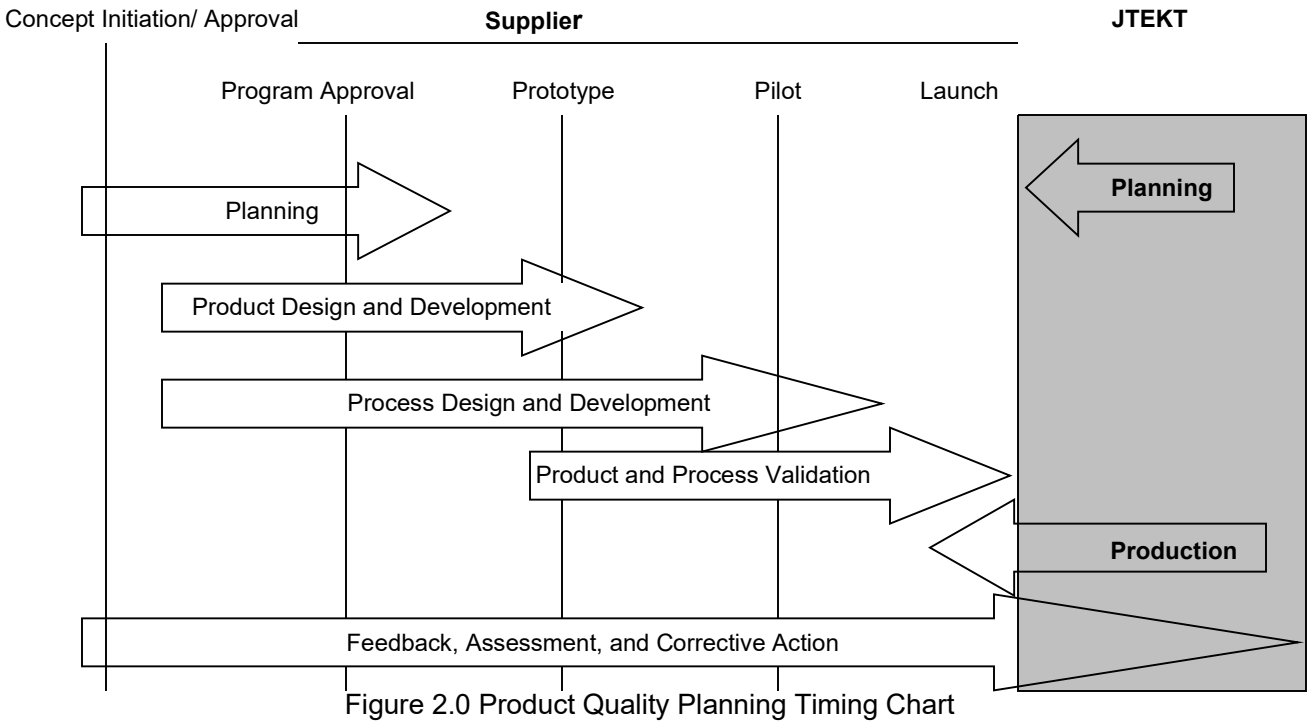


Figure 2.0 Product Quality Planning Timing Chart

2.1.1 APQP Status Reports

The supplier may be required to report their APQP status on the Supplier Readiness Check sheet (refer to attachments FSQM-012). These reports will include a detailed review of the following:

- Production Preparation Plan; a timeline including status of all tooling, equipment, facilities, and gauging for both suppliers and sub- suppliers

- Organizational chart of the entire team, including sub-suppliers (tooling, gauging, raw materials, etc.) with contact information
- Facilities, tools, and gauges
    - Capacity studies
    - Upgrades to any facilities
    - Design of tools and gauges
    - Poke -Yokes (error proofing corresponding with PFMEA)
    - Tooling, equipment, and gauge specifications and acceptance criterion
- PFMEA
- DFMEA (if applicable)
- Process flow diagram
- Part Flow Diagram – illustrating all sub-suppliers with the name of the company and their location (refer to attachments FSQM-008)
- Control plan with critical sub-supplier control plans
- Measuring systems evaluation
- Preliminary process capability studies (identification of JTEKT requirements)
- Design validation plan and report
- Packaging plan
- Sub-supplier/sub-contractor management
- PPAP submission
- Early Production Control (Pre-launch control plan, inspection check sheet, etc.)

2.1.2 Production Trials

The supplier should perform production readiness reviews and trials internally (i.e., high volume production trials, what-If trials, etc.) prior to the start of production for a minimum of two hours for all purchased parts or as required by JTEKT. The supplier should use JTEKT's Supplier Readiness Check sheet for reviews and the accompanying worksheet "Production Trial Runoff Results" for recording the data from the high volume production trials. The high-volume production trials (HVPT); i.e., run-at-rate, must meet overall efficiency, scrap, and downtime targets. Please refer to the Supplier Readiness Check sheet for typical targets. These audits will ensure that process controls, machine checklists, cycle times, work standards, inspection standards, capacity, downtime, consumable tooling, spare parts, SPC capabilities, changeover procedures and instructions, subcomponent PPAP approvals and inspections, gauging, corrective actions for downtime, scrap & efficiency, and packaging requirements are in place. The supplier must resolve all non-conformances found during the audits prior to start of production. The supplier will coordinate with JTEKT to allow JTEKT to witness the subject trials if requested by JTEKT.

2.2 Submission Requirements

The supplier shall use the requirements of the Production Part Approval Process Manual published by AIAG as a general reference guide. The following requirements are in addition to and/or for further clarification of the other requirements of the PPAP manual. In addition, the requirements listed in Sections 2.2.1, 2.2.2, 2.2.3, 2.3, 2.3.1, 2.3.2, and 2.4 are general/minimum requirements. If there are

discrepancies between this Supplier Quality Assurance Manual and the purchase order, the specified requirements of the purchase order will supersede and should be followed. JTEKT will inspect several pieces of the submitted samples for approval. If non-conformances are found, it is the responsibility of the supplier to determine the root cause and implement corrective actions. Once the corrective action has been effectively implemented, the supplier shall resubmit PPAP to JTEKT.

2.2.1 Prototype or Off-Tool Samples

When JTEKT purchase orders or agreements require prototype samples, it is acceptable to make this product from prototype tooling and/or processes. When JTEKT's purchase order or agreements require "off tool" samples, a minimum of one cavity of a multiple cavity mass production tool and non-mass production processes will be acceptable to produce these parts. The product, if possible, should be made from mass production tooling and processes. These processes do not have to be located at the mass production manufacturing location. Due to continued decreases of program lead time, however at times, JTEKT will be required to order prototype or off-tool samples.

The supplier should provide three pieces, at a minimum, from every multiple mould or cavity of each die and/ or process unless otherwise specified by the Supplier Advancement Engineer or SQE for each purchase order. The raw materials used should be the same as mass production. The pieces shall be identified with the Delivery Label of Samples Form (refer to attachments). All triangle "C, S, & K," diamond "C/ ◆," and "M" requirements shall be dimensionally inspected on three pieces from each mould or cavity used to produce the parts. Acceptance Criteria for JTEKT will be the compliance of all parts to be found in specification for all triangle "C, S, & K", diamond "C/ ◆," and "M" requirements. All triangle "C, S, & K" and diamond "C/◆," and "M" testing requirements shall be performed on a minimum of one piece. The supplier should 100% inspect a minimum of three pieces of these parts. If some dimensions are out of specification, however, this will not affect acceptance by JTEKT unless they are one of the control characteristics specified above. All of the above-mentioned data shall be packaged in one container with the **three** pieces and material certifications for all raw materials used on JTEKT's product. A Delivery Label of Samples (refer to attachments) shall be used on the outside of the package containing the parts and attached to each of the three pieces for identification of the parts. The sample submission package with parts shall be sent to each SQE of the applicable JTEKT location(s), as indicated on the purchase order(s).

2.2.2 Off-Process Samples

When JTEKT's purchase orders or agreements require off-process samples, this product shall be produced from mass production tooling and processes, and located at the mass production manufacturing location. The equipment and processes may still be in development, but the hard tooling and equipment must be that which will be used in mass production. The raw material must be the material to be used in mass production, and the processes should be run by mass production operators. The supplier should provide three pieces, at a minimum, from every multiple mould or cavity of each die and/or process unless otherwise specified by the Supplier Advancement Engineer or SQE. The pieces shall be identified with a Delivery Label of Samples (FSQM-013). All control characteristics shall be dimensionally inspected on three pieces. All control characteristics defined as testing shall be tested on a minimum of three pieces, unless the Supplier Advancement Engineer or SQE has agreed to, in writing, either a sample size of less parts or waived testing. The supplier should 100% inspect a minimum of three pieces of these parts. All above-mentioned data will be reviewed and if JTEKT finds all is in compliance, acceptance will be provided. All of the aforementioned data shall be packaged in one container with the three pieces and material certifications for all raw materials used on JTEKT's product. A Delivery Label of Samples shall be used on the outside of the package containing the parts and on each part for identification of the parts. The sample submission package containing the three parts should be sent to the SQE at the JTEKT location(s) as indicated on the purchase order(s).

Machine capability (Cmk as defined in VDA) results from all triangle "K, S,& C," diamond C/□, M, and A/□/Circle "I" requirements shall be done and meet the minimum of 1.67. Cmk results shall be taken from a minimum of 50 pieces of data from each cavity of a multiple die or mould, each process, and possible tooling unless the Supplier Advancement Engineer or SQE has agreed, in writing, to decrease

the sample size. For Cmk 50 consecutive pieces shall be taken (Stoppages and Adjustments shall not be included). The machine capability information needs to be submitted along with the OFF Process sample parts and data. Any exceptions to the above requirements must be approved by the Supplier Advancement Engineer or SQE in writing.

2.2.3 PPAP Samples

PPAP samples and packages shall be required in accordance with the latest edition of AIAG's PPAP. JTEKT will issue a purchase order for PPAP samples for each JTEKT location that will be using the mass production parts. JTEKT does utilize an on line system for PPAP requests, via the JSN (JTEKT Supplier Network) portal. JTEKT prefers the supplier submit all pertinent PPAP documentation via JTEKT Supplier Network Portal. The supplier shall provide PPAP samples from a runoff of the processes, equipment, tooling, and gauges that will be used in mass production at the mass production location using the operators to be used in mass production. A minimum of 300 pieces, or eight hours of production, based upon the desired cycle time of the equipment, shall be produced for the PPAP runoff. Results from all testing requirements shall be provided on a minimum of three pieces. Three pieces from the runoff shall be 100% dimensionally inspected and submitted with the "balloon" print to JTEKT. Capability (Ppk) results from all triangle "K, S&C," diamond C/◆, M, and A/◇/Circle "I" requirements shall be submitted and meet the minimum of 1.67. Ppk results shall be taken from a minimum of 50 pieces of data from each cavity of a multiple die or mould, each process, and possible tooling unless the Supplier Advancement Engineer or SQE has agreed, in writing, to decrease the sample size. For Ppk the 50 pieces are to be taken from the total population of the entire runoff. Any exceptions to the above requirements must be approved by the Supplier Advancement Engineer or SQE in writing. A PPAP checklist (FSQM-080) is available to guide the supplier to a successful PPAP submission.

The PPAP submission should be compiled and submitted electronically via the JTEKT Supplier Network Portal. As a backup a dark blue report cover (refer to attachments FSQM-017) with 2-piece metal fasteners that are 8 ½" center to center and include dividers (tabs) as illustrated below can be used. (confirm with the plant SQE for preference):

1. **Internal Approval**: (JTEKT use only) - This section is left blank for JTEKT use.

2. **PSWs/Certs./Drawings**.: This section should contain the Part Submission Warrant from the supplier to JTEKT and all approved sub-supplier's PSW's and the applicable drawing(s) with any applicable JTEKT specifications. The purchasing order part number should be used to confirm and match the PSW, e-PPAP header and all other PPAP documentation together.

3. **PFD/Control Plan/Inspection Std.**: Should include the Process Flow Diagram, Part Flow Diagram, Control Plan, and Inspection Standard. Please refer to attachments for each document.

4. **PFMEA**: Process Failure Mode Effects Analysis. The supplier should show actions and investigations on the top 3 RPN numbers or as designated by Plant on the PFMEA. This should be a baseline to be used to continuously improve the process along with improvements of the controls and Poka Yokes to achieve acceptable ratings.

5. **Capability Studies**: Should include raw data, histogram, and Pp & Ppk results for all control characteristics.

6. **Insp. /Test Data**: Should include the results from the 100% dimensional inspection of three pieces along with the balloon print corresponding with the data and Performance data from

all tests on a minimum of 3 pieces. All Testing must be performed by a facility registered to IATF 16949 or accredited to ISO/IEC 17025.

7. **Gage R&R/Mat. Cert/IMDS**: Should include all Gage R&Rs for all production gauges, micrometers, callipers, etc. and certification/calibration of equipment to be used to measure any of the components or final assembly of the supplier's product in accordance with IATF16949. All Material Certifications for each component used on the supplier's product should be included. All gages calibration must be traceable to National and International Measurement standards. Suppliers are responsible to monitor calibration of gauges and when an instrument is found to be out of calibration then JTEKT must be informed if suspect product or material has been shipped.

   The Supplier should be registered to the International Material Data System. There is no cost for this registration process. There is a nominal fee for training on how to use this system. www.mdsystem.com. The supplier should perform the following actions to complete the submission;

   1. Complete the material data sheet in the IMDS for all materials used on the supplier's product, following the most recent IMDS Recommendations.
   2. Include the JTEKT part number exactly as specified on the Purchase Order.
   3. Release the material data sheet, using the "Send" function in IMDS, to the IMDS Company ID for the specific JTEKT Commodity/Location.
   4. Must have IMDS ID# included on the AIAG Part Submission Warrant form

   IMDS Company ID for the specific JTEKT Commodity/Location can be found on JTEKT Supplier Network or supplier must contact directly related JTEKT plan personnel.
   The supplier should submit in the PPAP package an approved MDS ID number and a copy of the approval.
   IMDS submission should be at the earliest time possible, within a maximum of 3 months after production drawing release and updated for each design change drawing released thereafter within a maximum of 3 months of the drawing release.

8. **Tooling**: For Customer / JTEKT-owned tooling, the supplier should submit the Tooling Record (refer to attachments FSQM-005) for each item or assembly classified as tooling; Progressive Die, Aluminium Casting Die, Injection Mould, gauge, fixture, etc. If requested the supplier will submit a CD with all assembly drawings with a bill of materials, and detail drawings (i.e. core pins, punches, die sections, stripper plates, electrodes, etc.) of each tool, gauge, fixture, etc. If the supplier believes a piece of tooling is proprietary information, the supplier must request in writing prior to PPAP Submission that JTEKT agrees that drawings/specifications of the subject item will not be submitted to JTEKT.

A minimum of three PPAP sample pieces, 100% dimensionally inspected and tagged with the Delivery Label of Samples form should be included in the PPAP package and the package/container that contains the parts and documentation is to have a Delivery Label of Samples form on the box.

The PPAP package with the three parts should be sent to the SQE of each plant where mass production parts will be shipped. If the supplier's part is going to be used by JTEKT at multiple facilities, the PPAP package containing three parts should be shipped to the applicable SQE at each JTEKT facility unless approved in writing by the Supplier Advancement Engineer or SQE. PPAP Packages that include sub-suppliers must include the sub-supplier's "Signed/Approved" PSW in addition to the JTEKT supplier's Level III PPAP Package.

The supplier is not to ship production parts to JTEKT without an approved Part Submission Warrant from JTEKT.

2.3 Identification of Product

The supplier shall identify product according to the requirements set forth by JTEKT.

2.3.1 Sample Submissions

All prototypes, off process, and/or PPAP sample submissions shall consist of the supplier submitting a minimum of three pieces. Each of the three pieces shall be identified using a Delivery Label of Samples form (FSQM-013). The complete package, box, or skid containing the three pieces and the PPAP package, along with any other required parts, shall be identified on two sides with a Delivery Label of Samples form on the outside of each of the containers or boxes. This delivery label is required with each shipment of samples.

2.3.2 Initial Production or Engineering Change Parts

Upon the release of a new or changed part (revision level), the supplier shall indicate the shipment as being an initial production shipment by attaching or placing, on each container or box, a Delivery Label of Samples form. This delivery label should be on each box and on each container. In addition, the delivery label should be applied to the outside of the total package; i.e., the skid. Do not mix sample submissions, new, or changed parts with different or current production parts on the same pallet or in the same container. This is the requirement for both production and previously revised material. **The supplier shall not ship production releases until JTEKT has provided an approved PSW or an approved Request for Deviation form (FSQM-014) to the supplier.**

2.4 Annual layout inspection and functional testing

The supplier shall, at a minimum, perform one annual 100% dimensional inspection and complete all testing requirements to illustrate compliance to all JTEKT requirements in accordance with the drawing unless otherwise approved by SQE/ Supplier Advancement Engineer. The primary focus is to illustrate compliance to all dimensional and material requirements.
The dimensional inspections must be performed on each cavity or die, if multiple dies or cavities are used for production. Records of the re-verification results may be submitted to JTEKT one year from the original approval date. Annual validation documentation shall accompany the current approved AIAG Part Submission Warrant, control plan and design record of each part number. Up to date Material certification that includes chemical analysis data, material grade, and clearly states compliance to all required specifications (if applicable) shall be submitted with the annual layout unless otherwise agreed with JTEKT.
JTEKT may perform 100% dimensional inspections and applicable testing on an annual basis to verify drawing requirements are being satisfied. These inspections apply to all multiple dies or moulds with multiple cavities. The supplier shall correct and notify JTEKT Plant Supplier Quality Engineer of any non-conformance discovered from these inspections immediately.

Specific requirement for suppliers delivering to JTEKT plants in Ennis, TX; San Luis Potosi, Mexico; Morristown, TN and Vonore, TN:
Carburizing Heat Treat for steering gear components - The supplier shall perform an annual product survey (verification) per furnace to provide evidence of drawing compliance for metallurgical properties and product uniformity through the batch/run. Samples should be taken and analyzed after the tempering process. The results will be sent to the Receiving Plant Supplier Quality Engineer representative for review. Use the following sampling methods for different types of furnaces:

Batch Furnace: 9-point survey using the entire working volume of the batch furnace.

Continuous Furnace: 9-points survey spanning the entire run. Three samples in the beginning, three samples in the middle of the run, and three samples at the end of the run. Each sampling location will have the parts taken in uniform distance across the furnace width (left edge, middle, right edge).

3. Non-Conforming Product- (DMR- Discrepant Material Report)

Non-conforming or discrepant product is defined as: deviation from drawing specifications, purchase order requirements, JTEKT Group product and process specifications or standards and industry product and process specifications and standards, including but not limited to the areas of quantity, appearance, material, metallurgy, packaging, handling, shipping, delivery, cleanliness and dimensions.

When non-conforming product is detected by the supplier after product has shipped, is in transit or delivered to JTEKT, supplier shall take appropriate action to mitigate the effect including formal, detailed notification to JTEKT.

Notification shall include a clear description of the non-conformity, which includes as required: parts affected, part numbers, quantities and dates delivered or in-transit. As appropriate and required the supplier shall provide traceability information for lots or batches of material or product.

Discrepant Material Report (DMR) is used to notify the supplier of non-conformances, discrepancies and/or rejections. The DMR is sent via e-mail directly to the Supplier contact using JTEKT Global Quality Tracking System (GQTS) and can be initiated from any JTEKT facility receiving Direct Material. A DMR may be initiated upon detection of non-conforming product. Requests for corrective action may be required from the supplier.

The supplier must respond directly to the DMR issuer within the requested timeframe.
Supplier Responsiveness – JTEKT will monitor speed, timeliness and effectiveness of corrective or preventive actions using the GQTS, and may use it as input for awarding future business and monitoring performance.

Specific timing requirements will be stated on the DMR, if required. The general or default requirements are:

- A first response (team/person assigned, problem description, containment action) for a DMR shall be supplied to JTEKT within 24 hours.

- If JTEKT requires an 8D process, the first 8D report shall be submitted within 5 calendar days.

- A complete 8D and 5-Why report must be submitted to JTEKT within 14 calendar days.

If a supplier’s product is determined to be defective in material and/or workmanship, as defined by the design requirements, product(s) will be immediately contained.

JTEKT and the supplier shall determine if the product can be inspected to remove defects from the “lot” that has been contained.

If time does not allow the supplier’s personnel to arrive, the supplier shall provide detailed inspection instructions to JTEKT.

JTEKT reserves the right to approve all inspection methods.

If it is determined that inspection alone cannot detect the defect, the product(s) will be returned to the supplier or scrapped as agreed upon by the supplier and JTEKT.

JTEKT will identify any costs incurred from these defective parts and will initiate a Supplier Cost Recovery Chargeback with the supplier.

If the purchased product is needed for urgent production at a JTEKT facility, the supplier shall provide a rapid inspection team to JTEKT's production facility for inspection, or to the use of a third party inspection service with the cost of service being assumed by the supplier.
In most cases, as appropriate, the supplier shall be given the option regarding sorting method by the effected JTEKT facility.

The use of a third party to sort defective product does not relieve the supplier of their responsibility for the quality or delivery of product. If the supplier elects to certify or rework material, it is the supplier's responsibility to perform all activities and incur all costs associated with certifying or reworking the defective parts. JTEKT may have to perform sorting to eliminate production downtime prior to the supplier's visit, the supplier will be responsible for all cost. The supplier is responsible for the timely authorization to return suspect product. The supplier shall provide immediate and long-term containment to protect JTEKT from the receipt of future suspected defects. The supplier shall investigate and determine the root cause(s) of the quality issue by using the 5 Why Process.

JTEKT shall have the right to perform any, and all, necessary safe, destructive and non-destructive tests to evaluate fully the performance of the supplier's product or services.

JTEKT shall have the right to utilize the service of an independent ISO 17025 accredited testing laboratory.

The supplier shall reimburse JTEKT for the expense of said tests only if testing confirms the product or service is defective.

JTEKT must provide proper accounting of hours for inspection to the supplier.

If the purchased product is determined to be defective or non-conforming for reasons other than those defined on the design prints, the two parties will discuss and determine if containment action is required.

If containment action is required, inspection criteria will be established. If containment action is not required, the supplier's product will be approved for use in production with a proper record of using the deviation process.

3.1 Goal-Setting and Problem Resolution

JTEKT and its suppliers strive to achieve excellence in manufacturing, and may review certain JTEKT units and other companies for examples of best practices.

Best practices are business principles, often identified through benchmarking, that produce better results.

Suppliers are strongly encouraged to become familiar with these concepts and become effective practitioners of continual improvement.

Suppliers shall be able to determine areas that need correction and improvement:

- Quality results
- Supplier quality performance indicators - e.g. PPM, number of Discrepant Material Reports, etc.
- Delivery
- On time delivery, deviations in deliveries, etc.

- Cost
- Environmental activities towards a low-carbon, recycling-oriented society etc.
- Price reduction cost of quality, etc.
- Service and innovation
- Continual improvement initiative, capacity planning, invoicing problems, responsiveness to change notices, etc.

The supplier should be able to relate all goals to JTEKT requirements and priorities.

It is very important to determine the scope of the issues or processes to be studied. The supplier should identify any gaps between current processes and the requirements, determine severity of the gaps, and prioritize its efforts to minimize and eliminate gaps, using a structured, and improvement methodology.

JTEKT recognizes the 8D PROCESS for problem solving or 5Why (FSQM-026). Especially in the resolution of a nonconforming (discrepant) product using the Global Quality Tracking System (GQTS). Note: the 8D format is utilized in GQTS but the 5Why form can be forwarded to the author (JTEKT personnel) of the DMR for attachment to the affected DMR in the GQTS system.

3.1.1 Poke-Yoke (Mistake – Proofing)
When potential causes of non-conformance are determined, the supplier shall employ solutions in the process to prevent or detect these non-conformances. These solutions shall be independent of operator's actions.

3.2 Charge-Backs

All costs associated with the shipment of non-conforming product are the responsibility of the supplier. Costs shall include, but are not limited to, direct and indirect labour, downtime of JTEKT or JTEKT's customer, expedited freight to JTEKT or JTEKT's customer, any gauges, materials, fixtures, and labour associated with sorting or reworking at JTEKT or JTEKT's customer.
All costs associated with actions related to processing of justified DMR are the responsibility of the supplier and due to that JTEKT will charge these costs to the supplier. Actions associated with processing of DMR shall include, but are not limited to, issuing of internal report, issuing of complaint, organizing of containment actions, monitoring and review of 8D process etc.
The supplier will be responsible for all cost associated with shipping suspect material and replacement material. If JTEKT's production lines incur downtime or overtime, the supplier shall be charged a justifiable amount for each hour of accumulated time, per line. A line will include but not limited to all processes that manufacture a component or assemble a product; i.e. valve housing line, intermediate shaft line, rack bar line, rack and pinion assembly line, manual gear assembly line, electrical steering assembly line, worm housing line, etc. In most cases, charges will be debited to the supplier for each occurrence of a quality issue at the time the charges occur – there may be more than one debit per DMR.

4. Engineering and Process Changes

All process or tooling changes, as defined by AIAG's PPAP latest edition manual, must be authorized and approved by JTEKT. The following examples illustrate situations that substantiate engineering/process changes and the submission of PPAP:

- A new part/supplier
- New supplier for an existing part
- A design change or process change
- New tooling for an existing part
- Change in location of the supplier or sub-supplier facilities, processes, equipment, or tooling.
- Any Customer Specific Requirements over and above the JTEKT requirements, the SQAM defers to those requirements. They would be provided with the Purchase order and/or engineering drawings and specifications.

4.1 JTEKT Initiated Changes

If JTEKT initiates a design or process change, the supplier will be provided a Request for Quotation (RFQ). If the supplier quote is acceptable to JTEKT, a purchase order for PPAP and tooling will be issued. Once the PPAP submission is approved by JTEKT, by signing the PSW, the supplier can start shipping the newly revised, processed parts to JTEKT, in accordance with the blanket purchase order JTEKT Production Control and Quality Control instruction. The SQE determines the level of PPAP submission required, and upon the approval of the submission from the supplier and the receipt of a blanket purchase order, the supplier can start shipping the new product. All initial shipments must be in accordance with section 2.3.2 of this manual.

4.2 Supplier Initiated Changes

Written authorization must be obtained from JTEKT prior to implementing any product or processing changes. All engineering and process changes shall be requested through JTEKT's buyer using the applicable form (refer to each attachment FSQM-003 or FSQM-009). The supplier shall establish a system, where all departments are responsible to track all initiated change requests. If JTEKT's SUPPLIER ADVANCEMENT ENGINEER, (SAE) or Supplier Quality Engineer, (SQE) approve the form, the approved request and purchase order for PPAP will be issued. All initial shipments must be in accordance with section 2.3.2 of this manual. Any requests that are denied will be forwarded to the supplier indicating the reason for rejection. After product approval, suppliers shall not make any type of change without PRIOR written notification and approval from JTEKT. Suppliers must also make this a condition of their own entire supply chain.

An electronic PCR (Process Change Request) via the JSN portal is now on-line and should be used as a preference versus the Process Change Request form (FSQM-009). Submission of the PCR to JTEKT is required at a minimum six months prior to implementation of the intended change for approval. All changes incurred by the supplier may also require the re-submission of a Level III PPAP.

4.3 Deviations

When suppliers cannot conform to drawing or specification requirements, the supplier shall submit a Request for Deviation form (refer to attachments FSQM-014) to the JTEKT plant (SQE & Purchasing) for approval. The deviation shall be only for a short time period and must not affect fit, form, or function of JTEKT's product. JTEKT will evaluate all requests in detail and may require additional testing. Any additional testing and processing costs will be charged back to the supplier. All supporting data and reason of the non-conforming parts should be provided with the request. If JTEKT approves the request, the form will be signed and returned to the supplier. The supplier shall establish a system, where one is not present; to track all deviated parts. The supplier shall use the Delivery Label of Samples form for all shipments of deviated parts. Non-conforming material received prior to obtaining JTEKT's approval will be rejected.

5. Customer / JTEKT-Owned Tooling

Tooling purchased by JTEKT is defined as, but not limited to, stamping dies, assembly fixtures, jigs, die holders, moulds, multiple cavity dies, pallets, special gauges, consumable tooling (core pins), punches, die sections, electrodes, stoppers, collets, and special test fixtures or equipment. Tooling normally is considered to be any component or device coming in contact with the actual part being produced for JTEKT. The supplier is only responsible to provide one complete set of tools i.e. one of each of the consumable items that would be included in a complete mould, die, fixture, etc. JTEKT owned tooling shall only be used for the production of products and services purchased by JTEKT, and shall not be used for any other purpose without the expressed permission from JTEKT. The supplier shall have acceptance criteria or specification of purchased tooling and/or equipment that assures the required capability (Ppk ≥ 1.67) can be achieved. Suppliers shall make all JTEKT owned tooling available for inspection by JTEKT or its customer(s) upon request. The supplier shall allow, within 24-hour notice,

JTEKT and JTEKT's customer(s) in to the supplier's facility to observe inventory, the production of parts, and all tooling upon request. The supplier will package and make ready for shipment, and follow shipping instructions from JTEKT for all JTEKT owned tooling upon request. All tooling shall be permanently marked for identification with the appropriate customer/ JTEKT part number, including the JTEKT facility from which the purchase order was issued. A Tooling Record (refer to attachments) shall be completed and submitted to JTEKT for each tooling assembly i.e. fixture, gauge, progressive die, mould, etc. In some instances, tags may be provided for the tooling. The supplier shall maintain all tooling and shall incorporate JTEKT owned tooling in the preventive maintenance program. All tooling shall be stored so that it is not degraded and is usable at all times. The supplier shall maintain all gauges and ensure that calibration is up to date. An accredited laboratory shall calibrate gauges requiring certification in accordance with IATF 16949. All JTEKT gauges shall be included in the supplier's control of inspection, measuring, and test equipment unless an agreement is made in writing with JTEKT. All consumable tooling should have a tool life defined to allow replacement prior to creating a quality non-conformance. All JTEKT owned tooling cannot be destroyed, dismantled or altered in any fashion without written authorization from JTEKT Purchasing. Suppliers are encouraged to discuss with JTEKT Corporate Buyer on perpetual tooling arrangements.

6. Direct-Supplied Components

Direct-supplied components are parts which are purchased by JTEKT from a designated sub-supplier, and sold to a Tier 2 supplier (i.e., JTEKT's supplier). JTEKT's supplier may buy the parts from a designated JTEKT sub-supplier at the price JTEKT has negotiated. The parts may be provided directly to the Tier 2 supplier. JTEKT's supplier maintains overall responsibility for assuring the quality of the assembly and it is responsible to obtain PPAP per AIAG latest standard. JTEKT's supplier should notify JTEKT of all quality issues related to the sub-supplier's part. JTEKT's supplier should notify the sub-supplier for each quality issue and request a corrective action report 8D and 5Why.

If the JTEKT supplier cannot obtain containment, corrective action, or general support for quality issues from the sub-supplier, then JTEKT should be formally notified. Even though JTEKT's SQE has responsibility for the sub-supplier's quality, JTEKT expects their Tier 2 supplier to be aggressive in resolving all quality issues. The JTEKT Tier 2 supplier should submit a routine report illustrating the quality issues and performance on quality and delivery of the Tier 3 supplier.

7. Supplier Assessment

The supplier shall, with sufficient notice, allow JTEKT and its customer(s) to assess and/or audit their manufacturing processes and/or quality systems. These audits will determine the supplier's ability to meet the requirements of JTEKT. Manufacturing process audits are conducted using the supplier's process flow diagram and control plan as a guide. Audit frequency may vary from year to year or with the supplier's performance. Quality System audits are conducted on suppliers who have not yet certified to IATF 16949. In addition, new or potential suppliers will undergo a full quality system audit. Audits will be conducted on a frequency determined by the applicable JTEKT facility. The supplier may be requested to perform a self-audit using JTEKT's Quality Audit Evaluation (FSQM-033) & Technical Capability Audit (FSQM-052). Any non-conformances, as a result of this audit, shall be corrected in a timely manner and evidence of the corrective action shall be made available to JTEKT. IATF 16949 registration does not exempt any supplier from being audited or requested to perform self-audits, however, in some cases registration may preclude a supplier from being surveyed.

8. Supplier Development

Supplier development is an evolving process through which potential direct material suppliers are surveyed, evaluated and managed. Development is necessary to ensure that supplier requirements are clearly defined and understood, supplier quality systems meet JTEKT requirements, supplier processes are capable of yielding defect-free products, and on time delivery. JTEKT may request that the supplier works with JTEKT to enhance or improve process design, equipment and tooling selection, manufacturing productivity and cost/waste containment. JTEKT believes that direct material supplier development is necessary for new complex components and some new suppliers who do not have a

working history with JTEKT; this also is referred to as “Supplier Part Tracking Team Activity” (SPTT). Therefore, supplier development/SPTT is an ongoing process, which begins prior to the issuance of a purchase order and primarily focuses on all activities to start of production, but it can continue throughout the life cycle of mass production. JTEKT will evaluate each supplier on the following items prior to deciding if supplier development is necessary.

A. Quotation
B. Complexity of Part to be purchased
C. Design Review
D. Quality Audit Evaluation Sheet (FSQM-033)
E. Cost Improvements
F. Financial Stability
G. Supplier Performance based on JTEKT control and monitoring.
H. The Suppliers’ interactions with JTEKT.
I. Control and monitoring of the suppliers’ performance to be applied by JTEKT.

The supplier development process for a new product or supplier is outlined in the Generic Development Timeline (refer to attachments FSQM-001). The primary objectives of new supplier development are the following:

- Evaluate the existing quality systems to ensure JTEKT is supplied with quality parts on a continuous basis. Where non-conformances exist in the quality system, the supplier shall implement corrective action in accordance with ISO9001, and IATF 16949.
- Assure the supplier has the technical capability to meet JTEKT’s requirements
- Assure that design for manufacturability has been included by JTEKT.
- Define and clarify all JTEKT’s requirements for design verification testing, process capability, tooling, gauging, and adequate controls of processes for both suppliers and sub-suppliers.
- Perform APQP status reviews in accordance with Section 2.1.1. JTEKT will ensure that the overall program schedule and requirements are being met and thus allow the supplier to obtain PPAP approval on time. These reviews will be crucial to the development of the tooling, gauging, and process controls. JTEKT will provide support to help suppliers meet requirements.
- JTEKT will support the PPAP runoff to ensure the proper controls, tooling, gauging, and process capability requirements are met.
- The supplier will perform a High Volume Production Trial (HVPT) Runoff after PPAP approval is achieved but prior to Start of Production (SOP).
- The supplier shall perform Early Production Control in accordance with Section 1.7.4 therefore eliminating start-up related quality issues.
- JTEKT will encourage the supplier to develop a system for continuous improvement of quality systems and the production process leading to less variation in product, lower quality costs, and enhanced delivery

JTEKT will encourage the supplier to develop a system for continuous improvement of quality systems and production processes which will lead to less variation in product, lower quality costs, and delivery enhancement. JTEKT will provide performance data for delivery and quality. The quality data will be derived from the number of rejected parts found at JTEKT’s receiving inspection, internal process and/or during sorting by JTEKT. The supplier shall resolve all non-conformances when delivery and quality targets are not met. If problems continue affecting quality or performance, JTEKT may require development activities with the supplier, which will usually require further examinations into the root cause(s) and corrective actions pertaining to the problem(s). Development activities may include the following:

A. Quality Systems Audit with corrective actions for non-conformances
B. Process Audit
C. Corrective actions to improve process control and reduce variability

D. Corrective actions on work-in-process (WIP) for processes and/or finished goods
E. Implement systems to track efficiency, internal scrap and downtime
F. Implement or improve systems to correct scrap and downtime issues
G. Develop continuous improvement program
H. Implement corrective actions for issues regarding repetitive quality or delivery issues

JTEKT's expectations for success, suppliers must be committed to work with JTEKT to achieve:

A. Zero Defects
B. On-Time Delivery – 100%
C. Annual Price Reductions
D. Continuous Improvements
E. Cost Reductions due to VA/VE ideas, improvement of efficiency, reduction of scrap, etc.
F. Zero quality issues at start of production

8.1 JTEKT's Waste Reduction Program (JWRP)

The supplier shall support JTEKT's Waste Reduction Program which includes investigations to determine methods to increase operating efficiency, reduce both internal and JTEKT rejects, decrease material handling and packaging costs, and develop lean manufacturing concepts to reduce the cost of manufacturing. JTEKT requires approximately 50% share of cost savings associated with this effort, typically. JTEKT believes the supplier should have a system in place that will support lean manufacturing concepts. The supplier must always focus on ideas related to their own process, the sub-supplier processes and materials to develop cost reductions. This will allow the supplier to produce products at a low cost with the highest quality. The following steps need to be implemented to achieve lean manufacturing.

The supplier shall support JTEKT's Future Benefit (FB) inclusive of VA/VE / Kaizen, Cost/Waste Reduction Program which includes investigations to increase operating efficiency, reduce both internal and JTEKT rejects, decrease material handling, logistics, packaging costs, and develops lean manufacturing concepts to reduce the cost of manufacturing. JTEKT believes the supplier should have a system in place that will support lean manufacturing concepts. If support is needed, JTEKT will conduct the FB program at the supplier's site to develop cost reduction ideas.

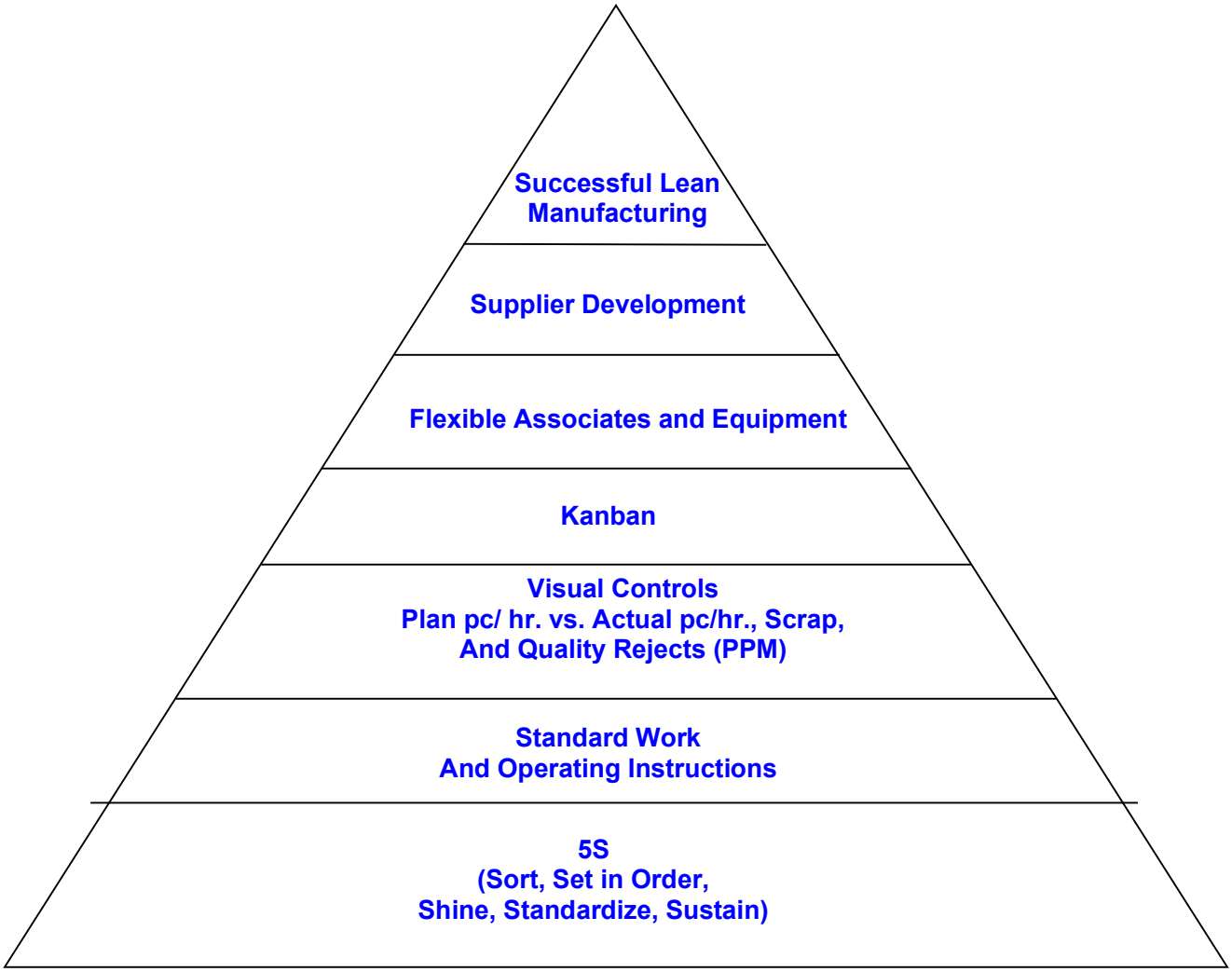
Under a FB (VA/VE or Kaizen) programs the follow cost sharing plan would be in place:

1. Ideas classified as VA/VE will be reviewed with buyer to determine share.
2. Ideas classified as Kaizen of the supplier's process would be 100% supplier's share with the agreement that the supplier participate in Annual Price Reduction (APR) negotiations.
3. Ideas classified as Kaizen of the JTEKT owned logistics would be 100% JTEKT share.
4. Ideas classified as Kaizen of the JTEKT owned packaging would be 100% JTEKT share.

Recommended techniques by JTEKT that could be used to achieve cost reduction:

- Kaizen philosophy
- Value Analysis/Value Engineering
- Brainstorming
- Benchmarking
- Cost vs. weight chart analysis
- Supply chain analysis (Tier 2, 3 or raw material localization projects, logistics, etc.)
- Quality document review (PFMEA, Control plan, etc.) for redundancy.
- FB Matrix (Value stream mapping)
- Review quality matrices for opportunities

The following diagram depicts methodologies for continual improvement.



9. General Information

JTEKT reserves the right to alter or change any portion of this document at any time. Any desire for deviation from this document shall be communicated to the supplier(s) being affected in a timely manner. This document is NOT to be provided to any other company without JTEKT's written consent. JTEKT must approve any deviation from this document in writing.

10. Additional Requirements

Suppliers shall conform to the additional requirements as determined by JTEKT.

10.1 Facilities Control

Suppliers shall establish a documented maintenance program and preservation procedures for critical processes having critical characteristics. Production areas should be clean and orderly, and free from scrap parts except in designated scrap containers.

All suppliers must have a written contingency plan that meets IATF 16949 (latest edition) requirements for all line down situations. For example: fire, utility disruptions, labor shortages, natural disasters, “acts of nature”, any infrastructure disruptions, key equipment failures, interruptions from externally provided sources, etc.

10.2 Sub-Supplier Use

Use of sub suppliers is principally prohibited on special processes. However, when it is absolutely necessary to use sub-suppliers, prior requests should be sent to JTEKT and written approval must be obtained. Any suppliers approved to use sub-suppliers for parts involving critical characteristics, special processes, or the like shall submit Supply chain documentation with customer-designated or approved external providers:

- Notification of suppliers to be used
- Notification of QA responsible person of second and subsequent suppliers
- Process flow with process controls for each operation of the process or system
- Use customer-designated or approved external providers, including process sources (e.g., special processes)

10.3 Required Quality Records and Retention Time

The supplier may be requested to provide quality documentation for each received lot. If the required documentation is incomplete, the incoming material will be held pending receipt. Quality records are material certifications, test reports, statistical data, and process capability data. Suppliers shall keep records for at least 11 years for inspection and testing, process control, actions taken against defects, corrective action records, and lot control. Records for parts used in automotive industry are required to be kept for the length of time that the product is active for production and service requirements, plus one calendar year. At the expiration of the retention time and prior to any disposal of records, the supplier will notify JTEKT of records to be disposed of and JTEKT reserves the right to request delivery of such records. In the event JTEKT chooses to exercise this right, the supplier will promptly deliver such records to JTEKT. In addition, any special requirements determined by JTEKT shall be followed. The supplier is required to maintain a quality manual containing information related to the complete quality system and provide a copy to JTEKT upon request.

Documentation, Certification, and Data Requirements for Proprietary Information
JTEKT and its customers may review, in the presence of the supplier and on the supplier premises, documentation that contains confidential and proprietary supplier information pertaining to the product manufactured for JTEKT.

10.4 Definition of Special Processes

Special processes shall be defined as any process that builds characteristics in which defect appearance is only in the actual use of the part and requires a non-destructive inspection process. Examples of special processes are:

- Heat-treating, welding
- Hot forging, casting
- Surface treatment (plating)
- Non-destructive testing
- Soldering
- Fastening
- Resin moulding
- Coatings

These processes shall conform to the critical part and characteristic control requirement as decided by JTEKT. Process parameters are to be checked routinely prior to production and documented. All

processes and key process parameters shall be captured on the Control Plan and the Process Flow Diagram.

Outsourced Heat Treatment Providers: the following data is required with each shipment of parts.

a. A copy of all the metallurgical inspection data information.
b. A copy of the supplier router/operation sheet with operator signatures.
c. A copy of the furnace temperature and quench data information.

10.4.1 Special Processes Assessment requirements

Supplier providing products or services with below listed special processes shall demonstrate compliance to relevant AIAG CQI.

- Heat treatment: AIAG CQI-9 "Special Process: Heat Treat System Assessment" latest revision and when required in addition to that suppliers for ASBU also JTEKT JHT audit.
- Plating: AIAG CQI-11 "Special Process: Plating System Assessment" latest revision
- Coating: AIAG CQI-12 "Special Process: Coating System Assessment" latest revision
- Molding: AIAG CQI-23 “Special Process: Molding System Assessment” latest revision
- Welding AIAG CQI-15 “Special Process: Welding System Assessment” latest revision
- Casting AIAG CQI-27 “Special Process: Casting System Assessment” latest revision

The supplier shall maintain relevant annual CQI assessment reports and related information at the organization's site and provide copy to JTEKT upon request.

10.5 Software Process Assessment

Suppliers of automotive product-related software, or automotive products with embedded software shall implement and maintain a process for software quality assurance for their products.
A software development assessment methodology shall be utilized to assess the supplier's software development process.

Supplier shall retain documented information of a software development capability self-assessment using suggested but not limited to the following:
- Capability Maturity Model Integration (CMMI)
- VDA Automotive SPICE (Software Process Improvement and Capability Determination)
- ISO26262 Compliance: Testing Software For Automotive. Satisfy Verification & Validation Requirements.

10.6 Organizational Changes

When changes occur within the suppliers’ organization, Designated Quality Assurance Representative Form (FSQM-002) must be submitted to the JTEKT Purchasing Department within 2 working days of the change.

10.7 Release of Drawings, Technical Regulations, and Specifications to Third Parties

It is strictly prohibited to release originals, or copies of, drawings, technical regulations, and specifications to third parties. When it is necessary to disclose information to a third party, written authorization must be obtained from JTEKT.

Suppliers shall control/handle all confidential documents and information provided by JTEKT at the same level of confidential control as JTEKT (e.g. password protected and communicated via encrypted means with any 3rd parties).

This is valid for supplier's tier supply chain support for JTEKT awarded or study business. This is valid for confidential information such as
- Data related to quality problem or claim,
- Specific customer or supplier information received under a non-disclosure agreement (NDA) or marked as confidential
- Customer or supplier drawings or development plans
- JTEKT approval drawings,
- marked JTEKT approval drawings.

10.8 Environmental Concerns Health and Safety

Suppliers are expected to adhere fully to all applicable governmental laws and regulations to protect the environment and ensure the health, safety and quality of life within their communities.

In particular, Suppliers must adhere to laws and regulations that apply to the health and safety of their workers.

No abnormal or harmful radioactivity levels shall be permitted in any material. Nor harmful elements or additives shall be permitted that are listed in any EU, ISO or local standards banning such materials at the time of shipment to JTEKT.

All materials used in product manufacture shall satisfy current government and safety constraints on restricted, toxic and hazardous materials.

JTEKT requests that the supplier notify JTEKT Purchasing department in writing of any serious safety violations or incidents within a reasonable amount of time of the occurrence.

Suppliers are required to comply with appropriate restricted or reportable substance notification on PPAP submissions.

Suppliers are encouraged to define, implement and maintain environmental management systems such as ISO 14001.
JTEKT's Global Environmental Health and Safety Policy should be reviewed and can be accessed by the link 'Global EHS Policy' on the JSN supplier portal on the same page as the SQAM.

Goals of the Supplier environmental management program should be:

- Commitment to compliance with all applicable laws, regulations and company policies relating to environmental protection, to prevent pollution at its source by minimizing emissions, effluents, and waste in the design, operation and maintenance of their facilities.

- Commitment to prevention including source reduction, recovery, reusing and recycling. Where feasible, eliminating negative environmental impacts associated with Suppliers operations and products.

- Commitment to continual improvement to increase the general awareness of environmental requirements among associates, facilitating an understanding of the environmental implications of their day-to-day responsibilities. Developing the capabilities and support mechanism necessary to achieve the Suppliers environmental policy, objectives and targets.

  More details in Green Purchasing Guideline (https://www.jtekt.co.jp/e/sustainability/guideline).

10.9 Hazardous Materials - Material Safety Data Sheet (MSDS)

All materials used in, or incorporated into JTEKT products shall satisfy current governmental and safety constraints on restricted, toxic, and hazardous materials; as well as environmental, electrical, and electromagnetic considerations applicable to the country of manufacture and sale. A Material Safety Data Sheet (MSDS) must be submitted for all items as defined under applicable regulations. Material Safety Data Sheet(s) must be submitted to the receiving location.

A Material Safety Data Sheet(s), with full disclosure, must be submitted to the receiving location for approval as soon as possible following the feasibility meeting and/or receipt of a Purchase Order. At the latest, applicable MSDS sheets must be provided to the using JTEKT plant prior to first shipment / PPAP submission of any component, raw materials, or product.

Approval of each MSDS should be obtained as early as possible in the product launch. The JTEKT using plant will notify the supplier if the MSDS sheets are not acceptable. If MSDS information is not submitted, or approval is not obtained, the first shipment PPAP submission may not be approved.

(Reference 2.8 Environmental Health and Safety)

10.10 Supplier Escalation Process

The supplier escalation process is an increased level of activity with a supplier resulting from the supplier's continuing failure to perform in the areas of quality, delivery or cost.

Supplier Quality Escalation is the methodology used by JTEKT personnel to define actions, resolve and improve overall supplier performance.

Escalation stages vary up to and include notification to the supplier's registrar of ongoing systemic quality issues or recognition that it may be in the best interests of JTEKT and supplier to discontinue doing business.

Level A escalation is the result of a supplier failing to meet expectations at the plant level for quality or delivery issues. Status is not indicated in the JTEKT GASL (Global Approved Supplier List) database.

Level B escalation is the result of continuing product, process, or system failures with a supplier. Status is indicated in the JTEKT GASL database. Escalation notification letter should be assigned to supplier attachment folder in GASL.

Level C escalation is the result of continuing process or system failures with a supplier. Status is indicated in the GASL database. Escalation notification letter should be assigned to supplier attachment folder in GASL.
Costs associated with this status may be billed back to the supplier or waived at the discretion of the appropriate purchasing representative. Suppliers with formal quality management registration (ISO 9001 / IATF 16949 / AS91000) may have their registrar notified of escalation status.
Suppliers may be required to conduct monthly meetings at their site or at the appropriate JTEKT facility in order to review and present progress towards defined goals.

Level D escalation is the recognition that it is in the best interests of JTEKT and the supplier to discontinue doing business entirely or for a particular commodity. Status is indicated in the GASL database. Escalation notification letter should be assigned to supplier attachment folder in GASL.

Regardless of the escalation status, suppliers completing corrective or preventive actions and indicating successful implementation of permanent solutions or GQTS monitoring and measurement will have their status returned to full approval by the appropriate SAE representative.

10.11 Supplier Controlled Shipping (CSI/CSII)

The intent of Controlled Shipping is to implement a rigorous process that protects JTEKT from the receipt of nonconforming parts and/or material.

Level One Controlled Shipping (CSI) - Controlled Shipping is a formal demand by JTEKT for a supplier to put in place an additional inspection process to sort for nonconforming material, while implementing root-cause analysis and corrective actions. The Controlled Shipping process is in addition to normal controls. The data obtained from the Controlled Shipping inspection process is critical as both a measure of the effectiveness of the containment process and the corrective actions taken to eliminate the initial non-conformance.

Level Two Controlled Shipping (CSII) - Includes the same processes as Level I Controlled-Shipping with an additional inspection process that is completed by a third party. JTEKT and the supplier will mutually agree upon the Third Party Company and location. The Third Party Company must be minimum certified to ISO 9001: Last Edition.

Based on the severity of issue, JTEKT determine whether Level I or Level II would be appropriate.

10.12 JTEKT Material Certification Database (MCD)

JTEKT has developed a material certification system to improve incoming material control. As required, suppliers must take the following specific actions before delivering material to any JTEKT plant for manufacture of our products.

1. Each supplier must transmit primary melt certificate to JTEKT at least 48 hours before any shipment will arrive at a JTEKT plant via either:

a. E-mail scanned certificates to: Bearing raw material or components: nrb-heatcerts@jtekt.com

Steering and Driveline raw material or components: ASBU-heatcerts@jtekt.com

b. Fax material certificates to: fax # 864-770-2395

Note: Only original heat certificates will be acceptable. **Altered certificates will be rejected.**

2. Once the certificate is received, the documents will be evaluated.

a. If material certification data does not conform to the appropriate specification or is from a Non JTEKT approved melt source, the material will be rejected and a JTEKT representative will contact you to hold all products made from this material until further notice.
Note: Suppliers will not be notified via the MCD system regarding approval status.

b. The new requirement will not change your delivery schedule unless non-conforming issues are presented.
c. Do not delay shipment waiting for confirmation. Suppliers will only be notified if there is an issue that requires resolution.

Material Certification Database (MCD) – is utilized to track and verify that all steel supplied to JTEKT facilities meets our material specifications. Suppliers are required to provide the data to populate the material certification database with the appropriate supporting data from each lot of material sold to or received by any JTEKT facilities.

10.13 United Nations Global Compact

The suppliers shall commit themselves to the United Nations Global Compact (UN Global Compact). The supplier shall have a Code of Conduct (or similar) that meets the principles of the UN Global Compact. The supplier's social policies and requirements must be communicated to their own suppliers and sub-contractors.
The UN Global Compact's principles are available at:
http://www.unglobalcompact.org/AboutTheGC/TheTenPrinciples/index.html

A Certificate of Compliance must be maintained by the supplier that includes but not limited to the fact that the supplier complies with the country of origin and destination of goods produced regulations and laws pertaining to CONFLICT OF MINERALS as defined by the United Nations as well as any CHILD LABOR LAWS. This document must be surrendered upon written demand from JTEKT at any time.

11. Supplier Quality Assurance Aerospace Provisions

11.1 Sample Plan Requirements

Sampling inspection must be in accordance to the stated customer requirements which would be identified or referenced on the Purchase Order. If no sampling inspection plan is defined, then the sampling inspection must be in accordance with latest revision of ANSI/ASQC Z1.4, "Sampling Procedures and Tables for Inspection by Attributes," which corresponds directly to MIL-STD-105x.

Acceptance criteria shall be defined by the supplier and, where required, approved by JTEKT.
For all data sampling, the acceptance level shall be zero defects C=0.

11.2 Inspection and Test Report

The seller shall maintain on file and submit upon request a report for the delivered end items or assemblies with the following information included as a minimum: part number, revision letter, part name, purchase order number, lot number, lot quantity, inspection sample size, characteristics/ parameters inspected and/or tested, inspection test data, quantity passed/rejected by characteristic, date of inspection/test, and signature/stamp of seller's inspection / test representative.

11.3 Certificate of Conformance (C of C)

Seller shall prepare and submit a certification of conformance to JTEKT for each shipment made under a Purchase Order (or each designated item if specific items are designated in the body of the Purchase Order.) The certification shall be signed by the Seller's Responsible Quality Representative as evidence that the deliverable product conforms to stated requirements: i.e., Material Certifications, Process Requirements, Supplier Qualification Status, Hardware Qualification, etc.

Completion of the Certificate shall not modify or limit any representations, warranties or commitments made or in any way affect the obligation of seller to perform strictly in accordance with the provisions of the Purchase Order.

The following information shall be provided as a minimum: seller's name, quantity of shipment, lot numbers/date codes/serial numbers if applicable, JTEKT part number and drawing revision, country in which part was manufactured, JTEKT purchase order number and revision, and a statement that all other applicable requirements as called out by the purchase order, drawings or specifications have been met.

11.4 First Article Inspection

Unless otherwise directed by the customer, the First Article Inspection shall be completed in accordance with the JTEKT Corporate Procedure 'First Article Inspection (FAI) Instruction for Catalogue Off-The-Shelf (COTS) and Special Orders (SO), (W-QM-42701-COR).

On the first initial production and the first article produced, subsequent to design change incorporation, the seller shall perform and document a comprehensive inspection and test of that article to assure articles' conformance with all drawing and specification requirements. When multi-cavity moulds/dies are used, First Article Inspection is required for each cavity.

A new First Article Inspection shall be required if:

- A significant design or process change, material change or sub-supplier change has been made that affects the original First Article and is applicable only to those characteristics affected by the change. Note: "Significant" change is defined as any change that affects the form, fit or function of the end product.

- The item has not been produced for a period of one year

- A change in facilities utilized to produce the article has taken place.

The seller's report shall provide, as a minimum: purchase order number, part number, revision level, part name, seller's name, drawing requirements (including tolerances), method used to obtain results and actual results of each measurement. Part(s) used for the inspection shall be identified when shipped to JTEKT as "First Article Inspection Sample". First Article data, regardless of format, shall accompany the first shipment to be delivered.

11.5 Traceability

The seller shall establish and maintain a system for traceability of supplies to their source (including sub tier suppliers) by lot, batch, heat, melt and part. Records of traceability shall be maintained by the supplier as part of this objective evidence of quality control and acceptability, and such records shall be made available to representatives of JTEKT. See section 1.4 for additional details.

11.6 Documentation Retention

The seller is required to maintain all documentation on file for a minimum period of eleven years from date of last delivery, unless otherwise specified by the purchase order. All other requirements of the modified notes(s) are still applicable. Documentation required by the drawing or specification must be complied with achieved records.

11.7 Change Approval

Upon approval by JTEKT as a qualified source, through first article or first lot acceptance, the seller shall not make any changes in design, materials or processes which may affect the acceptability (dimensional, visually, functionally, durability, etc.) of the items to be delivered to JTEKT without prior notification and approval of JTEKT. For the purpose of this clause, a process is defined as any procedure, system or practice used during the manufacture or production of a deliverable item (i.e. machining, de-burring, heat treating, soldering, cleaning, finishing, etc.).

Examples of process changes that require customer notification and approval are as follows:

• Change in inspection and/or testing methods.
• Changes in product design or processing of components e.g. process flow, new equipment, equipment modification and any Special Processes used in the manufacture of the end item including components manufactured by the seller or a sub-tier supplier.

• Change of sub-tier suppliers.
• Production from new or modified tools, dies, moulds including replacements (excluding perishable tools).

See section 1.5 for additional details.

11.8 MRB Authority

Unless otherwise specified in the purchase order, the seller and/or any of their sub-tier suppliers do not have authority to process “USE-AS-IS”, “REPAIR”, “STANDARD REPAIR PROCEDURES (SRPS)” or “NON-SRPS” via their internal material review board (MRB).

These dispositions, as well as deviations and request for waivers, requiring MRB disposition shall be submitted to JTEKT for approval. The seller shall contact JTEKT purchasing to obtain a waiver form.

Any rework will be reviewed with JTEKT via a waiver form.
All designated scrap shall be disposed in such a manner that the scrap material cannot be re-used.

11.9 Customer Property Provision

U.S. Government property is material or objects that the U.S. Government owns or supplies; and is in the possession of the seller.

The seller shall follow the Federal Acquisition Regulation (FAR) 52.245-2 for any U.S. Government property for which JTEKT is responsible.

The seller shall not rework, repair or scrap the U.S. Government property without getting approval from the JTEKT Contract Administrator.

11.10 Right of Access

JTEKT, its Customers and/or their Regulatory Authorities reserve the right to conduct a survey at the seller’s and/or sub tier Supplier’s facility, including all manufacturing processes and documentation used in the manufacturing of products on the purchase order, to determine compliance with the requirements of the purchase order. See section 1.2 for further information.

11.11 Compliance with Department of Defence FAR Supplement (DFARS) 252.225-7014, “Preference for Domestic Specialty Metals” Alternate I (latest date)

Any specialty metals, as defined in paragraph (a) of the following clause, included in any articles delivered to JTEKT must comply with this clause, and you must flow down 252.225-7014 Alt 1 to all of your vendors supplying any articles delivered under a JTEKT purchase order that include specialty metals. Specialty metals must be melted in the United States, its outlying areas, or a qualifying country listed in DFARS 225.872-1, contracting with qualifying country sources.

252.225-7014 Preference for Domestic Specialty Metals
As prescribed in 225.7002-3(b)(1), use the following clause:
PREFERENCE FOR DOMESTIC SPECIALTY METALS (latest date)
(a) Definitions. As used in this clause—
(1) “Qualifying country” means any country listed in subsection 225.872-1 of the Defence Federal Acquisition Regulation Supplement.
(2) “Specialty metals” means—
(i) Steel—
(A) With a maximum alloy content exceeding one or more of the following limits: manganese, 1.65 percent; silicon, 0.60 percent; or copper, 0.60 percent; or
(B) Containing more than 0.25 percent of any of the following Elements: aluminium, chromium, cobalt, columbium, molybdenum, nickel, titanium, tungsten, or vanadium.

(ii) Metal alloys consisting of nickel, iron-nickel, and cobalt base alloys containing a total of other alloying metals (except iron) in excess of 10 percent;
(iii) Titanium and titanium alloys; or
(iv) Zirconium and zirconium base alloys.
Any specialty metals incorporated in articles delivered under this contract shall be melted in the United States or its outlying areas.
(c) This clause does not apply to specialty metals—
(1) Melted in a qualifying country or incorporated in an article manufactured in a qualifying country; or
(2) Purchased by a subcontractor at any tier.
(End of clause)

ALTERNATE I (APR 2003)
As prescribed in 225.7002-3(b)(2), substitute the following paragraph (c) for paragraph (c) of the basic clause, and add the following paragraph (d) to the basic clause:
(c) This clause does not apply to specialty metals melted in a qualifying country or incorporated in an article manufactured in a qualifying country.

The Contractor shall insert the substance of this clause, including this paragraph (d), in all subcontracts for items containing specialty metals.

11.12 Flow Down Requirements
The supplier shall communicate the flow down requirements to its external providers including customer requirements.

11.13 Supplier Personnel Qualification Documentation
The seller shall maintain on file and submit upon request evidence that personnel are trained, competent, and required qualification to perform the required tasks necessary to manufacture the product being shipped. In addition, personnel are made aware of their contribution to product and service conformity, their contribution to product safety and the importance of ethical behaviour.

11.14 Prevention of Counterfeit Parts
The organization shall plan, implement, and control processes, appropriate to the organization and the product, for the prevention of counterfeit or suspect counterfeit part use and their inclusion in products delivered to the customer.

11.15 Compliance with AS9100, *Quality Systems - Aerospace - Model for Quality Assurance in Design, Development, Production, Installation and Servicing*, latest revision
Seller shall implement a system to comply with AS9100, latest revision.
In case of suppliers for JTEKT plant Sylvania, seller shall communicate current certification to this standard with JTEKT or provide an updated plan to achieve certification.

12. List of forms

FSQM-001	Development Timeline
FSQM-002	Designated Supplier Quality Assurance Representative
FSQM-003	ECR Change Request
FSQM-004	Inspection Standard
FSQM-005	Tool Record
FSQM-006	Packaging Approval Request
FSQM-008	Part Flow Diagram
FSQM-010	Control Plan
FSQM-011	Production Preparation Plan
FSQM-012	Supplier Readiness Check-sheet & Production Trial Run-off Results
FSQM-013	Delivery Label of Sample

FSQM-014 Supplier Deviation Request Flow Chart & Supplier Request for Deviation
FSQM-033 Quality Audit Evaluation Sheet
FSQM-052 Technical Capability Audit
FSQM-017 PPAP example - hardcopy
FSQM-018 Supplier Feasibility
FSQM-026 5WHYS Template
FSQM-080 PPAP Checklist

13. Revision history

Revision number	Date	Section	Revision
0	November 2011	Initial release	
1	May 2012	SQAM cover sheet	European plants corrected on the SQAM cover sheet to use right names of these legal entities.
1	May 2012	1.2 Certification of Direct Material Suppliers	Revised table.
1	May 2012	1.5 SPC/ Capability Requirements	Changed the words from Product/Process Capability Criteria form to Inspection Standard (FSQM-004).
1	May 2012	8. Supplier Development	Added form number to Supplier Survey (FSQM-016).
2	November 2012	1.1 Scope	Revised to specify term “supplier”.
2	November 2012	1.2 Certification of Direct Material Suppliers	Revised table to include service providers adding no manufacturing value.
2	November 2012	3.1 Goal-Setting and Problem Resolution	Added form number to 5Why form (FSQM-026)
2	November 2012	12 List of forms	Added section no. 12 with list of forms mentioned in SQAM.
3	May 2013	3.2 Charge-Backs	Described costs associated with DMR processing.
3	May 2013	1.1 Scope	Revised to specify term “supplier”
3	May 2013	8. Supplier development	Indirect material suppliers deleted from SQAM.
3	May 2013	1.6, 1.7, 2.1.1 and 2.2.3	Removed QA Map
4	October 2013	1.1.2 and 1.5.1	Added statement: “and any applicable specifications”. Moved Delta S symbol to Key Characteristic (with safety and legal consideration) category.
5	June 2014	10.4, 11.10, 11.12	Added items to clarify requirements – coatings, paragraph on Outsourced Heat Treatment Providers, and Supplier Personnel Qualification.
5	June 2014	1.3	Added text: “The supplier’s quality or sales contact loaded in GASL is considered as a Product Safety Responsible associate from the supplier and due to that this person must have external qualification for the basics of Product Safety and Product Liability law.”
5	June 2014	10.7	Added text: “JTEKT’s Global Environmental Health and Safety Policy should be reviewed and can be accessed by the link ‘Global EHS Policy’ on the JSN supplier portal on the same page as the SQAM”.
5	June 2014	1.5	Corrected typist error at the limit for Gauge R&R for significant characteristics.
5	June 2014	1.3	Added text: “Company Koyo/JTEKT generally applies a zero defects strategy. In addition to the

			supply contract regulations on defective and other liability complaints, the supplier must agree a quality improvement programme with the respective Supplier Advancement engineer in writing if faults occur. If no written agreement exists, the supplier shall be required to halve any faults that occur every year."
5	June 2014	Cover sheet	Bearing plants Koyo Romania S.A. & Koyo Bearings (Europe) Ltd were added into the scope of the SQAM.
6	January 2015	2.2.3	**Added text:** "IMDS Company ID for the specific JTEKT Commodity/Location can be found on JTEKT Supplier Network or supplier must contact directly related JTEKT plant personnel".
6	January 2015	10.12	Added new section 10.12 United Nations Global Compact
6	January 2015	10.4.1	Added new section 10.4.1 Special Processes Assessment requirements
6	January 2015	Cover sheet	JTEKT plants Koyo Bearings North America (KBNA) and JTEKT Automotive North America (JANA) were added into the scope of the SQAM and Koyo Bearing Espana S.A.U. was removed.
7	July 2015	1.4	Added text: The supplier traceability internal controlled document records include but are not limited to: lot numbers, raw materials and sub-components receive dates / consumption dates, production dates / range, process and machine parameters history, maintenance-repair history, manpower changes, inspection dates and evaluation test results, finished goods ship dates, process changes etc. The supplier must have FIFO at their plants and shall confirm their lower tier's FIFO to support and sustain traceability. FIFO must be followed for all materials and sub-components through all production stages and parts completion, until finished goods delivery. Updated requirement regarding heat separation: Heat separation is needed unless otherwise specified/agreed in written by JTEKT.
7	July 2015	11.5	Corrected typist error at section number.
7	July 2015	8	Corrected typist error at section number.
7	July 2015	Cover sheet	JTEKT plant JTEKT AUTOMOTIVE MEXICO, S.A.DE C.V. was added into the scope of the SQAM.
7	July 2015	4.3	Modified text: FROM: When suppliers cannot conform to drawing or specification requirements, the supplier shall submit a Request for Deviation form (refer to attachments FSQM-014) to the SQE for approval. TO: When suppliers cannot conform to drawing or specification requirements, the supplier shall submit a Request for Deviation form (refer to attachments FSQM-014) to the JTEKT plant (SQE & Purchasing) for approval.

7	July 2015	10.6	Added text: Suppliers shall control/handle all confidential documents and information provided by JTEKT at the same level of confidential control as JTEKT (e.g. password protected and communicated via encrypted means with any 3rd parties). This is valid for supplier's tier supply chain support for JTEKT/Koyo awarded or study business. This is valid for confidential information such as - data related to quality problem or claim, - specific customer or supplier information received under a non-disclosure agreement (NDA) or marked as confidential - customer or supplier drawings or development plans - JTEKT/Koyo approval drawings, - marked JTEKT/Koyo approval drawings.
7	July 2015	7	Changed number of JTEKT's Quality Audit Evaluation sheet from FSQM-016 to FSQM-033. Added Technical Capability Audit FSQM-052.
7	July 2015	8	Changed number of JTEKT's Quality Audit Evaluation sheet from FSQM-016 to FSQM-033.
8	August 2016	2.4	Changed section's name to Annual Layout inspection and functional testing. Added text: Up to date Material certification that includes chemical analysis data, material grade, and clearly states compliance to all required specifications (if applicable) shall be submitted with the annual layout unless otherwise agreed with JTEKT.
8	August 2016	1.2	Added text: Organizations currently certified to ISO9001 by a certification body who does not bear one of the recognized accreditation body logos listed on the IAF MLA website, have until 31 December 2017 to transfer to a certification body who meets the IATF's requirements or follow the requirement for a second party audit. For a list of IAF MLA accreditation bodies and their accreditation marks, go to http://www.iaf.nu
8	August 2016	1.5	Added text: The supplier shall demonstrate process capability according to AIAG PPAP manual using Ppk process capability index and acceptable level is Ppk ≥ 1.67 unless otherwise agreed with JTEKT. Defined minimum number of samples (125 parts) for Cp/Cpk. Deleted text: Short-term (ST) and Long-term (LT).
8	August 2016	1.5.1	Added capability indexes Cmk and Cgk Added text into the table: unless otherwise agreed with JTEKT
8	August 2016	2.2.3	Changed minimum number of required samples for Ppk.

8	August 2016	2.2.2	Added text: Machine capability (Cmk as defined in VDA 4) results from all triangle “K, S, & C,” diamond C/□, M, and A/□/Circle “I” requirements shall be done and meet the minimum of 1.67. Cmk results shall be taken from a minimum of 50 pieces of data from each cavity of a multiple die or mould, each process, and possible tooling unless the Supplier Advancement Engineer or SQE has agreed, in writing, to decrease the sample size. For Cmk 50 consecutive pieces shall be taken (Stoppages and Adjustments shall not be included). Any exceptions to the above requirements must be approved by the Supplier Advancement Engineer or SQE in writing.
8	August 2016	2.2.3	Added text: A PPAP checklist (FSQM-080) is available to guide the supplier to a successful PPAP submission.
8	August 2016	1.5	Added text: When used in the monitoring and measurement of specified requirements, the ability of computer software to satisfy the intended application shall be confirmed. This shall be undertaken prior to initial use and reconfirmed as necessary. Confirmation of the ability of computer software to satisfy the intended application would typically include its verification and configuration management to maintain its suitability for use.
9	June 2017	11.1	Modified text: FROM: Sampling inspection must be in accordance with the latest revision of ANSI/ASQC Z1.4, “Sampling Procedures and Tables for Inspection by Attributes,” which corresponds directly to MIL-STD-105x. TO: Sampling inspection must be in accordance to the stated customer requirements which would be identified or referenced on the Purchase Order. If no sampling inspection plan is defined, then the sampling inspection must be in accordance with latest revision of ANSI/ASQC Z1.4, "Sampling Procedures and Tables for Inspection by Attributes," which corresponds directly to MIL-STD-105x.
9	June 2017	11.4	Added text: Unless otherwise directed by the customer, the First Article Inspection shall be completed in accordance with the JTEKT Corporate Procedure 'First Article Inspection (FAI) Instruction For Catalog Off-the-Shelf (COTS) and Special Orders (SO), (W-QM-42701-COR).
9	June 2017	11.4	Modified text: FROM: A significant design or process change has been made that affects the original First Article and is applicable only to those characteristics affected by the change TO: A significant design or process change, material change or sub-supplier change has been made that affects the original First Article and is applicable only to those characteristics affected by the change. Note: "Significant" change is defined as any change that affects the form, fit or function of the end product.

9	June 2017	11.6	Seven years changed to eleven years
9	June 2017	11.7	Modified text: FROM: Changes in product or processing of components used in the manufacture of the end item including components manufactured by the seller or a sub-tier supplier. TO: Changes in product design or processing of components e.g. process flow, new equipment, equipment modification and any Special Processes used in the manufacture of the end item including components manufactured by the seller or a sub-tier supplier.
9	June 2017	11.8	Modified text: FROM: These dispositions, as well as deviations and request for waivers, requiring MRB disposition shall be submitted to JTEKT for approval (this does not include rework or scrap). The seller shall contact JTEKT purchasing to obtain a waiver form. TO: These dispositions, as well as deviations and request for waivers, requiring MRB disposition shall be submitted to JTEKT for approval. The seller shall contact JTEKT purchasing to obtain a waiver form. Any rework will be reviewed with JTEKT via a waiver form. All designated scrap shall be disposed in such a manner that the scrap material cannot be re-used.
9	June 2017	10.7	Added text: JTEKT requests that the supplier notify JTEKT Purchasing department in writing of any serious safety violations or incidents within a reasonable amount of time of the occurrence”.
9	June 2017	1.1.2	Added text: Suppliers to JTEKT are responsible to cascade all JTEKT requirements down the supply chain to the point of manufacture.
9	June 2017	1.4	Added text: For products with safety characteristics the supplier shall ensure product traceability by manufactured lot (at a minimum) throughout the supply chain unless otherwise agreed with JTEKT in written form.
9	June 2017	1.2	Added text: The ultimate objective for suppliers who are delivering parts used for automotive industry is to become certified to IATF 16949.
9	June 2017	1.3	Added text: Product Safety Responsible Associate is required to train all relevant supplier associates in product safety characteristics and processes.
9	June 2017	10.1	Added text: All suppliers must have a written contingency plan that meets ISO 9001:2015/ IATF 16949:2016 requirements for all line down situations, fire, utility disruptions, labor shortages, natural disasters, “acts of nature”, any infrastructure disruptions, key equipment failures , interruptions from externally provided sources, etc.

9	June 2017	10.3	Modified text: Records for parts used in automotive industry are required to be kept for the length of time that the product is active for production and service requirements, plus one calendar year, unless otherwise specified by JTEKT or regulatory agency.
9	June 2017	2.2.3	Added text: All gages calibration must be traceable to National and International Measurement standards. Suppliers are responsible to monitor calibration of gauges and when an instrument is found to be out of calibration then JTEKT must be informed if suspect product or material has been shipped.
9	June 2017	Where applicable	ISO/TS 16949 replaced by IATF 16949
9	June 2017	10.5	Added new section 10.5
9	June 2017	10.8	Added text: JTEKT requests that the supplier notify JTEKT Purchasing department in writing of any serious safety violations or incidents within a reasonable amount of time of the occurrence.
9	June 2017	10.6	Added text: When changes occur.
9	June 2017	2.2.3	Added text: or submit electronically (confirm with the plant SQE for preference
9	June 2017	1.3	Modified text: The supplier shall support JTEKT throughout the life of the program plus 1 year.
9	June 2017	10.12	Modified text: FROM: Certificates with pencil modifications will be rejected. TO: Altered certificates will be rejected.
9	June 2017	NA	Added numbers to used tables.
10	Dec. 2017	Cover page	Corrected name of legal entity KOYO Bearings Vierzon Maromme SAS and deleted Colmar office.
10	Dec. 2017	11.13	Added new section 11.13 Prevention of Counterfeit Parts The organization shall plan, implement, and control processes, appropriate to the organization and the product, for the prevention of counterfeit or suspect counterfeit part use and their inclusion in products delivered to the customer.
10	Dec. 2017	4.0	Added the comment about Customer Specific Requirements (CSR).
10	Dec. 2017	4.2	Added information about electronic submission of PCRs (Process Change Request) via JSN portal.
10	Dec. 2017	8.0	Added wording to clarify JTEKT's expectations for successful suppliers.
11	Jan. 2019	1.2	1/ Added note 4. 2/ Added ISO 45001 as new norm replacing OHSAS 18001.

11	Jan. 2019	10.5	Added text: - ISO26262 Compliance: Testing Software For Automotive. Satisfy Verification & Validation Requirements.
11	Jan. 2019	2.2.3	Modified text: FROM: JTEKT uses an on line system for PPAP requests, in GASL (Global Approved Supplier List) PPAP Module. TO: JTEKT does utilize an on line system for PPAP requests, via the JSN (JTEKT Supplier Network) portal. When requested by JTEKT, the supplier shall submit PPAP documentation via JTEKT Supplier Network.
11	Jan. 2019	4.2	Modified text: FROM: Submission of the PCR to JTEKT is required at a minimum of three months prior to implementation of the intended change for approval. TO: Submission of the PCR to JTEKT is required at a minimum of six months prior to implementation of the intended change for approval.
11	Jan. 2019	1.5	Table 2 – Added new symbols used by JTEKT/Koyo Europe.
11	Jan. 2019	10.12	Added email address for submission of melt certificate for Steering and Drive line.
11	Jan. 2019	10.13	Added information about Certificate of Compliance.
12	October 2019	1.2	Removed the wording “Organizations currently certified to ISO9001 by a certification body who does not bear one of the recognized accreditation body logos listed on the IAF MLA website, have until 31st December 2017 to transfer to a certification body who meets the IATF’s requirements.”
12	October 2019	2.2.3	Added information about JTEKT “prefers” PPAPs submitted by the JTEKT Supplier Network Portal. Section 2. Also was added that the purchase order part number should be used to match the PSW, e-PPAP header and all other PPAP documentation together. Added text: IMDS submission should be at the earliest time possible, within a maximum of 3 months after production drawing release and updated for each design change drawing released thereafter within a maximum of 3 months of the drawing release.
12	October 2019	2.2	Added text: the supplier shall use.
12	October 2019	2.4	Added text: current approved AIAG Part Submission Warrant…..
13	December 2020	2.4	Added text: Specific requirement for suppliers delivering to JTEKT plants in Ennis, TX; San Louis Potosi, Mexico; Morristown, TN and Vonore, TN: Carburizing Heat Treat for steering gear components. The supplier shall perform an annual product survey (verification) per furnace to provide evidence of drawing compliance for metallurgical properties and product uniformity through the batch/run. Samples should be taken and analyzed after the tempering process. The results will be sent to the Receiving Plant Supplier Quality

			Engineer representative for review. Use the following sampling methods for different types of furnaces: Batch Furnace: 9-point survey using the entire working volume of the batch furnace. Continuous Furnace: 9-points survey spanning the entire run. Three samples in the beginning, three samples in the middle of the run, and three samples at the end of the run. Each sampling location will have the parts taken in uniform distance across the furnace width (left edge, middle, right edge).
13	December 2020	10.4.1	Added AIAG CQI-15 and CQI-27
14	May 2021	2.1	Added text: JTEKT and JTEKT customers are afforded the right to verify conformance to product at the supplier premises upon 24-hour notification to the supplier.
14	May 2021`	`8	Added text: H. The Suppliers' interactions with JTEKT. i. Control and monitoring of the suppliers' performance to be applied by JTEKT.
14	May 2021	10.2	Added text: Any suppliers approved to use sub-suppliers for parts involving critical characteristics, special processes, or the like shall submit Supply chain documentation with customer-designated or approved external providers: • Use customer-designated or approved external providers, including process sources (e.g., special processes)
14	May 2021	10.3	Added text: At the expiration of the retention time and prior to any disposal of records, the supplier will notify JTEKT of records to be disposed of and JTEKT reserves the right to request delivery of such records. In the event JTEKT chooses to exercise this right, the supplier will promptly deliver such records to JTEKT.
14	May 2021	11.12	Added 11.12 and text 11.12 Flow Down Requirements The supplier shall communicate the flow down requirements to its external providers including customer requirements.
14	May 2021	11.13	Added text: The seller shall maintain on file and submit upon request of evidence that personnel are trained, competent, and required qualification to perform the required tasks necessary to manufacture the product being shipped. In addition, personnel are made aware of their contribution to product and service conformity, their contribution to product safety and the importance of ethical behaviour.
14	May 2021	11.15	Added Section and Text: Compliance with AS9100, Quality Systems - Aerospace - Model for Quality Assurance in Design, Development, Production, Installation and Servicing, latest revision Seller shall implement a system to comply with AS9100, latest revision. In case of suppliers for JTEKT plant Sylvania, seller shall communicate current certification to this standard with JTEKT or provide an updated plan to achieve certification.

15	April 2023	1.3, 3.1, 10.8	Added OEM derived sustainability requirements
15	April 2023	Throughout	Removal of “Koyo” due to rebranding of JTEKT