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REVISION								REVIEW	
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1.0 Introduction

1.1 Purpose:

The purpose of this Supplier Quality Requirement Manual (SQRM) is to specify MacDon Quality system requirements to our suppliers. MacDon recognizes that communication and understanding of goals and expectations are key elements to a successful operation.

1.2 Scope:

This SQRM applies to all intercompany and external Suppliers of production materials as well as direct Outsourcing Suppliers/Subcontractors referenced herein as “suppliers”. This manual describes the quality system requirements for current and prospective suppliers. This manual is under the control of MacDon Supplier Quality Group, which is responsible for supplier evaluations and surveillance, by assessing their conformance to the system and process requirements of this manual.

1.3 Responsibility:

Suppliers are responsible for complying with the Supplier Quality Requirements Manual. Failure to meet the requirements may result in the loss of existing and/or future MacDon business.

2.0 Quality Management System (QMS) Requirements

All current and potential Suppliers to MacDon must be able to demonstrate with objective evidence that they have implemented and maintained an effective Quality Management Systems. Registration to ISO 9001:2008 international standard is not a mandatory requirement but it is preferred. The effectiveness of the supplier QMS shall be assessed by MacDon supplier quality engineering. A Supplier Self Assessment Audit and / or On Site Audit will be completed prior to the approval of a purchasing agreement.

When requested, the Supplier must also be able to demonstrate compliance to national and / or international standards and regulations for health, safety and environmental impact relative to its business.

3.0 Pre-award meeting

At the discretion of the MacDon, a pre-award meeting for new or current suppliers offering new products or services may be conducted prior to the commencement of supply. Technical, quality, manufacturing, engineering, purchasing, delivery, and business issues shall be reviewed during this meeting to provide the supplier with a thorough understanding of MacDon requirements.

3.1 Engineering Prototype Sample Submission

During the development and validation phases of the launch, the Supplier may be requested to work with MacDon New Product Development (NPD) team to resolve production and manufacturing issues prior to production launch.

Engineering prototype parts with documentation of specification conformance shall be submitted for engineering validation testing. As applicable, each sample or prototype shall be accompanied by a completed dimensional results form, material test results report, and performance test results report. Specific instructions will be issued by MacDon.

4.0 Approval Process for Production Parts

4.1 FAI/Part Approval Process

Every Supplier of production material is required to submit required documents and samples as specified by Supplier Quality for each part number prior to initial shipment of product unless otherwise instructed by MacDon. All proposed design and / or process changes must be authorized in writing by MacDon. The Supplier shall not make any changes in part design, material, or manufacturing processes without prior approval from MacDon.

As applicable, all key characteristics as defined by MacDon must be accompanied by process capability studies conducted on a minimum of 32 pieces unless otherwise specified. Key characteristics must demonstrate capability of > 1.67 CpK and a Gauge Repeatability and Reproducibility (GR&R) study indicating a gauge error of less than 10%. When requested the Supplier will submit process flow diagrams, FMEA and process control plans with the initial sample. The documents will be reviewed and approved by MacDon Supplier Quality Engineering.

Documented results of the review by MacDon may be provided to the Supplier indicating approval of the submitted sample. Such approval does not release the Supplier from liability for failure to adhere to the applicable specifications and/or drawing requirements referenced on the purchase order. Nor does it imply or ensure that **NO** future rejections may be made against their shipments.

In the event of a rejected Part Approval submission, all pertinent material shipped to MacDon will be rejected and returned to the supplier. Samples which are not approved will require resubmission by the Supplier to MacDon. Written approval by MacDon is required prior to authorization for production.

Items affected by implementation of approved Material Change Notice must be **segregated, identified and packed separately** from other production material, parts and assembly. FAILURE TO COMPLY WILL RESULT IN REJECTION OF MATERIAL, PARTS AND ASSEMBLIES RECEIVED.

All tooling, drawings and documentation owned by MacDon shall remain the property of MacDon and shall be clearly marked that they are the property of MacDon. Supplier shall maintain all tooling and fixtures to the latest engineering revision at all times. MacDon reserves all rights of inspection or removal of all tooling and fixtures at any time, at no cost to MacDon (except for freight charges).

4.2 Verification of Purchased Product:

The supplier shall allow MacDon, all reasonable access to verify, product and subcontracted product conformance to specified requirements, at supplier's premises. Whenever this element is required, MacDon shall specify both the arrangements and method of performing the inspections.

4.3 Annual Validation:

Annual validation may be required and may include full dimensional layouts, capability studies, material testing and performance testing.

4.4 Supplier Change Notification

MacDon considers all the elements making up the process for all parts, at all suppliers are critical. Supplier cannot make changes without MacDon approval once the process or part has been validated and approved. Change request submission should be coordinated with Buyer and SQE. Failure to comply with these requirements will render the supplier fully responsible for absorption of all costs resulting in failures attributable to the change. Written change requests must be approved by MacDon in writing prior to change implementation.

5.0 Tooling, Gauging & Measuring Equipment Control

All MacDon supplied tooling becomes the responsibility of the supplier while in their possession as agreed in writing stating the scope of responsibility. The equipment must be maintained in a reasonable condition and subjected to an appropriate calibration process where applicable. All MacDon supplied tooling must be returned when requested by MacDon. The supplier shall notify MacDon in the event of any calibration failures that may affect any products previously supplied. Products affected by serial number or batch reference shall be identified.

6.0 Handling, Labeling, Preservation, Packaging and Packing

The Supplier shall accomplish identification, cleaning, preservation, and packaging and packing in accordance with the applicable drawings, specifications and instructions as referenced on the purchase order.

6.1 Certificate of Conformance

When a Certificate of Conformance (CofC) is identified by the Purchase Order or the supplier quality requirements, a copy of the CofC must accompany each shipment to MacDon of the specified material. The actual content of the CofC will clearly identify the full compliance to all MacDon requirements, including requirements of this document, MD-QMSM-200 SUPPLIER QUALITY REQUIREMENT MANUAL.

6.2 Source Inspection

At the discretion of MacDon, the items covered by the purchase order are subject to MacDon Source Inspection and/or tests prior to shipment from Supplier's plant.

6.3 Inspection of Supplies

Quality records shall be available upon request by MacDon and shall be retained by the Supplier for a minimum of five years after the last part pursuant to the purchase order, is delivered to MacDon.

Inspections under this paragraph are for audit purposes only and shall not release the Supplier from its obligations to conform to any drawing or quality requirements.

7.0 Product Quality Assurance

MacDon expects its Suppliers to be aggressive with continuous improvement efforts to their processes in order to achieve zero defects. This plan must include education and training in problem solving techniques, employee involvement, and cost of quality, with implementation target dates, assigned responsibility and regularly scheduled Quality Management Reviews.

Process capabilities and special characteristics must be demonstrated to ensure that the initial process capability is CpK $\geq$ 1.67 unless otherwise specified on the Purchase Order. The Supplier shall prepare documented process monitoring and operator instructions for all employees having responsibilities for the operation of a process in order to maintain production capability of $\geq$ 1.33 CpK. For any characteristic that does not meet the above criteria, corrective action plan must be submitted for approval. Those items not meeting the capability criteria will be on a Containment plan until capability of >1.67 CpK is demonstrated.

The Supplier shall comply with all specifications required by the drawing and engineering specifications. These requirements cover the **MINIMUM** inspection necessary to assure compliance with established requirements.

All functional characteristics shall be inspected by the Supplier using one (1) or more of the following:

- Sampling plan based on performance.
- One hundred percent (100%) inspection, for all features with unstable process CpK<1.33.
- Implementation of a Statistical Process Control program.

Sampling procedures, inspection records, examinations, and/or test reports must be complete and available to MacDon Quality department as required.

The Supplier is responsible to conduct inspections and tests at a frequency in accordance with applicable test methods or procedures, drawing requirements, and engineering specifications. Unless otherwise specified, the Supplier may utilize its facilities, or those of any certified laboratory to conduct such tests.

Unless otherwise specified, the Supplier shall provide and maintain gauges and other measuring and testing equipment considered necessary for conformance to the applicable tolerances. The inspection gauges, devices, etc. shall be calibrated periodically in accordance with suitable calibrating equipment.

MacDon reserves the right to conduct, by its staff or third party agent's systems, and follow up, audits, at the Supplier's facility, at no increase in cost or delays, to MacDon. Access to the Supplier's facility or facilities shall be granted to MacDon representatives to investigate production facilities and any information pertinent to the Supplier's end product sold to MacDon. Reasonable notification shall be given prior to an audit being conducted.

An inventory management system shall be established to continuously optimize inventory turns, stock rotation (FIFO) and minimize inventory levels.

The Supplier will maintain such inventory levels as required to buffer any quality, capacity or delivery concerns that may reasonably arise. Revision or drawing changes pertinent to materials, parts and assemblies currently in production must reflect the change at the established effective date of incorporation.

8.0 Sub Supplier Control

MacDon Suppliers are required to control and develop their supply base. Sub Suppliers that provide products with key characteristics must implement appropriate control methods for their process. The Supplier must review sub Supplier controls and continuous improvement efforts on a periodic basis to ensure conformance to drawing specifications, and Quality System performance. If you should require assistance in the control of sub Suppliers, a MacDon Supplier Quality representative should be contacted.

9.0 Record and Product Sample Retention

Suppliers must have method of allowing for the safe and accessible storage of all records including procedures, documentation, data and samples pertinent to MacDon product and processes for a minimum period of 5 years

If a supplier stops production to MacDon, such a supplier still responsible for the maintenance of above mentioned documentation for the same period of time.

10.0 Regulations and Directive applicable in Europe

To follow the regulations in Europe the Supplier must warrants the goods comply in all respects with all statutory requirements (of any status) or regulations of the European union applicable thereto which shall be in force at the date of delivery and thereafter, and that the Supplier has complied with all of its obligations in relation to the goods under any such statutory requirements or regulations, including, but not limited to, Regulation (EC) No1907/2006 concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), Directive 2002/95/EC restricting the use of certain hazardous substances in electrical and electronic equipment.

11.0 Order of Precedence

The contents of the SQRM are in addition to and an elaboration of the terms and conditions contained in the MacDon purchase order and other binding legal agreements entered into between the parties relating to the supplier relationship ('Supplier Contract(s)'). To the extent that a conflict or ambiguity may arise between the terms and conditions of the Supplier Contract(s) and the contents of this SQRM the order of precedence shall be: 1) the Supplier Contract(s) and 2) the SQRM.

The provisions of this SQRM are for the exclusive benefit of MacDon and may be varied or modified by MacDon, in its absolute discretion, without prior notice to any third party.

This SQRM is a controlled document and the property of MacDon. It is intended exclusively for use by MacDon suppliers and shall be used for no other purpose or by any other party. It shall not be reproduced, electronically or otherwise, without MacDon express prior written authority. All rights are expressly reserved by MacDon.

12.0 Acknowledgement

Acknowledge Receipt of the MacDon Supplier Quality Requirements Manual

The Company _____

Acknowledges receipt of MacDon Supplier Quality Requirement Manual and undertakes, unless agreed in writing, to meet all the requirements of its contents in the execution of existing and future orders passed by MacDon.

Name _____ Designation _____

Signature _____ Date _____

Please return this acknowledgement to:

Supplier Quality Assurance
MacDon Industries
680 Moray Street
Winnipeg, Manitoba
Canada R3J 3S3