Supplier Quality Requirements (SQR). This manual is intended for use by Kohler Co., Engine Division suppliers and shall not be duplicated in any way. To verify the latest version of this document go to www.kohlerengines.com/sqr. For additional information about supplying **Kohler Co**., go to www.kohler.com, select About Kohler Co., then **Supplying Kohler Co.**

Supplier Quality Requirements

供货商质量要求

The Kohler Engine Division will provide one level of finest quality for all products to our customers. It is our objective to supply products and services that are a discernibly better value to our customers than our competition. Everyone in the Division has the responsibility for the quality of our products and the value provided to our customers.

科勒发动机部将会向我们的客户提供标准统一的高品质的产品。我们的目标是，给我们的客户提供明显高于我们竞争对手的产品和服务。在这个部门的每一个人都应当对我们提供给客户的产品、质量和价值负责。

...Kohler Engine Division Quality Policy

...科勒发动机部质量政策

KOHLER ENGINES

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This document is controlled and maintained by the Manager of Supplier Quality. The Manager of Supplier Quality must approve changes and/or revisions.

本文件受供货商质量控制经理控制和维护。

供货商质量控制经理必须对本文件的更改和/或修订版本进行认可。



Document Revision History

文件修订版本历史

Revision	Date	Released By
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This manual is intended for use by Kohler Co. Engine Division suppliers and shall not be duplicated in any way. To verify the latest version of this document, go to www.kohlerengines.com/sqr. For additional information about supplying to Kohler Co. go to www.kohler.com; select About Kohler Co.; then Supplying Kohler Co.

本手册旨在用于科勒发动机部供货商，不得采取任何的方式进行复制。若需查询本文件的最新版本，可在www.kohlerengines.com/sqr进行查询，若需更多额外的向科勒公司供货的信息，请访问www.kohler.com；选择科勒公司，然后再选择向科勒公司供货

The following manual has been reviewed and approved by:
以下手册已经过检查并获得相关人士认可：

James Heldt, Supplier Quality Manager
James Heldt, 供货商质量控制经理
(Signature on file)
（在文件上署名）

Russell Chung, Director of Purchasing
Russell Chung, 采购总监
(Signature on file)
（在文件上署名）

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Section 1.0 Introduction

At the Kohler Engine Division (hereafter referred to as Kohler Co.), we recognize the critical role quality plays in our success. We are committed to meeting our customer's quality needs and expectations of excellence by pursuing continuous quality, delivery and productivity improvements. A large segment of our quality performance is dependent on you as our supplier.
在科勒发动机部（以下简称科勒），我们认识到质量在我们成功中所起到的关键作用，我们致力于：达到客户的质量要求，通过对质量，运输以及产量改进的持续追求，达到预期。而达到这一质量性能的要求在很大程度依赖于您——我们的供货商。

1.1 Purpose of Supplier Quality Requirements (SQR): The purpose of this SQR manual is to promote a clear understanding of Kohler Co.'s expectations and minimum quality requirements for suppliers. 供货商质量手册要求的目的（SQR）：供货商质量要求手册的目的是促进供货商，对科勒的预期以及对最低质量要求有一个清楚的认识。

1.2 Scope: This standard applies to all suppliers of production, service, and subcontract material to Kohler Co. 范围：本标准对所有的生产件供货商，售后件以及科勒材料分包商都适用。

1.3 Concept: Suppliers to Kohler Co. are expected to establish quality systems and procedures to ensure that all materials are produced in conformance to the required Kohler Co. specifications at their locations and throughout their supply chain. 概念：科勒供货商应当建立起质量体系和程序，以确保在供货商处及其整个供应链，用以生产的所有材料的规格都与科勒的要求相符。

1.4 Verification of Requirements: Kohler Co. reserves the right to audit contracted products, and applicable processes/systems associated with those products, at the supplier's premises at any time. 对要求进行确认：科勒保留对所有外包产品，以及与这些产品相关的应用过程/系统，在供应商的生产场所随时进行审计的权利。

1.5 Additional Resources: Please refer to the Automotive Industry Action Group (AIAG) manuals: Failure Mode and Effect Analysis, Advanced Product Quality Planning and Control Plan, Production Part Approval Process, Quality System Requirements, Statistical Process Control, and Measurement Systems Analysis for further details. These documents can be ordered from the AIAG as a "7-pack" by contacting AIAG Customer Service at (248) 358-3003, or on-line at www.aiag.org. 额外的资源：请参见美国汽车工业行动集团手册（AIAG）：失效模式与效果分析，产品质量先期策划，及控制计划，生产件批准程序，质量系统要求，统计过程控制，以及为更多细节所作的测量系统分析。这些文件即"7-pack"，可以拔打美国汽车工业行动集团 AIAG 的客户服务部处电话：(248) 358-3003，或者从www.aiag.org网站上进行订购。

1.6 Kohler Co. reserves the right to update this manual at any time and the supplier is expected to verify the latest version of this manual at www.kohlerengines.com/sqr, or contact Kohler Co. Supplier Quality for verification (reference Appendix A for contact information). 科勒公司保留对该

手册随时进行更新的权力，供货商可在www.kohlerengines.com/sqr网上，或直接与科勒公司进行联系以查询最新的版本。

For further explanation of the Kohler Co. Supplier Quality Requirements Manual, contact Kohler Co. Supplier Quality, Purchasing, or Engineering departments.
若需科勒公司关于供货商质量要求手册更进一步的说明，请与科勒公司供货商质量，采购或工程部进行联络。



Section 2.0 第 2.0 章

Print Change Process 图纸变更程序

Change Notifications from Kohler Co. 自科勒公司的变更通知

2.1 All changes to, or releases of, drawings are forwarded to suppliers with the following: Form PUR-007 - Print Revision or Release Notification, accompanied by the newly revised/released print. 所有变更或已释放并转发给供货商的图纸都应当具备：PUR 007 表——图纸修订版本或放行通知，以及最新的版本/放行的图纸。

2.2 Kohler Co. Purchasing has the responsibility to send the above referenced documents and to ensure the completed form PUR-007, Print Revision or Release Notification is returned from the supplier. All completed forms PUR-007 must be retained in Kohler Co.'s supplier file for least the length of time the revision remains in effect. 科勒采购部负责将上述文件发给供货商，并确保完成 PUR-007 表，供货商不需要退回修订的图纸或放行通知。填写完毕的 PUR-007 表必须返回到科勒并在供货商文件中进行保存，保存时间至少是在修订版本有效期内。

2.3 An example of form PUR-007, Print Revision or Release Notification follows. If you answer "No" to any of the items on this form, please provide details and supporting documentation. 以下是 PUR-007 表，图纸变更及放行通知的样本。如果在本表中有任何项目为" 否" ，请提供详细的信息以及支持文件。

Date:

Supplier: _____

_____

Attention: _____

Attached please find the latest drawing for Kohler:

Part No.	Description	Revision

Any previous prints should be destroyed. It is imperative that you respond with the requested information within **5 days** to the buyer signed below.

PPAP Level Required is indicated with an "X" in the appropriate box below:

Level 1	Level 2	Level 3	Level 4	Level 5

Samples Required: Samples other than PPAP must be driven from a Kohler Co. Purchase Order. Reference the Kohler Engines Supplier Quality Requirements Manual (SQR) for processing and shipping samples. PPAP samples should be sent to the attention of the buyer and supplier quality representative, if known, and quantities are driven by the guidelines set in Section 4.3 of the SQR.

The Kohler Engines Supplier Quality Requirements Manual (SQR) is available online at **www.kohlerengines.com/sqr**. To access it, copy and paste the **entire** URL address into your browser's address box.

Submit the PPAP electronically to **PPAP@kohler.com**. It is imperative that you include the following information in the subject line: **Commodity Type, Kohler Part Number, Part Description**

This new part # will be replacing part # _____ upon successful release of the Kohler Qualification of the new part #.

The information below must be completed by the Supplier and returned

Yes	No	Consideration
		Is product adequately defined (drawings, specifications, etc.), to enable feasibility Evaluation?
		Can Engineering Performance Specifications be met as written?
		Can product be manufactured to tolerances specified on drawing or defined by notes or specifications?
		Can product be manufactured with Cpk's that meet requirements (ref. SQR, section 4.12)?
		Is there adequate capacity to produce product?
		Does the design allow the use of efficient material handling techniques?
		Can the product be manufactured without incurring any unusual:
		• Costs for or to capital equipment?
		• Costs for or to tooling?
		• Alternative manufacturing methods?
		Are you able to provide statistical process control?
		Is statistical process control presently used on similar products?
		• Are the Processes in control and stable?

Uncontrolled Document - Reference Only

Conclusion

"X"		Statement
	Feasible	Product can be produced as specified with no revisions.
	Feasible	Changes recommended per form PPAP 14 (ref. SQR, Appendix D)
	Not Feasible	Changes are not feasible without design changes

Question	Response From Supplier	
Lead time in weeks or days required to make a change		
Lead time in weeks PPAP submission		
Change in price	**From**	**To**
Is there a tooling requirement to implement the new revision or part #?	☐ **Yes**	☐ **No**
Is it new tooling or a modification to existing tooling?		
Are there other Kohler part #'s produced with this tooling today?		
Can all previous parts continue to be manufactured after tooling is made?	☐ **Yes**	☐ **No**
Quantity of existing inventory if applicable.		

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The timing of the production changes will be governed by the purchase orders.

Kohler Co. is only liable for inventories produced by authorization of a Kohler purchase order.

Per the Kohler Engines Supplier Quality Requirements Manual (SQR) – no shipments of production quantity can be made until PPAP approval is granted.

Thank you in advance for your cooperation in this matter.

Sincerely,

Kohler Co.
Engine Division, M.S. 097
444 Highland Drive
Kohler, WI 53044

The individual signing below has the authority from the supplier listed above to submit the information contained herein.

Submitted by: _____
Title: _____

Date submitted: _____

KOHLER ENGINES

2.4 Kohler Co. Purchasing Expectations: 科勒公司采购预期

- Request for Quote (RFQ) and accompanying documents (drawing, packaging specification, etc.) are read and understood by the supplier. 供货商已阅读并了解询价书（RFQ）以及相关文件（图纸，包装要求等）。
- Supplier has completed a cross-functional review of the design and specifications. 供货商已完成跨职能部门对设计和规格的详细检查。
- All areas of the Request for Quote (RFQ) form are completed, including, but not limited to: 已完成询价书中的各个方面，包括但不仅限于下述的几个方面：
    - Unit Price 单价
    - Tooling Costs 模具成本
    - Number of parts tools will produce 模具可产出的零件数
    - Lead time for production parts, tooling, and sample parts 生产件及样件交货时间
    - Payment Terms 付款条款

- Freight Terms 运价条款
- Date 日期
- Signature 签名

- Drawing Acceptance Form (K-7452) is signed by supplier functional areas approving the design. When disapproving, the supplier must provide a list of necessary or recommended changes. 图纸接收单（K-7452）已经过供货商职能部门的签署，设计已得到认可。当供货商不认可时，必须提供一个必要的或推荐的变更清单。
- All tooling or gauging, including changes to current tooling that may be required, has been considered and included in the quote. 所有的模具或检具，包括当前使用的模具都有可能要求进行改进，应当包含在报价内。
- Provide a response by the requested due date. 在要求的到期时间前给予回复。

Identify any print issues at this time. We rely on your expertise to determine if the design is manufacturable, and prefer to learn of dimensional / tolerance issues at drawing acceptance instead of at PPAP.

在这个时候确认所有的图纸问题。我们依赖你们专家的意见来确认图纸上的零件是否是可制造的，并期望在图纸会签而不是生产件提交的时候来听取你对几何尺寸/公差的意见。

Supplier Change Request 供应商变更请求

2.5 On occasion, a supplier may want to make a design or process change to a part supplied to Kohler. To communicate this change for consideration, the supplier will need to initiate a "Supplier Request for Change" (Form PPAP14, see Appendix D – Supplier Request for Change), through the Kohler Purchasing Representative. The change request will circulate through Kohler for approval and will help define Kohler's requirements from the supplier for the change. 在某些情况下，供货商可能会要求对提供给科勒公司的零件作出设计或工艺上的变更，考虑到对这一变更进行交流，供货商需要通过科勒公司的采购代表发送" 供货商变更请求" （生产件批准程序

PPAP14 表，见附件 D——供货商变更请求）。该变更请求将会在科勒公司内部分发以获得批准，并协助说明来自供货商变更请求中科勒公司的要求。

2.6 In order to help the Kohler project engineers understand the requested change, a minimum 30 data point distribution chart with Cpk process capability may be required for tolerance related changes. In addition, the supplier shall supply a Cpk process capability and a drawing layout with the corresponding measurements. All data must be supplied with the request. 为了帮助科勒项目工程师了解变更请求，有可能要求用 Cpk 值来对工艺能力进行测试的方式，对与公差相关的变更作至少 30 分钟的数据点分布图。另外，供货商应当提供与该测量相关的 Cpk 工艺能力及平面图纸，所有数据都应当与该请求一并进行提交。

2.7 If the characteristic is classified as critical, emissions, or major, a sample size of 100 is required for the distribution chart and run charts. In addition, the supplier shall supply a Cpk process capability. All data must be supplied with the request. 若该处被定义为关重特性，与排放或主要的位置相关，则要求提供一个样本为 100 的分布图以及运行图。另外，供货商应当提供 Cpk 工艺能力数据，所有的数据都应当与该请求一并进行提交。

*Suppliers unable to hold drawing tolerances must contact the buyer for a deviation to ensure Kohler Co. will accept product. Deviations are utilized as short term fixes until long term solutions are implemented. Long term solutions include changes to drawings through Kohler Co.'s PCR System. Deviations are outlined in Section 12 of this manual.
*供货商若不能达到图纸中的公差要求，必须与采购进行联系并获得让步接收许可，以确保科勒公司将同意接收这些产品。让步接收可作为短期的解决方案，直到实施长期的解决方案为止。长期的解决方案包括通过科勒公司在 PCR 系统中进行更改，让步接收在本手册中的第 12 章中有概述。

Section 3.0 第 3.0 章

General Requirements 基本要求

3.1 Quality System Requirements: Kohler Co. prefers suppliers that implement and maintain a quality system that meets the requirements of ISO-9000 and/or TS-16949. The supplier shall have a quality policy and documented quality program in support of their design and manufacturing operations that meet the minimum requirements of this manual. 质量系统要求：科勒公司会对那些能够执行 ISO-9000 和/或 TS-16949 的要求，并对其质量系统进行维护的供货商进行优先选择。供货商应当具备质量政策，并对质量程序进行归档，以便对其设计和制造过程提供支持，以达到本手册的最低要求。

3.1.1 Each supplier shall complete a Supplier On-Site Assessment form, provided by Kohler Co., prior to submitting any samples or PPAP packages. The Supplier On-Site Assessment form can be initiated by anyone; however, it must be forwarded to Kohler Co. Supplier Quality for review. The supplier shall document and maintain a program of internal auditing to ensure continuing control and compliance to the procedures used to meet the requirements of this manual. Information regarding the results and corrective actions of self audits shall be made available to Supplier Quality or Purchasing upon request. 在提交任何样品或生产件批准程序 PPAP 文件包之前，第一个供货商都必须完成科勒公司提供的供货商现场评估表。供货商现场评估表可由任何人发起，然而这个评估表必须被发送回科勒公司供货商质量部进行评审。供货商必须对文件归档并进行维护以确保内部审计控制的持续性，且使用的程序与本手册中的要求相一致。在供货商质量或采购员的要求下，供货商应当提供关于自我审计的结果和整改措施的相关信息。

3.1.2 Quality will be measured on a continuous basis and will be reported to Kohler Co. upon request. Business and process controls are required to prevent incidences of defective product from reaching Kohler Co. or its customers. All quality related problems require analysis and correction in compliance with Section 7 - Defect Resolution. 质量问题将连续进行检测，并按科勒公司的要求进行汇报。要求对商务及过程进行控制以便预防将不合格的产品送达科勒公司或科勒客户的手中，所有与质量相关的问题都要求进行分析，并按第 7 章——缺陷分辨力的要求进行修正。

3.1.3 As part of the documented quality program, the supplier shall provide a key contact list. Supplier shall promptly notify Kohler Co. Purchasing and Supplier Quality of any changes to the key contact list. 作为质量程序证明文件的一部分，供货商应当提供主要联络人员清单，任何主要联络人员发生了变化，供货商都应当立即通知采购员。

3.2 Warranty Participation: Suppliers will provide Kohler Co. with technical assistance, field support, and financial support to rectify any substantiated non-conformances. Kohler Co. will ensure a

process for the return of sample parts. 保修参与：对任何证明与要求不一致的问题，供货商会向科勒提供技术协助，现场支持及财政支援，科勒公司会确保样件退回的程序。

3.3 Prohibited Practices: 禁止的行为：

3.3.1 Unauthorized Repairs: Supplier may not repair parts damaged or found to be faulty or non-conforming during fabrication without prior approval from Kohler Co. Supplier Quality. No tooling owned by Kohler Co. shall be "repaired" or changed in anyway without consent and approval of Kohler Co. Supplier Quality and Purchasing. 未认可的返修：在未得到科勒供货商质量部的认可之前，供货商不得对受损的零件，或在生产过程中已发现有缺陷或不合格的产品进行返修。在未得到科勒公司质量或采购部的认可或批准之前，不得对科勒名下的模具进行" 修模" 或作出任何形式的变更。

3.3.2 Change in Approved Processes, Material or Procedures: Supplier shall not change any process, material, or procedure without prior notification and re-submittal of samples and PPAP (reference Section 4.0). 已认可的过程，材料或程序的变更：在通知和提交样件及文件之前，供货商不得对任何工艺，材料或程序进行更改（参见第 4.0 章）。

3.3.3 Unauthorized Submittal of Production Parts: No production parts will be shipped without an approved PPAP for the drawing level being supplied or an approved deviation (reference Section 12) prior to shipment. Qualification parts can be shipped as long they are in the form of an "EX" part number or Kohler Co. purchase order. PPAP samples shall be identified as PPAP samples and shipped in a separate carton from current production parts. Form PUR-007, Print Revision or Release Notification must be completed by the supplier, returned to Kohler Co., and approved by Kohler Co. before production quantity purchase orders are generated. 未认可的生产件提交：在发运零件之前，如该零件未获得按图纸级别所提交的生产件批准程序或获得让步接收（参见第 12 章）的认可文件，则此生产件不得进行发运。进行质量认证的零件只要是具备" EX" 零件号，或科勒公司采购订单，都可进行发运。对生产件批准程序 PPAP 样件进行确认，并将其与当前的生产件分开发运。在生成量产采购订单之前，供货商应当完成 PUR-007 表，图纸修订和或放行通知并将其返回科勒公司以获得科勒公司的批准。

3.3.4 Notification of Facility Change: Supplier shall not relocate any production, manufacturing, and/or processing facilities during performance of the purchase agreement without promptly notifying Kohler Co. Purchasing of an opportunity to examine such facilities for compliance as outlined in this manual. Kohler Co. Supplier Quality and Purchasing shall determine the level of requirements necessary prior to relocating manufacturing, and provide approval to the supplier. Changes in supplier status, part approval, and incoming inspection requirements may result. . 工厂变更通知：在采购合同期内，供货商不得对生产件的生产，制造和/或生产设备进行重新部署，并按本手册中的要求，及时告知科勒公司

采购部，以对这些设备的一致性进行审查和认可。科勒供货商质量和采购应当在生产进行重新部署之前给供货商提供一个认可要求的级别，这些变更有可能导致供货商状态，零件批准和收货检验要求的变更。

3.4 Supplier's Records of Objective Evidence/Record Retention: Quality records shall be stored in a suitable environment or system, e.g. a building that affords protection against physical risks of loss or damage, with suitable heating and ventilation to avoid damage from condensation or damp penetration. The building(s) should have a current fire certificate. Access to the records shall be controlled to prevent theft, malicious damage, fraudulent use, or corruption of the records. Quality records include, but are not limited to, the following: 供货商客观证据记录/记录保持：质量记录应当被储存在一个适当的环境或系统中，如：一个能够抵抗自然丢失或损坏风险的带防护的建筑物，有适当的暖通和通风以避免湿气渗透引起的损坏，理论上，该建筑物应当具备防火证书。这些记录应当进行控制以防止偷窃，蓄意破坏或欺诈性使用或记录。质量记录文件包括但不仅限于以下内容：

- Supplier's Release Documents 供货商发行的文件
- Test Reports, Material Certification, Chemical Analysis 检验报告，材料证明文件，化学成分分析
- Route Cards/Travelers 工艺流转卡/随行文件
- Non Conformance Notes/Reject Notes不合格产品通告/退回产品通告
- Non-Conforming Resolution (corrective and preventive action) 不合格产品分辨（纠正及预防措施）
- SPC data relating to parts, to include first article, full layouts and any inspection records与零件相关的统计过程控制数据SPC，包括首件，全尺寸以及检查记录

Retention of these documents shall be a minimum of the life of the part plus 3 years. 这些文档至少应当是在产品使用周期后额外再保存3年以上。

3.5 Traceability 可追溯性

3.5.1 Material Traceability – The supplier's quality system shall ensure that all products are traceable to raw materials or components used in the manufacturing process, production operation, date of manufacture, revision level, and records of evaluation of conformance. All products shall have positive identification at all times to address these requirements via date codes, lot numbers, or other means where applicable. 材料的可追溯性——供货商质量系统应当确保在生产过程中所使用的原材料或组成部分，生产操作，生产日期，修订版本级别，以及一致性的评估记录都是可追溯的。任何时候，所有的产品都应当具备明确的证明文件，通过日期编码，批号或其它适用的方式进行确认。

3.5.2 Record Traceability – The quality system shall ensure that all applicable quality records and data are traceable to the appropriate drawing revision level. 记录的可追溯性——质量系统应当确保所有的适当图纸修订级别，都可通过正确的质量记录和数据进行追溯。

3.6 Advanced Product Quality Planning (APQP): Product quality begins with design. Therefore, from initial product concept through production, the supplier and Kohler Co. must understand and agree on all applicable quality standards and requirements. Agreement must be reached on all critical quality characteristics, control items, checking fixtures, packaging requirements, and all other quality related matters. Kohler Co. prefers that suppliers use the advanced product quality planning techniques (as they apply) described in the AIAG Advanced Product Quality Planning and Control Plan manual (www.aiag.org). 产品质量先期策划（APQP）：产品质量始于设计，因此，从最初的产品概念到生产，供货商都必须理解适当的质量标准和要求并与科勒达成一致。对所有的关键质量特性，控制项目，工装夹具的检查，包装要求和所有的与质量相关的问题上达成一致，科勒会优先选择那些，按美国汽车工业协会 AIAG 的产品质量先期策划和控制计划手册中所描述的，运用产品质量先期策划技术来对其产品进行控制的供货商。

Section 4.0 第 4.0 章

Production Part Approval Process (PPAP) 生产件批准程序（PPAP）

4.1 The Kohler Co. Production Part Approval Process (PPAP) has been benchmarked from the Automotive Industry Action Group. (2006). *Production Part Approval Process (PPAP),* (4th Ed.). Southfield, MI: Author.) The purpose of the PPAP is to determine if suppliers have understood all Kohler Co.'s requirements, and if processes have the potential to produce parts that meet these requirements consistently. Permanent changes from Kohler Co. are documented through an internal change control system. The change control system provides information to suppliers defining PPAP submission level within form PUR-007 - Print Revision or Release Notification, as outlined in Section 2. In addition, submission of PPAP documentation may also be the result of changes at the supplier as identified in section 4.5. 科勒公司的生产件批准程序（PPAP）是按照美国汽车工业行动集团 AIAG（2006）版指定的标准执行的。*生产件批准程序（PPAP），（第4版），*Southfield, MI: 作者）。生产件批准程序 PPAP 的目的是确认供货商是否已了解科勒公司的要求，生产工艺是否有连续达到产品要求的潜力。来自科勒公司的永久性变更文件将通过内部变更系统来进行归档，如第 2 章中所述，变更控制系统中表 PUR-007——图纸变更或放行通知，给供货商定义了生产件批准程序提交级别的相关信息。另外，作为供货商变更结果的生产件批准程序 PPAP 文件的提交在 4.5 章中有述。

4.2 Kohler Co. prefers electronic submission of PPAP documentation in Adobe Acrobat© .pdf format (reference Appendix A –Contact and Electronic Submission Information). 科勒公司优先选择用 ADOBE 生成的的电子版本的 PDF 文档生产件批准程序 PPAP 提交文件（参考附件 A——联络人及电子版本提交信息），

4.3 Production Part Samples. For production parts, samples for PPAP shall be taken from the initial production run. This production run shall be from one to eight hours of production, with a minimum of 300 parts, unless otherwise specified by an authorized Kohler Co. representative. Reference tables 4.3.1 and 4.12. The production run shall be conducted at the production site, using production tooling, production gauging, production process, production materials, and production operators. If any of the part specifications cannot be met, the supplier shall document their problem solving efforts and shall contact the authorized Kohler Co. representative. 生产样件：对于生产件，或生产件批准程序 PPAP 提交的产品数据都应当是从最初的生产运行中获取的。这一生产运行过程应当是在生产的 1 到 8 个小时内获取，除非有科勒代表的特别授权，至少是 300 个零件，参见表 4.3.1 和 4.12 的内容。生产运行应当是在生产现场，使用量产产品模具，产品检测工具，生产工艺，产品材料和生产操作工人来进行的。如果不能达到产品规格的要求，供货商应当将问题解决方法进行书面记录，而且应当与科勒公司的代表进行联络。

4.3.1 Pre-Production Runs/Samples. The supplier must have authorization from the Kohler Co. Supplier Quality prior to applying any exceptions.预生产运行/样件： 供应商在进行任何非常规的生产时必须获得科勒公司供应商质量部的认可。

Capability Sample Size 生产能力样件数	Requirement 要求
100 piece data set from a 300 piece minimum production run **至少是从生产运行中采集 300 件，并获得其中 100 件的数据**	**Process capability for new production tooling, material or process settings for all major, critical and emission related dimensions. Kohler Co. reserves the right to add dimensions to this requirement.** **所有与关重和排放相关的尺寸，都要求进行生产模具，材料或工艺设置的工艺能力分析。科勒公司保留增加检测尺寸的要求。**
If the initial production run is less than 300 pieces **若首次生产运行的数量少于 300 件**	**Use partial data (minimum 30 pcs) for the preliminary capability study for all required dimensions. When additional orders arrive, continue to collect the data until a 100 piece sample is reached.** **使用部分的数据（到少为 30 件）对所有要求的尺寸作初步的能力测试分析。当得到额外的订单时，继续对数据进行收集直到达到 100 个样件为止。**
If the initial production run is less than 30 pieces **若首次生产运行的数量少于 30 件**	**100% dimensional and visual inspection is required for each dimension as defined by a Kohler Co. representative, until more data is available and a more reliable capability study report is submitted. When additional orders arrive, continue to collect the data until a 30 piece sample is reached.** **要求对科勒公司所定义的每个尺寸进行 100%的测试以及目测，直到具备更多的数据并提交一个更为可靠的能力分析报告。当得到额外的订单时，继续对数据进行收集直到达到 30 个样件为止。**

4.4 Submission Requirements: An initial level 3 PPAP submission is required for all new production quantity parts, unless otherwise specified. If the PPAP level required is in question, contact Kohler Co. Supplier Quality or Purchasing. 提交要求：除非另有所述，所有的新量产件的生产件批准程序 PPAP 文件提交的最初级别是 3 级。若对生产件批准程序 PPAP 的级别有疑问，请与科勒公司供货商质量或采购部进行联络。

4.4.1 Optional material and/or configuration: Where optional materials or configurations may be used, as indicated on the Kohler drawing, specify the actual material/configuration used on the Part Submission Warrant in the Explanation/Comments section. This applies to all

submission levels. 可选材料和/或配置：当科勒图纸中有说明可使用可选材料或配置时，在零件提交证明文件的解释/注释栏中解决具体使用的实际材料/配置。该步骤对所有提交级别的文件都适用。

PPAP Requirements 生产件提交程序要求	Level 1 级别 1	Level 2 级别 2	Level 3 Default 级别 3 默认级别	Kohler Form # 科勒表格号#
Design Record 设计记录	Retain 保留	Submit 提交	Submit 提交	Current Part Print Revision 当前零件图纸修订版本号
Engineering Change Documents 工程变更文件	Retain 保留	Submit 提交	Submit 提交	PPAP 14 生产件批准程序 14
Customer Engineering Approvals 客户工程师批准	Retain 保留	Retain 保留	Submit 提交	Marked Drawing or Approved PPAP14 带记号的图纸或经生产件批准程序 14 批准的
Design FMEA 设计失效模式与效果分析	Retain 保留	Retain 保留	Upon request 按要求提交	Upon Request 按要求提交
Process Flow Diagrams 工艺流程图	Retain 保留	Retain 保留	Submit 提交	Process flow Diagram 流程图
Process FMEA 过程失效模式与效果分析	Retain 保留	Retain 保留	Submit 提交	Upon Request 按要求提交
Control Plan 控制计划	Retain 保留	Retain 保留	Submit 提交	Control Plan 控制计划
Measurement System Analysis Study (GR&R) 测量系统研究（量具的重复性与再现性）	Retain 保留	Retain 保留		Upon Request 按要求提交
Dimensional Results 尺寸结果	Retain 保留	Inspection Report 检测报告	Full Inspection Report 全尺寸报告	PPAP 102 生产件批准程序 102
Material Performance Test Results 材料性能测试结果	Retain 保留	Submit 提交	Submit 提交	PPAP Performance 生产件批准程序执行过程
Initial Process Capability Studies	Retain 保留	Submit 提交	Submit 提交	n/a 不适用

初步工艺能力研究				
Qualified Laboratory Documentation 合格的实验室报告文件	Retain 保留	Submit 提交	Submit 提交	n/a 不适用
Appearance Approval Report 外观批准报告	Submit 提交	Submit 提交	Submit 提交	Appearance Report 外观报告
Sample of Product 生产样件	Retain 保留	Submit 提交	Submit 提交	Identification Tag 辩认标识
Master Sample 标准样件	Retain 保留	Retain 保留	Retain 保留	Identification Tag 辩认标识
Checking Aids 辅助检测工具	Retain 保留	Retain 保留	* Upon Request 按要求提交	n/a 不适用
Part Submission Warrant 零件提交凭证	Submit 提交	Submit 提交	Submit 提交	Warrant 凭证
Records of Compliance 零件合格记录	Retain 保留	Retain 保留	Submit 提交	** Kohler Co. Specific Requirements 科勒公司具体要求
Packaging Method 包装方式	Retain 保留	Retain 保留	* Submit 提交	PPAP 16 生产件批准程序 16
PPAP Checklist 生产件批准程序清单	Retain 保留	Submit 提交	Submit 提交	PPAP checklist 生产件批准程序清单

*These items meet or exceed the AIAG requirements and are required by Kohler Co.
科勒公司要求这些项目必须达到或超过美国汽车工业行动集团 AIAG 的要求。
**Reference Kohler Co. Z-Specs and professional manufacturing organization requirements.
参考科勒公司 Z 标准及专业制造组织的要求。

NOTE TO SUPPLIER: Kohler Co. reserves the right to require a Capability Study on drawings without Critical/Major characteristics, and to require additional documents for Level 1 and 2 PPAP Submissions.
供货商提示：对于属于生产件批准程序 PPAP 提交级别 1 和 2 中的产品，科勒公司保留要求供货商提供图纸中未被注明为关重特性的尺寸进行能力测试，并提供额外文件的权力。

4.5 Re-submission of PPAP documentation is required if any of the following situations occur: 若发生以下的任何情况，都应当重新提交生产件批准程序文件：

Reasons for PPAP 提交生产件批准程序 PPAP 文件的原因	**Level to submit 提交级别**
Parts Produced at alternate location (ref. SQR Section 3.3.4 Notification of Facilities Change)	**Level 3 级别 3**

零件在替代的地点进行生产（参考：供货商质量要求 SQR 3.3.4 章中工厂地点变更通知）	
New designed tooling, tooling replacement, tooling that has major restoration work. 新设计的模具，备模或进行了大量修复的模具	**Level 3** **级别 3**
Machine or equipment location change to include moving within manufacturing site. 机器或设备的位置变更，包括在工厂内进行的移动	**Level 3** **级别 3**
New Material that is not specified by optional, alternative or equivalent material on the print. **With approved Kohler Co. deviation and/or approved Supplier Request for Change** 使用了在图纸中未被定义为可选的，替代的或相等材料，**但已获得科勒公司的让步接收和/或供货商变更请求认可的新材料**	**Level 3** **级别 3**
Material Source changes. 材料来源的变更	**Level 3** **级别 3**
Any changes affecting Critical, Major or Emissions requirements. 任何有可能会影响到关重或排放要求的变化	**Level 3** **级别 3**
Process technology new to the organization, not previously used for this product. 对行业组织来说是新的且在本产品上从未使用过的工艺技术	**Level 3** **级别 3**
New part, material or color not previously defined 之前未详细说明的新产品，材料或颜色	**Level 3** **级别 3**
Changes in gauging or gauging process with no effect on acceptance criteria 对于验收标准没有影响的量具或测量工具的变更	**Level 2** **级别 2**
Changes in part processing or methods to include changes in test or inspection methods with no effect on acceptance criteria 零件工具变更或方法，包括不会影响到验收标准的测试或检测方法	**Level 2** **级别 2**
Tool has minor restoration 较小的模具修复	**Level 2** **级别 2**
Minor Engineering Changes 较小的工程变化	**Level 2** **级别 2**
Product produced after the tooling had been inactive for 12 months or more 自量产停产后 12 个月或以上的，工装停产后生产的零件	**Level 2** **级别 2**
Correction of a discrepancy on a previous submitted part 与以前提交的不相符零件做出的修正	**Level 2** **级别 2**
Engineering Changes not affecting part dimensions or processes 不影响零件尺寸或工艺的工程变更	**Level 1** **级别 1**

4.6 PPAP Submission Status: Upon receipt of the PPAP submission, Kohler Co. shall review and assign status as follows: 生产件批准程序 PPAP 文件提交状态：在收到提交的生产件批准 PPAP 文件包之后，科勒公司应当检查并按以下的步骤指定提交的状态：

Status 状态	Actions 措施
Approved 批准	**The part or material, including all sub-components, meets all customer requirements. The supplier is authorized to ship production quantities of the product subject to purchase orders or releases.** **零件的材料，包括所有的部件都达到了客户的要求，批准供货商可以按采购订单或放行文件生产的产品进行发运。**
Interim Approval 临时批准	**Permits shipment of parts or material for production requirements on a limited time or piece quantity basis. Interim approval will only be granted when the supplier has** **许可供货商在限定的时间或数量的基础上，生产要求的产品或材料并进行发运。临时批准仅在供货商具备下述条件时才可获得认可：** **1. Clearly defined the non-compliances preventing approval and 明确定义不合格产品预防措施的批准。以及** **2. Prepared an action plan agreed upon by Kohler Co. PPAP re-submission is required to obtain a status of approved. 准备改进措施并与科勒公司达成一致。要求重新获得生产件批准程序的状态。** **Interim Approval can be renewed. However, if additional time is required by the supplier, it is the responsibility of the supplier to contact the appropriate SQE with an expected completion date.** **临时批准可以被更新，然而，如果供货商要求增加额外的时间，供货商有责任与适当的供货商质量工程师就预期的完成日期进行联络。**
Rejected 未批准	**The PPAP submission does not meet requirements based on the production lot from which it was taken and/or accompanying documentation. The submission process shall be corrected to meet requirements.** **基于生产批次中获得的数据所提交的生产件批准程序 PPAP 文件，和/或附属文件未达到要求，应当对提交程序进行修正并达到要求。**

4.7 Master samples: The supplier organization shall retain a master sample for the same period as the production part approval records, or until: 标准样品：公司应当对同一阶段内的生产件保留一个标准样品作为生产件批准的档案，或直到：

a. A new master sample is produced for the same part number for approval. 用于批准的同一个零件号的产品生产了新的标准样品。

b. Where a master sample is required by the design record, control plan or inspection criteria, as a reference or standard. The master sample shall be identified as such, and shall show the approval date on sample. The supplier shall retain a master sample for each position of a multiple cavity die, mold, tool or pattern, or production process. 在要求对设计记录，控制计划或检验基准，提供标准样品来作为参考或标准时，标准样品同样应当进行确认，并显示样品批准时间。对于多型腔模具的每一个型腔，工装，组合形式或生产工艺所生产的产品，供货商都应当保留一个标准样品。

4.8 Boundary Samples: Suppliers are responsible for establishing boundary samples for cosmetic issues, not matching the “master” samples, prior to shipping questionable product to Kohler Co.

Boundary samples are retained by the supplier for on-going process control and serve as the "master" for comparison purposes. All cosmetic boundary samples require approval prior to implementation. 限度样件：在将有问题的产品发运给科勒公司之前，供货商负责制作有表面问题的与" 标准样品" 不相符的限度样品。限度样品由供货商保留用以确认，用于与正在进行生产产品的" 标准样品" 进行比较这一目的。在执行之前，所有的表面限度样品都必须经过批准。

4.9 ISIR Samples: Forwarded with PPAP submittals and require the part number, cavity number and date produced be marked on the part. 用于初次样检报告的样品：与生产件批准程序提交中的要求相同，并要求具备零件号，型腔数量和打印在零件上的生产日期。

4.9.1 ISIR Sample Size: 1 piece per cavity and/or fixture, or 3 pieces for single cavity and/or fixture or other process, or as specified by your Kohler Quality Rep. 首次样检报告样本数量：每一个型腔和/或模具一件，或每单个型腔和/或模具、或其它工艺 3 件，或由负责该项目的科勒质量代表具体叙述

4.10 Family Part (Composite Print Parts): Parts may be evaluated as a family only when they are on the same composite print and made from the same process/equipment/material, or from the same tooling but different inserts. All part numbers on composite prints must be submitted for PPAP at the same time. 系列零件（综合图纸零件）：当零件是在同一张混合图纸中的某一组件，或由同样的工艺/设备/材料，或从相同模具但嵌件不同的模具制作而成的，可将其视为系列零件来对进行评估。综合图纸中的所有零件的生产件批准程序文件都必须同时进行提供。

4.11 Preliminary Process Capability Studies: A preliminary process capability study is required for each classified characteristic that can be evaluated using variable (measured) data. Capability requirement levels and classification definitions and symbols are indicated in Section 6.1 初步工艺能力分析：对每一类通过不同（测量的）数据获得的分类特性都要求进行初步工艺能力分析。在章节6.1中，对能力要求等级、分类定义以及符号进行了说明。

There are classified characteristics identified where variable data will not be available. Following are examples of this situation and the means to ensure that these characteristics are effectively controlled:在可变数据不可用的情况下用分类特性来定义。以下是此类情况的例子以及确保特性能被有效控制的方法。

4.11.1 Materials/Alloys: Effective process development and the appropriate process controls and frequencies listed on the control plan. 原材料/混合物：在控制计划中列出有效的工艺开发和适当的工艺控制及频率

4.11.2 Materials (provided by Tier II suppliers or separate internal supplier process): Material certifications received with every shipment, material testing by supplier or third party to ensure material specifications are met. Either method must be listed on control plan. 原材料（由二级供应商提供或者供应商单独的内部工艺过程制造的）：每批原材料的接收必须附有原材料证明，供应商或第三方检测机构需检验原材料来确保符合规范的要求。任意一

种方法都必须列在控制计划中。

4.11.3 Porosity/Internal Defects: Effective process development (typically gating and process parameters) and the appropriate process controls listed on their control plan.缩孔/内部瑕疵：在控制计划中列出有效的工艺开发（如胶口和过程参数）以及适当的工艺过程控制。

4.11.4 Heat treatment: Process development - chamber is densely packed with product, parts run, and evaluation of results. 热处理：工艺过程开发 - ？？？

4.11.5 Attributes (presence of features or assembly components): Effective process controls and check/inspection frequencies listed on the control plan to ensure requirement is met. 属性(现有的状态或者装配零件):在控制计划中列出有效的过程控制和检测频率来确保能满足要求。

4.12 Preliminary Process Capability Minimums:

Cpk Results CPK 结果	Applies to 应用于
≥ 1.67	**Critical and Emission characteristics 关重和排放特性**
≥ 1.33	**Major characteristics, Control Plan characteristics, and any other characteristics determined by Kohler Co. 主要的特性，控制计划中的特性，或其它由科勒公司确认的特性**
≥ 1.0	**All other characteristics 所有其它的特性**

*If Cpk falls below minimum requirements, the process may be acceptable in certain circumstances - contact Kohler Co. Supplier Quality.
如果Cpk值低于最低的要求，在某些情况下，该工艺有可能被认可——请与科勒公司的供货商质量进行联络

4.13 Manufacturing Documentation: The manufacturing process with specifically the following shall be documented and made available to Supplier Quality upon request. This shall include, but not be limited to, the following: 制造文件：对制造工艺尤其是下述的文件都应当进行归档，且在供货商质量部要求的时候提供，这些文件包括但不仅限于：

- Process work instructions 工艺指导
- Fabrication and/or assembly instructions 制造和/或装配指导
- In-Line and Off-Line rework process 在线和离线返工工艺
- Failure Analysis and closed loop corrective action plans 失效分析以及闭环整改措施计划

- Stop ship process 停止发运程序
- In process gauging results 在线检测结果

4.14 Dimensional and Performance Test Results 尺寸及性能测试结果

A full part inspection includes all of the following: 一个零件的全尺寸检测包括了所有下述的内容：

- A full inspection report, not just a dimensional layout. It must cover all requirements on the drawing. 全尺寸报告，而不仅仅只是一个平面图，报告必须涵盖图纸上所有的要求。
- Kohler part number/revision level and your tooling # must be on the report, including written details on the drawing and the notes listed. 报告中必须有科勒零件号/修订级别以及模具号码，包括图纸中书面的详细内容以及列出的注释。
- Must be signed and dated. 必须签名并注明日期。
- All nonconforming items must be highlighted or identified. 所有不合格的项目必须注明或确认。
- Sample size 样件的数量
- For new tooling, see Tooling Acceptance as outlined in Section 9 of this manual. 若是新模具，见本手册中第 9 章模具认可中的概述。

4.15 First Piece Inspection Requirements: Supplier shall document their first piece inspection requirements for all new products or revisions to existing products. Where mutually agreed upon, the Supplier will provide their piece built inspection report(s) to Supplier Quality. Elements of an acceptable process for first piece builds include: 首件检测要求：对于所有的新产品或现有的修订产品，供货商都应当按照首件检测的要求进行归档。对于双方一致认可的项目，供货商将向供货商质量部提供他们的产品制造检测报告，一个认可的首件产品制作程序的要素应当包括：

- Measurements in conjunction with control plan and indicate compliance 测试结果与控制计划相关且与之一致
- Identification and inspection components and materials from receipt through processing, final inspection, and shipment 从收货到工艺过程，最终检验和运输对零件和材料进行确认和检验
- Thorough and complete final inspection of the “first piece” with recording of the actual numerical measurements (ISIR). 对“ 首件” 进行全面和彻底地最终检查，并对实际的数据测试结果进行记录（ 首次样检报告）。
- Retention of written “first piece inspection” reports, test samples or certificates, and all other inspection records. 对“ 首样检测” 报告的书面文件，测试样品或证书，和所有其它

的检测记录进行保留。

- Each record shall indicate the date of record, revision level (or change level), authorized engineering change document, drawing date, CMM, cross sections, layout result sheets, attribute data, and corrective actions for items that do not meet specifications. 每一个记录都应当显示记录的日期，修订级别（或变更级别），认可的工程变更文件，图纸日期，三座标，横截面，设计结果清单，属性数据，那些未能达到规范项目的整改措施。

Supplier shall perform failure analysis and take corrective action for all defects found during the first piece build. Each first piece sample shall be marked accordingly. 对于首件制造过程中产生的所有缺陷，供货商都应当进行失效分析并作出整改措施。所有的首件样本都应当进行相应的标注。

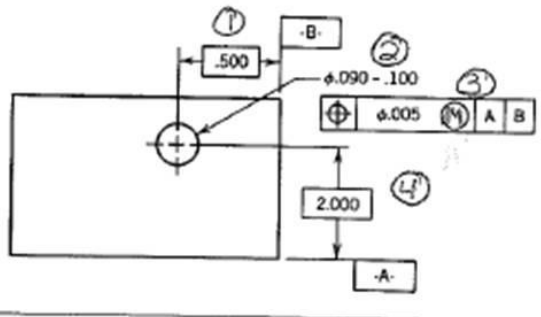
Section 5.0 第 5.0 章

GD&T Gauge Set-Up 几何尺寸与公差测量要求的设立

5.1 The following is an example of how Kohler Co. utilizes Geometric Dimensioning & Tolerancing (GD&T) to verify purchased parts. GD&T must be set-up according to the instructions below the example. Questions regarding set-up of GD&T can be answered by Kohler Co. Supplier Quality. Verification of product is critical to quality and is used internally and for external suppliers. To ensure supplier gauge set-up is replicated by Kohler Co., the following is required: 以下是科勒公司就如何使用几何尺寸与公差（GD&T）来对供货商零件进行确认的例子，必须按下述样本的指导来设立几何尺寸与公差。若对设立几何尺寸与公差有疑问，可由科勒供货商质量部来回答，对产品质量的确认是重要的，这一方式仅内部使用，同时也对外部的供货商适用。为了确保供货商量具的设置与科勒公司相符，其要求如下：

☑ First Piece Layout ☐ Engineering Information ☐ Other

Characteristic#	Print Specifications	Actual	Comments	Out of Tol
1	.500	0.508	Basic	
2	Ø.090-.100	0.094		
3	⊕ Ø.005-(M) A B	0.021	bonus applied	
	Bonus tolerance	**0.004**	**total tolerance .009**	**0.012**
	Item 1 deviation	0.008		
	Item 4 deviation	0.007		
4	2.000	2.007	Basic	



5.2 The following is an acceptable method to report the feature in the control frame, print dimensions, and the outcome with PPAP documents: 以下方法是已经过认可并用来报告图框内的特性，图纸尺寸，以及生产件批准程序文件的结果：

5.2.1 Number the part print either electronically or manually to submit with your PPAP. 用来对生产件批准程序 PPAP 文件进行提交的电子或手工的零件图纸数量。

5.2.2 Prints with multiple pages should have beginning and ending number located on that print page noted in the lower right hand corner, along with number of major and critical characteristics. 多页图纸应当具备图纸的起始页和结束页的号码，以及关重特性号都应当在图纸的左下角进行标注。

5.2.3 Number the Dimensional Results Form to correspond with your numbered print. 表中的序号应当与图纸中的序号一致。

5.2.4 The Kohler Co. Dimensional Results Form is provided in Appendix C PPAP Forms; however the supplier's form is acceptable if it meets at least the content of the Kohler Co. form. 科勒公司尺寸结果表在附件 C 中的生产件批准程序 PPAP 表中有提供；然而，如果供货商的表格包含了科勒表格中的内容，也是可接受的。

5.2.5 All basic dimensions to have a numeric value. 所有的基本尺寸都有一个数值。

5.2.6 Use print tolerance or Z-spec tolerance for all dimensions not showing a tolerance that are not basic dimensions. 所有未在图纸中标示的非基本尺寸公差都应当使用图纸公差或 Z 标准公差。

5.2.7 Items with a feature control frame will have a minimum of four (4) lines reporting. 有特性控制图框内的项目应当至少对以下（4）个项目进行报告：

5.2.7.1 Line 1 is the feature control frame itself. If no bonus tolerance is applicable, this line will also report the feature control frame results, in the appropriate column. 项目 1 是特性控制图框本身，如果没有适用的补偿公差，该项目同样会在适当的列中报告特性控制图框的结果。

5.2.7.2 Line 2 is bonus tolerance applied. In some cases there is no bonus tolerance, reporting "na" or "no bonus" is sufficient. If bonus tolerance is applicable, this line will report the feature control frame results with the bonus tolerance calculation applied. 项目 2 是有使用补偿公差的情况。在有些情况下无补偿公

差，则报告中会显示“ 不适用”或“ 无补偿公差”就可以了。如果适用补偿公差，则该测试线将会报告运用了补偿公差计算所得来的特性控制图框的结果。

5.2.7.3 Line 3 is the X value deviation from the basic dimension using the Cartesian coordinate system. This line must also reference the item number of the basic dimension that it corresponds to. 项目 3 是基本尺寸运用笛卡尔坐标系得来的 X 轴让步接收值，这一测试线必须参考其对应的基本尺寸的项目数量。

5.2.7.4 Line 4 is the Y value deviation from the basic dimension using the Cartesian coordinate system. This line must also reference the item number of the basic dimension that it corresponds to. 项目 4 基本尺寸运用笛卡尔坐标系得来的 Y 轴让步接收值，这一测试线必须参考其对应的基本尺寸的项目数量。

5.2.8 A column after each line item will report the amount out of tolerance when applicable. 在每一项目之后的列，如果适用，则对其中超出公差的数量进行报告。

5.2.9 Report each item with characteristics which are dimensioned as multiple items (i.e.: 2X, 3X, 4X, etc.). 对多元项目的每一个特性进行报告（如：2X、3X、4X 等）。

5.2.10 Tools with multiple cavities must have an inspection report for each cavity. 对具备多个型腔的模具，每一个型腔都应具备检查报告。

5.2.11 Part prints with significant characteristic symbols will also have corresponding capability data. 有重要特性标记的零件图纸应当具备相应的能力检测数据。

5.2.12 Include your completed CMM report (where applicable). 包括全面的三座标检测报告（如适用）。

Section 6.0 第 6.0 章

Kohler Co. Drawings 科勒公司图纸

6.1 Classification of Significant Characteristics: On Kohler Engines prints; the classification of characteristics is expressed as follows with respective process capability requirements: 重要特性分类：在科勒的图纸中，其特性分类与相应的过程能力要求如下：

Drawings released through 12/2009 2009年12月之前释放的图纸

Characteristic 特性	Required Cpk CPK要求
Critical 关键的- and Emissions 排放的-	≥1.67
Major主要的-	≥1.33
All Others其它的 (No Classification无分类的)	≥1.00

Drawings released after 12/2009 2009年12月之后释放的图纸：

Characteristic 特性	Required Cpk CPK要求
Critical关键的- and Emissions排放的-	≥1.67
Q/CI -	≥1.33
All Others其它的 (No Classification无分类的)	≥1.00

6.1.1 Features identified with a triangle in a circle ( ) are critical characteristics. A critical characteristic is one that analysis indicates is likely, if discrepant, to cause a functional failure making the engine essentially inoperative. Features classified as critical require the highest confidence that they conform to specification. 在圆圈内加一个三角形( )来表示的特性为关键特性.关键特性是指分析显示,如果有差异将导致操作失效,并从根本上令发动机不起作用.被定义为关键的特性要求具备与规范完全一致的最高置信度.

6.1.2 Features identified with an E in a shield ( ) are emissions, regulatory or safety related characteristics. An emissions related characteristic is one that analysis indicates is likely, if discrepant, to cause a failure resulting in noncompliance with emissions or other regulations, or result in personal injury. Features classified as emissions related require the highest confidence that they conform to the specification. 在盾状物中加一个E( )的特性是与排放/法规/安全相关的特性.与排放相关的特征分析表明,如果有差异,则会导致排放或者其它法规的失效,又或者造成人员伤害.被归入与排放相关的特性要求具备与规范完全一致的最高置信度.

6.1.3 Features identified with a numbered teardrop () are Q/CI, Quality or Customer Interface characteristics. A Q/CI characteristic is one that analysis indicates is likely, if discrepant, to significantly impact product function or the customer's ability to install or use the product. 在珠状物里加两个小叉()的特性是Q/CI,质量或者与客户相关的特性. Q/CI特性是指分析表明,如果有差异,则会对产品性能或者客户安装及适用造成非常明显的影响.

6.1.4 Features identified with a diamond in a circle () are major characteristics. A major characteristic is one that analysis indicates is likely, if discrepant, to materially reduce the usability or customer satisfaction with the product. Features classified as major require high confidence that they conform to specification. 在圆内加一个菱形()来表示的特征为主要特性.主要特性分析表明,如果有差异,则会从本质上降低产品的实用性或客户的满意度.归为主要的特性,要求具备与规范完全一致的高置信度。

6.1.5 Features which are not identified as Critical, Emissions, Q/CI or Major, but which are on the control plan. **A Cpk of ≥1.33 is required for control plan characteristics.** 对于未定义为关重的、与排放相关的、Q/CI或者主要的特性的，但在控制计划中有描述的特性。控制计划中特性要求CPK**≥1.33。**

6.1.6 All other features are considered normal characteristics. A normal characteristic is one that analysis indicates is likely, if discrepant, to have a minor effect on engine function or appearance. Features classified as normal must conform to specification. **A Cpk of ≥1.00 is required for normal characteristics.** 其它的特性被视为一般特性。一般特性是指其分析显示，如有差异，将会对发动机功能或外观产生较小的影响，那些被归为一般的特性必须与规格相符。对于一般特性来讲，要求**Cpk ≥1.00。**

Assignment of Critical, Emissions, Q/CI or Major characteristics does not reduce the importance of any other characteristic on the drawing. Every tolerance is absolute and shall not be exceeded regardless of classification.对于关键的、与排放相关的、Q/CI 或者主要的特性分配并未降低图纸上其它特性的重要性。所有公差都是绝对的，而且不论其归入哪个类别，都不能超过公差的要求。

6.2 Drawing Information 图纸信息

- Drawings include (in most cases): 图纸包括（多数情况下）：
  - Metric unit dimensions 米制单位表示的尺寸
  - GD&T 使用的几何尺寸与公差
  - references to Z-specs 用于参考的 Z 标准

- Tolerances are found in: 公差可在下述项目中获得：
  - title block 图框
  - high-low 高-低
  - GD&T 几何尺寸与公差

- Z-Specs Z 标准
- other reference standards 其它参考标准
- ASME, NADCA, etc.美国机械工程师学会，北美压铸学会压铸件产品规格标准等。
-

6.3 Z-Specs Z 标准

- What are they? 是什么？
  - Z-specs are addenda to the print which contain additional information, specifications and/or requirements. Z 标准是图纸的一个附录，包括额外的信息，规范和/或要求。
  - Z-specs are to be considered identical to all notes, dimensions or specifications called out individually on the print. Z 标准对于单张的图纸中所有的注释，尺寸或规范来说都被视为完全一致。

- Why does Kohler Co. use them? 为什么科勒使用该标准？
  - Kohler Co. uses Z-specs when routine information needs to be recorded on many prints (i.e., casting tolerances, plating specs). 在需要对许多图纸的常规信息进行记录的时候，科勒使用 Z 标准（如：铸件公差，电镀标准等）。
  - Z-specs can also cover unique testing assembly procedures for a part or assembly. Z 标准也可以涵盖许多独特的零件或组件的检验程序。

- What do you as a supplier need to do? 作为一个供货商应该怎么做？
  - Review the print for any Z-spec call outs. 检查图纸中 Z 标准的要求。
  - Request copies of any Z-spec with quote requests or print updates if they are not included with the quote package. 如果在询价包中未包含任何更新图纸的询价，请申请 Z 标准的拷贝。
  - Request a current copy of the Z-spec. It may have changed since you received the quote package. 要求当前的 Z 标准拷贝，在你收到报价包后，Z 标准有可能已经做出了修订。

6.4 Tooling Acceptance (TA) Drawings 模具认可（TA）图纸

6.4.1 Purpose 目的

Tooling Acceptance (TA) drawings are used to record non-design intent, minor or nonfunctional discrepancies of components produced from intricate and expensive tooling. A TA drawing is created to document the dimensional issues and is referenced on the parent, design drawing. 模具认可（TA）图纸是用来对非设计意图，由复杂和昂贵的模具生

产的，较小的或非功能性差异的生产件进行记录的。模具认可图纸是创建来对尺寸问题进行归档并为主设计图提供参考的。

- TA Drawings allow us to accept non-conforming parts where the function of the part is not compromised by the non-conforming feature. 模具认可图纸允许我们在零件功能未受到不合格特性影响的情况下对不合格产品进行认可。

- TA drawings should be used to quantify a mean position shift that is dependent on hard tooling. 模具认可图纸应当用来对依赖于不可更改工具的平均位置改变进行量化。

- TA Drawings **should not** be used to approve an increase to the tolerance range of a part. If such a tolerance is functional, then the base drawing should be revised to the new tolerance range. 模具图纸**不得**用来认可增大零件的公差，如果该公差适用，则应当将基本图纸更改到新的公差范围。

6.4.2 How is a TA Drawing initiated? 模具认可图纸是如何发起的？

- TA Drawings are only considered after all other means to correct the nonconforming issues have been exhausted. 模具认可图纸被视为，在所有其它的纠正不合格零件的方法都使用过之后所使用的方式。

- Submit the Supplier Request for Change Form #PPAP14 (reference Appendix D) through Kohler Co. Supplier Quality or Purchasing. 通过供货商质量或采购部提交变更表格#生产件批准程序 PPAP14 文件（参考附录 D）

- Layout information is reviewed by the design and quality engineer. Capability data is required to determine limit values for the TA Drawing. 设计信息由设计和质量工程师进行检查，要求具备能力数据以确认模具认可图纸的限制值。

- Engineering issues TA and base drawing with allowable modifications noted. 设计工程部布发布模具图纸认可和基本图纸，以及可接受的变更通知。

6.4.3 How long do they last? 时间会持续多长？

- TA Drawings last for the life of the tool or cavity for which they were issued. 模具认可图纸与发布的模具或型腔的使用寿命一致。

Section 7.0 第 7.0 章

Defect Resolution 缺陷分辨力

7.0 Liability 可靠性

Kohler Co. may seek to recover from a supplier any costs resulting from a delivery of non-conforming material or unauthorized delivery of product. This may include: in-house sorting – charges may be incurred for the amount of time or resources to complete this task; administrative costs – costs incurred if the defect is discovered in production or beyond; shipping costs for the return of defective material and expedited charges for replacement parts; charges imposed by our customer; any other non-conformance related costs. 科勒公司要求对来自供货商的不合格产品或未确认的产品运输所产生的费用作出补偿，这可能包含：厂内整理——对为完成本任务所花费的时间和人力所产生的费用；管理费用——如果该缺陷是在生产过程中或生产过程之外产生的费用。退回不合格材料以及产品置换的加急运输费；我方客户强制收取的费用，其它与不合格产品相关的费用。

7.1 Non-conformances 不合格产品

7.1.1 Defective material may be identified at Kohler Co. during audits of supplied material or during production operations. The material can also be discovered during a supplier audit, validation, at the customer, or through warranty claims. 是在科勒公司对提供的材料进行审计，或在生产过程中确认的缺陷材料，该材料也有可能是在供货商审计，确认，客户端，或在保修期内通过投诉被确定的。

7.1.2 Suppliers will be notified of defective material through a Defective Material Report, which is usually accompanied by a defective sample part and/or photo. 供货商会收到缺陷材料报告的通知，通常该报告会附有一个有缺陷的样件和/或图片。

7.1.3 Kohler Co. Supplier Quality will disposition the non-conforming product and determine whether or not a formal corrective action response is required from the supplier. If a response is required, a Supplier Corrective Action Request (SCAR/CAPA) will be issued to the supplier. 科勒公司供货商质量部将会对不合格产品进行处理，并确认是否需要供货商采取正式的整改措施回复。如果要求进行回复，则会向供货商提供一份供货商整改措施要求（SCAR/CAPA）文件。

7 Disposition of non-conforming material. Non-conforming product found in-house at Kohler Co. may be dispositioned in any of the following ways: 对不合格材料的处理。在科勒公司内发现的不合格产品可通过以下的方法进行处理：

7.2.1 Reject the entire lot and return to the supplier. 整批产品退回供货商。

7.2.2 Screen or Rework. 筛选或返工

7.2.2.1 It is expected that non-conforming material will be contained and, when applicable, moved outside of Kohler Co.'s facilities for sorting and / or rework. The supplier will be financially responsible for all screening activities at Kohler Co. including labor, material handling, and downtime. In situations where screening is required, supplier support is expected within 24 hours. 对于不合格产品，在适当的时候应当将其运到科勒公司厂外进行筛选和/或返工。供货商对所有在科勒公司内进行筛选所导致的包括人工，材料处理和停工成本负责。在需要进行筛选的情况下，供货商需要在 24 小时内提供支持。

7.2.2.2 Kohler Co. Supplier Quality must agree with the supplier upon screening/rework methods, and will require a process FMEA and interim control plan on the affected features. Identification of completed sort/rework is required on all boxes/pallets as well as identification on individual parts. Kohler Co. Supplier Quality and/or Purchasing must agree to the type and location of the identification markings. 科勒公司供货商质量部必须与供货商就筛选/返工方法达成一致，并要求对受影响的特性作过程失效模式与效果分析和临时控制计划。对所有箱子/托盘和单个零件的筛选/返工的确认是一样的，科勒供货商质量部和/或采购代表必须就确认记号的类型和位置达成一致。

7.2.2.3 The quantity and/or timeframe in which Kohler Co. will accept reworked material must be agreed upon in advance. 必须事先与科勒接受的，就返工材料所制作的零件数量和时间达成一致。

7.2.2.4 Acceptable parts are not to be released from screening/rework until Kohler Co. Supplier Quality signs-off on the screening audit (reference Appendix E, Screen Activity Log). 在科勒供货商质量部签署筛选/返工审计表（参见附录 E，筛选工作日志）之前，不得释放筛选/返工的零件。

7.2.2.5 Non-conforming parts are to be segregated from normal production and scrapped accordingly. 不合格产品应当与正常生产和废品隔离开来。

7.2.2.6 Documented rework/screening plan and method, within Kohler Co., must be coordinated with Supplier Quality and comply with the following: 科勒公司内的返工/筛选计划和方法的归档文件都应当与供货商质量进行协调，并与下述内容一致：

- Appropriate safety attire is worn by all personnel involved. 确保所有相关员工身着适当的安全服装。

- Rework/Screening plan and method is approved by Supplier Quality 返工/筛选计划和方法经过了供货商质量部的认可。

- Screening results are submitted using Form #PPAP15 Screen Activity Log (reference Appendix E). 筛选结果用生产件批准程序 PPAP15，筛选工作日志（参考附录 E）。
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7.2.3 Accept the material with a deviation approved by Kohler Co. Engineering and Supplier Quality. The deviation must include the quantity and/or timeframe in which the non-conformance will be dealt with, root cause, and corrective action. Supplier Quality or Purchasing initiate the deviation and provide the material disposition to the supplier. Please note: if the deviation specifies a timeframe, the expiration date refers to the date Kohler Co. will no longer accept product. 接收有科勒设计工程部和供货商质量部批准让步接收的材料。让步接收必须包括不合格品的数量和/或时限，根本原因，以及整改措施。供货商质量或采购部发起让步接收并提供材料处理方式给供货商。请注意：若让步接收中对时限有具体的说明，则过期日指的是科勒公司不再接受产品的日期。

7.2.4 Accept as is. 照当前的情况进行接收。

7.3 Supplier Responsibility 供货商职责

7.3.1 When a supplier detects or suspects non-conforming material prior to shipment, Kohler Co. Supplier Quality should be contacted immediately. 在装运之前，当供货商发现或对不合格材料有怀疑时，应当立即与科勒供货商质量部进行联络。

7.3.1.1 Kohler Co. Supplier Quality may initiate a deviation, upon a supplier's request, to accept the non-conforming product. 科勒公司供货商质量部可能会在收到供货商请求的时候发放一份让步接收文件，以接收不合格产品。

7.3.2 When a problem and/or non-conforming material is detected after shipment has been made to Kohler Co., it is the supplier's responsibility to contact Kohler Co. Purchasing, Supplier Quality, and/or Material Planning to begin containment activities of the suspect material. 在不合格零件被运送到科勒公司之后，其问题才被发现的情况，供货商有责任联络科勒公司采购部，供货商质量部和/或零件计划部以开始对有疑问的零件进行补救。

7.3.3 **UPON RECEIPT OF A DEFECTIVE MATERIAL REPORT (DMR): 在收到缺陷材料报告（DMR）时：**

- **IMMEDIATE CONTAINMENT ACTION IS REQUIRED, INCLUDING DIRECT CONTACT WITH KOHLER CO. SUPPLIER QUALITY WITHIN 24 HOURS. 要求立即采取补救行动，包括在 24 小时内与科勒公司供货商质量直接进行联络。**

- **IF THE SUPPLIER HAS NOT RESPONDED WITHIN 24 HOURS, A THIRD-PARTY SORTING SERVICE CAN BE CONTRACTED BY KOHLER CO. AT THE SUPPLIER'S EXPENSE. 如果供货商在 24 小时内未作出答复，可通过科勒公司与第三方联系提供筛选服务，供货商对该服务的费用负责。**

- Contain all suspect inventory located at Kohler Co., supplier facilities, and in the distribution system (ref. Section 13 of this manual for on-site inspection requirements). 对科勒公司，供货商工厂库存内、以及配送系统内的所有可疑产品进行限制（参考本手册内第 13 章，关于现场检查的要求）。

- Containment actions must be documented by the supplier and e-mailed (or faxed) to Kohler Co. Supplier Quality. 补救措施文件必须由供货商进行归档并电邮（或传真）给科勒公司供货商质量部。

- As applicable, replace nonconforming material with certified material. 适当的时候，将不合格品与合格品进行置换。

- Short –term corrective/preventive actions are to be put in place to prevent additional nonconforming material from reaching Kohler Co. 应当具备短期纠正/预防措施，以预防更多的不合格品送达科勒公司。

- Report results of any sorting activity to Supplier Quality. 报告供货商质量部筛选的结果。

- A formal corrective action response is not required at this time, unless a Supplier Corrective Action Request (SCAR/CAPA) has been issued. 除非发送了供货商整改措施要求（SCAR/CAPA），此时不要求就整改措施进行正式的回复。

7.3.4 **UPON RECEIPT OF A SUPPLIER CORRECTIVE ACTION REQUEST (SCAR/CAPA): 在收到供货商整改措施要求（SCAR/CAPA）时：**

- **COMPLETE THE ACTIONS OUTLINED IN SECTION 7.3.3. 完成 7.3.3. 章节内所述的措施。**

- **ANALYZE THE PROBLEM USING THE 8D PROBLEM SOLVING METHOD, OR SIMILAR PROCESS. 用 8D 问题解决法或类似的程序来分析问题。**

- **SUBMIT A FORMAL CORRECTIVE ACTION RESPONSE TO KOHLER CO. SUPPLIER QUALITY WITHIN THE TIMEFRAME REQUESTED ON SCAR/CAPA. 按 SCAR/CAPA 中要求的时间，提供一份正式的补救措施回复给科勒公司供货商质量部。**

  - No specific response format is required. Any form may used as long as the following items are responded to fully and completely. 只要在回复文件中包括了以下内容，回复文件格式没有具体的要求。

    - ✓ **Root Cause:** Definition and verification of the root cause of the non-conformance, including supporting data and/or study results.
    - ✓ **根本原因：**详细说明并确认不合格零件的根本原因，包括支持性数据和/或研究结果。
    - ✓ **Containment:** (reference section 7.3.3).
    - ✓ **补救措施：**（参考 7.3.3 章节）。
    - ✓ **Short-term Corrective Action:** (reference section 7.3.3).
    - ✓ **短期整改措施**：（参考 7.3.3 章节）。
    - ✓ **Permanent Corrective Action:** Provide a long term plan to correct the non-conformance, including expected implementation dates.
    - ✓ **永久整改措施：**给不合格品提供一个长期的整改措施，包括预期的执行日期。
    - ✓ **Controls/Preventive Action:** Suppliers are responsible for updating control plans, process/design FMEAs and other internal documentation to prevent the problem from reoccurring. Copies of updates should be included in SCAR/CAPA response.

- ✓ **控制/预防性措施：**供货商负责对控制计划，过程/设计失效模式与效果分析以及其它的内部文件进行更新，以防止问题的再次发生，更新的拷贝应当包括对缺陷材料报告的回复。

- ✓ **Verification:** It is expected that the supplier will audit the corrective action for effectiveness and take further action if conformance is not maintained. An expected audit date should be provided in the response.
- ✓ **确认：**要求供货商对整改措施的有效性进行审计，如果不能保持一致性，则要求采取进一步的措施，在回复中应当提供审计数据。

- ➢ **Response should be submitted as follows:** Email (preferred) or fax the response to your Supplier Quality Rep, with a copy to the DMR/SCAR Coordinator (reference Appendix A for specific contact information).
- ➢ **回复应当提交给下述人员：**电邮（首选）或传真回复给你的供货商质量代表，并发送一份给缺陷材料报告/供货商补救措施协调员（参考附录 A 中具体的联络人信息）。

7.3.5 Response Due Dates are set according to a priority level determined by problem severity. All reasonable requests for additional time will be considered. Contact your Kohler Quality Rep to discuss timing if necessary. Priority level definitions and corresponding days to respond are shown below. **反馈到期日期**是根据其由问题严重度所确认的优先级别来确定的。会对所有的要求增加反馈的时间进行考虑，如有必要，请与你的科勒质量代表进行讨论。优先级别定义与相应的反馈日期如下表所述。

Default response times by priority level **由优先级别确定的故障反馈时间**		**Priority Level Definitions** **优先级别的定义**
URGENT - 3 days 紧急——3 天		Urgent: Reached an outside customer 紧急：已到达外部客户处
HIGH - 5 days 高——5 天		High: Reached internal mfg process 高：已至内部制造工艺
NORMAL - 10 days 一般——10 天		Normal: Caught at Supplier Audit or notified in advance by supplier. 一般：在供货商自己发现问题之前被供货商审计发现或注意到
LOW – no response required 低——无需要反馈		Low: non-repeat single issue, non-critical, notification only. 低：无重复性的单个问题，非重要的，仅需通告。

7.4 Depending upon the severity of the problem, Kohler Co. reserves the right to request a new PPAP submission (reference Section 4), and/or a site audit for verification of the corrective action. 依据问题的严重性，科勒公司保留提交新的生产件批准程序 PPAP 文件（参考第 4 章），和/或对整改措施进行现场审计的权利。

7.5 The supplier will provide additional information, as requested, when the response does not meet Kohler Co.'s requirements as determined by Supplier Quality. 当回复未达到由科勒公司供货商质量部确认的要求时，供货商应按要求提供额外的信息。

7.6 Kohler Co. reserves the right to request certification to be shipped with each lot of material to verify that corrective actions are implemented and conformance maintained. 科勒公司保留对每批次产品运输时提供合格证，以确认执行了整改措施且保持产品合格性作要求的权利。

7.7 Failure to execute corrective action plans and/or repeat DMR occurrences is unacceptable. In these situations, at the financial responsibility of the supplier, Kohler Co. retains the right to implement extraordinary actions in order to minimize the risk of continued non-conforming product affecting Kohler Co. or its customers. Specific examples include but are not limited to: additional levels of inspection at Kohler Co. or the supplier; third-party certification. 整改措施计划执行的失效和/或两次出现缺陷材料报告的情况是不可接受的。在这样的情况下，供货商对产生的费用负责，科勒保留对实施特别措施的选择权，以将连续的影响到科勒或我们客户的不合格产品的风险最小化。具体的例子包括但不仅限于：在科勒或供货商处额外的检验级别，或第三方认证。

Section 8.0 第 8 章

Supplier Assessment and On-Site Audits 供货商评估与现场审计

8.1 Doing business with Kohler Co. requires a Supplier On-Site Assessment, Part I to be completed prior to the first purchase order being issued. The assessment form will be provided to the supplier by Supplier Quality or Purchasing. 与科勒公司进行商业活动，必须完成供货商现场评估，第 I 部分应当在第一个采购订单发出之前完成。供货商质量部或采购部会提供一份评估表给供货商。

8.2 Kohler Co. may conduct on-site audits of suppliers to ensure that requirements of this manual, as well as other industry standards, are being met. Refusal to allow audits may eliminate your organization from the Kohler Co. supply chain. In some cases, third-party approvals, to include ISO/QS certification, will be taken into consideration during the assessment process. A copy of the certificate must be forwarded to the Kohler Co. Purchasing or Supplier Quality prior to the first shipment from your facility. 科勒公司可能会要求对供货商进行现场审计，以确保达到本手册以及其它的行业标准要求。拒绝进行审计可能会导致贵公司从科勒公司供应链清单中淘汰。在某些情况下，在评估的过程中，第三方的认可，包括 ISO/QS 认证都将纳入考虑的范围。在从贵公司运出第一批货之前，必须给科勒公司采购部或供货商质量部发送一份证书的复印件。

8.3 On-Site audits include the following key criteria: 现场审计应当包括以下的主要标准：

- Quality Performance 质量性能
- Delivery Performance 运输能力
- Cost Reduction Performance 降低成本的能力
- Technological Contribution 技术成就
- Engineering design and development support 工程设计与开发支持
- ISO/QS compliance and/or certification ISO/QS 和/或相关证书
- Responsiveness. 回应度

8.4 We recognize the critical role quality plays in our success and realize achievement of our goals is dependent on receiving quality materials from our entire supply chain. An essential ingredient to a mutually successful relationship is clear and concise communication. Kohler Co.'s means of communicating direction, expectations, guidelines, and systems include: 我们认识到质量在我们的成功中所扮演的重要角色，我们这一目标是依靠从我们整个供应链中所获取的高品质的零件来实现的。达到这一共同成功关系的基本要素是进行清楚和简练的沟通，科勒公司的交流方向，预期，指南和系统包括：

- Purchase Orders 采购订单
- Drawings/Models 图纸/模型
- Print Revision or Release Notification, Form #PUR-007 图纸修订或放行通知，#PUR-007 表
- DMR/SCAR/CAPA 缺陷材料报告/供货商整改措施请求/纠正和预防性措施
- Kohler Engines Supplier website: www.kohlerengines.com/sqr 科勒发动机供货商网站：www.kohlerengines.com/sqr
- Supplier Visits 拜访供货商
- Supplier Quality Requirements Manual 供货商质量要求手册
- Supplier Assessments 供货商评估
- Supplier Score Card 供货商评分卡
- Supplier Request for Change 供货商变更请求

8.5 Confidential and Proprietary Information: All documentation provided to our suppliers with regard to specific purchase orders or requests for quotes should be considered proprietary and confidential information. This includes, but is not limited to, samples, patterns, drawings, and specifications. These are typically made available to the supplier in connection with a purchase order and shall remain the property of Kohler Co. Unless prior written consent has been provided by an authorized Kohler Co. representative, the supplier shall treat the information as confidential.
机密和私有信息：所有提供给我们供货商的关于具体采购订单或报价要求文件都应当被视为私有和机密的信息，这些信息包括，但不仅限于：样件，模型，图纸和规格说明等。这些信息对供货商来说是可以获得的，且与采购订单相关，对于科勒公司的这些物件，除非供货商从科勒授权的代表那里获得了书面的同意，否则都应将该信息视为机密。

8.6 Continuity of Supply: Each supplier is faced with the possibility of production being interrupted by unforeseen circumstances, such as power loss, machine breakdown, labor issues, or natural disaster. Because any interruption of supply may result in substantial damages, particularly if it results in Kohler Co. not being able to meet customer demands, we require each of our suppliers to develop a plan for Continuity of Supply. This plan must be immediately available upon request.
供货的连续性：每一个供货商都会面临因一些不可预期的情况而导致的生产中断，如电力不足，机器故障，劳动力问题或自然灾害等，因为任何供应的中断都有可能导致一些实际的损失，尤其是如果造成科勒公司无法达到客户要求的情况。我们要求我们所有的供货商都要开发一个连续性供货的计划。该计划必须在有要求的时候立即进行提供。

8.7 Missed shipments: All missed shipments must be expedited the same day at the supplier's expense. In order to prevent missed deliveries to Kohler Co., suppliers shall ensure they have the capability to maintain a continuous flow of material despite potential interruptions from: labor disruptions, equipment failures, material shortages, capacity shortfalls, tool transfers, or any other unforeseen issues. Ideally, this should be accomplished without maintaining excess inventory, however; maintaining a certain amount of safety stock must be considered. The amount of safety

stock will depend on many factors, such as geographic proximity and manufacturing processing time, and will be at the supplier's discretion. 未赶上交货期：所有未赶上交货期的产品都应当在预计的同一天内到达，其费用由供货商自行负责。为防止错过科勒的交货期，供货商应当确保无论在下述的何种潜在的中断情况下，他们都能够保持供货的连续性：员工罢工，设备故障，材料短缺，产能不足，换模以及其它不可预知的情况等。理想的状态是，这些问题都应当在不增加库存的情况下完成，然而，必须考虑将安全库存保持在一定的量。安全库存的量依赖许多因素，如地域距离，制造工艺时间，且应当在供货商的判断下进行。

Section 第 9.0 章

Requirements for Tooling and Gauging 工装和检具要求

9.1 Tooling Acceptance Procedure: Tooling capabilities need to be understood and analyzed by engineers at both the supplier and Kohler Co. before the production run. This can only be accomplished by analyzing a sufficient amount of objective information. 工装批准程序：在进行生产运行之前，供货商与科勒的工程师必须对对工装能力进行了解和分析，这一程序是通过对足量的客观信息的分析来完成的。

This requirement applies to new tooling, tooling replacement or tooling that has had major rework. 该要求对所有的新模具，模具置换或进行了较大程度修模的情况下适用。

9.1.1 Tooling is officially accepted only when the Supplier Request for Change, form PPAP 14 (ref. Appendix D) is approved by Kohler Co. Engineering and Supplier Quality. 当供货商要求对模具进行变更的时候，生产件批准程序 PPAP14 文件（参考附录 D）经过科勒公司设计工程部和供货商质量部的批准，模具才正式地得到了认可。

9.1.2 When a discrepancy to these requirements has been identified, the first choice is always to improve the tooling/process and communicate with Kohler Co. Engineering if there is a gap between the tooling capability and SQR requirements. Form PPAP 14 - Supplier Request for Change (ref. Appendix D) is used to identify all alternative requirements initiated by the supplier. 当确认模具能力与供货商质量要求有差距时，第一选择总是与科勒公司工程部进行沟通，以便对工装/工艺进行改进。生产件提交程序表 14——供货商变更请求（参考附件 D）是用来对供货商提出来的，所有可供选择的要求进行确认的表格。

9.2 Submission Requirements for Tooling Acceptance 模具接收提交要求

9.2.1 All measurements and inspections are to be performed on parts made from the production tooling, setup, and raw material. 所有由该生产模具，设备和原材料所制作的产品都应当经过测量和检查。

9.2.2 A full inspection report must be provided for one sample per cavity/mold pattern with numbered Kohler Co. prints. The full inspection report should include all dimensional measurements and defect inspections per the note requirements on the print. 每一个型腔/模具所生产的样件都应按照科勒图纸的数量要求提交完整的检测报告。完整的检测报告必须包括所有的测量尺寸以及按图纸的注释要求进行缺陷检测。

9.2.3 Samples from 9.2.2 will be required for verification at Kohler Co. 按 9.2.2 中所作的样件将在科勒公司按要求进行确认。

9.2.4 Discrepancies and dimensions where the supplier intends to ask for alternative requirements should be identified in form PPAP 14 - Supplier Request for Change (reference Appendix D). A distribution chart is required for each requested tolerance and the minimum sample size is 30. 供货商计划要求的与差异和尺寸相关的可选要求应当在生产件提交程序表 14——供货商变更请求中进行确认（参考附录 D）。每一个公差都要求提供分布表，且其标准件的数量不得少于 30 个。

9.2.5 All critical, major, and emission related dimensions on the print require capability studies. Minimum sample size is 100 and distribution charts are required. The supplier is required to maintain records that demonstrate ongoing process capability in production. Kohler Co. reserves the right to request this documentation at any time. 在图纸上的所有关重和与排放相关的尺寸都要求进行能力测试，样件最低不得少于 100 件，且要求具备的分布图。要求供货商对当前生产工艺能力的记录进行维护，科勒公司保留随时要求查看这些文件的权力。

9.2.6 Kohler Co. expects that the supplier will perform capability studies on non-critical features, where applicable, to ensure an understanding of the process capability. Non-critical is defined as those features not designated as critical or major on the drawing and can be specified in the notes and/or other standards. As part of the submission requirements, Kohler Co. reserves the right to request capability studies on non-critical features. Minimum sample size is 30; distribution charts are required. 科勒预期供货商都能完成能力分析以确保了解其过程能力，那些非关键特性可以在图纸/标准中与关键和重要特性一样进行标注。作为提交要求的一部分，科勒保留对非关键特性要求作能力分析的权力，样件至少为 30 件，且要求具备分布图。

9.2.7 Process capability studies for classified characteristics (See sections 4.11 and 6.1). These must be identified on Form PPAP 14 – Supplier Request for Change (reference Appendix D). 针对分类的特性做过程能力验证。（见章节 4.11 和 6.1）。必须在生产件批准程序表 14 - 供应商变更请求（参照附录 D）中进行确认。

9.2.8 Any tooling in production and deemed “over useful life” requires a deviation, granting approval for use by Kohler Co. Purchasing, Operations and Quality Management. Extraordinary control plans, FMEAs and other proactive measures may be needed to ensure quality products. 生产中使用的和被视为“ 超期使用” 的模具要求具备由科勒采

购，操作和质量管理批准的让步接收文件。也可能会需要确保产品质量的特别控制计划，失效模式与效果分析研究以及其它预测文件。

9.3 Kohler Co.-Owned Tooling 科勒公司自有模具

9.3.1 All Kohler Co.-owned tooling shall be identified per the purchase order terms and conditions. 在采购订单的条款和条件中应当对所有科勒公司自有的模具进行确认。

9.3.2 All suppliers with Kohler Co.-owned tooling on-site must carry insurance and provide proof of the insurance that covers cost of replacing the tool. Events such as those caused by nature, misuse, maintenance neglect, or fit-for-use should also be included in the insurance carried by the supplier. Any Kohler Co.-owned tool that is unusable or no longer able to produce conforming product prior to the estimated end of life is subject to review by Kohler Co. This review may determine if the tool was misused, neglected, or was not used under the fit-for-use per the purchase order. 对于所有在现场的科勒自有模具，供货商都必须进行保险，或提供能够弥补换模费用的保险。那些由于自然灾害，或对误用模具，维修疏忽，或使模具在现场适用等保险问题都应当由供货商来承担。任何科勒公司自有的模具，在其预估的使用寿命前就不可使用的，或不能再生产合格产品的模具都应当通过科勒的检查。这一检查将最终确认模具是否被误用，疏忽，或是未按订单的要求在现场适用的情况下使用而造成的

9.3.3 Suppliers shall provide Kohler Co. with certified drawings and related documentation of tooling and gauging owned by Kohler Co. 供货商应当提供认可的图纸、相关的模具和量具的文件给科勒公司。

9.3.4 Upon program completion, the supplier shall ensure tooling is properly stored to prevent any damage and is readily available for production or service requirements. 在项目接近完成时，供货商应当确保对模具进行了适当的保存以防止受到损坏，且在需要进行生产或维修时能够马上就可以进行。

Section 10.0 第 10.0 章

Equipment Control 设备控制

10.1 Calibration Requirements 校准要求

The process for calibrating manufacturing and inspection equipment such as CNC (Computerized Numerical Control) machines, torque tools, hardness testers, dielectric strength, DVM's (Digital Voltmeter), ICT (In-Circuit Test), vibration test equipment, and any other equipment utilized to verify product shall be defined and documented by the supplier. As part of the calibration requirements, supplier shall maintain records of the equipment calibrated, equipment labeling, calibration processes used, and the frequency of calibration. Any outside calibration labs utilized for any equipment shall have the signed lab or calibration service certificate, NIST traceability number, and lab accreditation. 生产和检查设备的标定程序如数控机床（CNC），扭矩枪，硬度计，介电强度，数字电压表（DVM），电气在线测试（ICT），震动测试设备，以及其它用以确认产品与供货商定义的和归档文件一致的设备。作为标定要求的一个组成部分，供货商应当对设备标定，贴标，使用的标定程序，以及标定频率等文件进行维护。任何使用外部的标定实验室来作标定的设备，该实验室或该项标定服务都必须具备检测资质，标定服务资质，NIST追踪号及实验室鉴定合格证。

10.2 Equipment Maintenance 设备维护

Supplier shall document the processes used for equipment maintenance, including preventive maintenance records, scheduling, identification, and storage, and shall perform maintenance in accordance with such plans. 供货商应当对设备维护过程文件进行归档，包括预防性维护记录，日程安排表，鉴定，储存，并完成与计划相符的维护工作。

10.3 New Equipment Capability 新设备能力

A process for integrating new equipment and technology into the supplier's operations shall be documented. Where appropriate, and when supplier is requesting permission from the buyer to use new equipment or technology in the production of the product, such request shall include: 将新设备和技术与供货商操作一体化的过程，这些文件应当进行归档。在适当的时候，采购员要求供货商对许可生产的零件采用新设备或新技术，这些要求包括：

- The number and duration of consecutive successful trials required prior to declaring the equipment qualified 在宣布设备合格之前，设备连续成功进行试生产的数量和时间。
- The potential effect of the new equipment or technology on other required manufacturing operations, including those sub-contracted 新设备或技术对其它要求的生产操作的潜在

影响，包括那些分包商。

- How manufacturing operations (including subcontracted manufacturing operations) will be evaluated 对生产操作如何进行（包括那些分包的生产操作）评估。
- The expected timetable for updating all required quality plans, machine maintenance files, operator training plans, calibration schedules, etc. 对要求的质量计划，机器维护文件，操作培训计划以及标定计划的日程表等进行更新。
- Additional requirements for use of new equipment or technology in the production of the Product may be included in the Product Quality Addendum. 用于生产产品的新设备或技术的额外要求可能包含在产品质量附录中。

Section 11.0 第11.0章

Supplier Training 供货商培训

11.1 Training Certification 培训认证

The supplier shall maintain certification procedures for all production personnel. Only production personnel that are certified to the proper level are to be allowed to participate in the manufacturing and test procedures. All production personnel are to be re-certified periodically in accordance with the supplier's documented training program. The supplier shall maintain a training requirement matrix that outlines the type of training required for certification at each key position within the design and manufacturing process and the status of all personnel in achieving such certification including the date of the last certification. 供货商应当对所有生产工人的认证程序进行维护，只有那些达到适当水平的、经过认证过的生产工人才能进行生产和测试。所有的生产工人应当按照供货商的培训计划进行定期的再认证，供货商应当对设计和制造工艺中每一个关键的工位，按培训类型要求制作一个培训要求表并对其进行维护，所有工人此类认证的情况及其最后一次认证的日期都应当进行记录。

11.2 Workmanship 技巧

Supplier shall provide workmanship standards that are subject to Kohler Co. Quality approval. All production shall utilize either agreed upon or approved standards. The specification or the product quality addendum may require additional or more stringent standards. 供货商应当提供技能标准交给科勒公司质量部以获得认可，所有的产品都应当使用同意的或批准的标准，规范或产品质量附录可能会要求更多或更为严格的标准。

Section 12.0 第 12.0 章

Kohler Engine Deviation Process 科勒发动机部让步接收程序

12.1 The Kohler Engine Deviation System must be utilized by the supplier prior to sending product that does not meet print. The Kohler Co. Supplier Quality representative or Buyer will request a deviation, using Kohler Co.'s internal deviation approval system, for non-conforming material, including material that is not yet PPAP approved. 科勒发动机让步接收系统必须在供货商发运与图纸不符的产品之前进行使用，供货商质量代表或采购员提出让步接收请求，使用科勒公司内部让步接收批准系统，对未经过生产件批准程序批准的不合格产品进行让步接收。

12.2 Once the approved deviation is obtained, the supplier shall identify all shipping papers, boxes, and pallets with the deviation number. 一旦获得了让步接收许可，供货商应当确认所有的运输文件，包装箱，以及托盘上都应当具备让步接收号码。

12.3 Just prior to the deviation expiration date, the supplier shall contact Kohler Co. Supplier Quality or Purchasing to determine status of the deviation. When the deviation expires, no additional product can be shipped until product meets Kohler Co. print requirements. However, Supplier Quality or Purchasing may request a deviation extension. NOTE: The deviation extension will be a different deviation number, and the supplier shall ensure the new numbers are used on all shipping papers, boxes, and pallets. 在让步接收过期日之前供货商应当与供货商质量或采购部联络，以确认让步接收的状态。如果让步接收状态为过期，在产品达到科勒图纸要求之前不得发运额外的产品。然而，供货商质量或采购部可以要求延长让步接收的日期。注意：延期让步接收的号码与让步接收号码是不同的，而供货商应当确保新的让步接收号码在所有的运输文件，包装箱，以及托盘上都进行了标注。

12.4 Should the supplier be able to supply conforming product prior to the deviation expiration date, it is the responsibility of the supplier to contact Supplier Quality to determine what, if any, submittal data or paperwork is required. Additional data may be necessary depending on the severity of non-conformance. 如果在让步接收过期日之前，供货商就可以提供合格的产品，供货商有责任与供货商质量部进行联系，以确认要求提交的数据或文件，按不合格产品的严重性，有可能会要求提供额外的数据。

12.5 Any supplier shipping product to Kohler Co.'s facilities prior to obtaining an approved deviation may be required to sort product at Kohler Co. or have the product returned at the supplier's expense. 对于供货商发运到科勒公司工厂的任何产品之前，应当获得让步接收许可，可能会要求对在科勒公司的产品进行挑选或将产品退回供货商处，其费用由供货商自行负责。

12.6 The table below shows examples of when to request a deviation: 见下表提出让步接收申请的时间的范例：

Situation 情况
Samples without an "EX" part number. **无" EX" 零件号的样件。**
Supplying parts that are a different rev than that which PPAP warrant is currently approved to. This does not include PPAP samples for a new rev. 供应的零件与当前生产件批准程序许可的版本不一致。本条不包括生产件批准程序样件的新修订号。
Parts do not meet print, or a defect has evolved from wear of tooling, process, etc. **零件不能达到图纸要求，或该缺陷与模具的磨损或工艺有关等。**
Agreed upon rework as established prior to shipment. **在发运之前就返工达成一致。**

Section 13.0 第 13.0 章

Screening/Rework Activity - Expectations and Paperwork 筛选/返工——预期和要求的书面工作

13.1 Suppliers traveling to Kohler Co. to provide for rework or sorting of suspected non-conforming material shall comply with the following: 供货商至科勒公司提供返修和挑拣疑似的不合格产品，应与以下内容一致：

13.1.1 Initiate an 8D, or similar problem solving methodology, and provide a plan for containment at the supplier facility. 运用 8D 或类似的问题解决方法，并为供货商厂内提供补救计划。

13.1.2 Provide a rework plan including a verification process. 提供返修计划，包括确认程序。

13.1.3 Coordinate with Supplier Quality upon arrival, during the rework/sort process, and upon completion. 在到货，返工/筛选过程中，以及完成的时候与供货商质量部进行协调。

13.1.4 Wear correct safety equipment to include ASTM-2413 approved steel toe safety shoes, safety glasses with side shields that meet ANSI Z-87, ear plugs (some of the shop area requires hearing protection). 按 ASTM-2413 的要求使用适当的安全设备，穿戴达到 ANSI Z-87 要求的安全鞋，佩戴带侧防护的安全眼镜，耳塞（在工厂的某些要求进行听力保护的区域）。

13.1.5 Provide SPC data for the suspect parts to include the run charts (or other means of data collection), special characteristics log, and any corrective actions taken during the run of parts. The run chart (or other data collection means) shall have the part number, revision level, date data was gathered and the operator(s) identification. 提供疑似零件的统计过程控制 SPC 数据，包括运行表（或其它相关的收集数据），专用特性日志，以及在零件运行过程中采取的整改措施。运行表（或其它相关的收集数据手段）应当具备零件号，修订级别，日期数据采集和操作工确认。

13.1.6 If, at any time during the rework or sorting process, it is determined that product must be returned to the supplier, a return authorization must be provided to Kohler Co. The product will be returned at the supplier's expense. 任何时候，在返工或整理过程中，产品必须要退回给供货商，科勒公司提供把产品退回给供货商的证明，费用由供货商自行承担。

13.1.7 Complete the containment/rework plans as required. Initiate an 8D, or similar problem solving methodology, and submit documentation of the results to Supplier Quality within 48 hours. If defective parts have reached our customer, please see Section 7 of this Manual.

按要求完成补救/返工计划，运用 8D 或类似的问题解决方法，在 48 小时内向供货商质量部提交结果文件。如果缺陷零件已到达客户手中，请见本手册第 7 章。

Section 14.0 第 14.0 章

Stop-Ship / Stop Build Procedures 停止发运/停止生产程序

14.1 Quality Problem Notification 质量问题通告

The supplier shall notify Kohler Company of any quality, reliability, or safety problems that may affect the products in any way, irrespective of the source of such identification. This notification must include any problems identified by other supplier customers on the same or similar products and identify where the cause of such problems may potentially apply to Kohler Co. product. This notification shall include reported problems with raw material or at sub-supplier sites. If other customers of the supplier have instituted stop shipments, subject to any confidentiality obligation the supplier has with its customers, the problem notification shall include the nature of such stop shipments. Kohler Company reserves the right to stop ships or stop build at the supplier's manufacturing site(s) due to any issues that affect Kohler's production yields or customer quality.
不论确认了是哪个有可能会影响到产品的任何方面，任何质量，可靠性或安全性方面的问题，供货商都应当通知科勒公司。这一通知必须包括供货商客户在同一或类似产品上已确认的任何问题，以及这些可能会导致科勒公司产品潜在问题的因素。该通知应当包括原材料或分包商工厂的问题报告，如果供货商的其他客户已经提起停止运输，鉴于供货商与其客户之间的保密义务，这些问题通告应当包括此类停止运输的性质。科勒公司保留在任何可能会影响产品产量或客户质量的情况下，要求供货商在生产地停止运输和停止生产的权利。

14.2 Problem Communication 问题交流

Problems must be reported that affect quality or reliability. The Supplier shall develop a formal process to notify Supplier Quality and Purchasing of any problems. Immediate contact should be made via telephone; however, Kohler's KOS Problem Solving Methodology (or similar 8D process) should be used to document all actions. 对会影响到质量或可靠性的问题必须进行报告，供货商应当按正式程序通知供货商质量或采购部任何问题。可以通过电话进行即时沟通，然而，应当立即使用科勒生产操作系统中的问题解决工具（或类似的8D解决方法）。

14.3 Urgency 紧急性

Stop ships and stop builds shall be treated with maximum urgency, and will not be lifted until root cause is understood and corrective actions are in place. Supplier shall provide immediate technical support for root cause analysis, and provide containment actions. The working notes involved in resolution of problems shall be recorded in the problem solving process, to include root cause explanations, corrective actions, and material disposition. .停止运输和停止生产应当被视为最紧急的问题，且在根本原因未查明以及具备整改措施之前不得解除。供货商应当提供及时的技术支持以找到根本原因并提供补救措施，对确认相关问题的工作笔记应当在问题解决程序中进行记录，包括真正原因分析，整改措施与零件处理。

14.4 Product Disposition 生产部署

Supplier shall ensure that no quality compromise will be made when dispositioning suspect or non-conforming product. There shall be no shipment of suspect products to Kohler Company without an approved deviation. . 供货商应当确保在对疑似废品或不合格产品进行处理时，不得有质量妥协，如未获得科勒公司认可的让步接收文件，这些疑似产品不得发运到科勒公司。