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1. **POLARIS BUSINESS INTEGRATION**

1.1. **INTRODUCTION**

The Polaris *Supplier Quality Assurance Manual’s* (SQAM) intent is to communicate Polaris expectations to our Global Supply Chain. Polaris Suppliers are expected to achieve Polaris Quality Lifecycle Management (QLM) strategic goals as set forth by the *Supplier Excellence Manual* and the content of this manual.

The subject matter of this manual offers a high-level overview of the quality tools and information, as well as links to the most current releases of Polaris templates and training. In addition, the intent is to help the Global Supply Chain better understand Polaris quality expectations, which are created to achieve higher first pass yield by way of implementing robust process controls and demonstrating continuous improvement.

This manual also enables Global Supply Chain to communicate more consistently and effectively, thus helping to establish a positive atmosphere in which teamwork and collaboration can flourish. For us to be mutually successful, we must all strive to create a “zero-defect” environment in which ongoing data review shall drive proactive process improvements.

Working together with the processes outlined in the *Supplier Excellence Manual, Business Practices Manual* and *Supplier Quality Assurance Manuals*, we can successfully generate breakthrough quality improvements, create world-class products and deliver them effectively while contributing to each other’s success.

1.1.1. **Purpose**

This document communicates the quality processes, systems, and procedures to ensure all members of the Global Supply Chain meet the expectations of Polaris. We recognize that suppliers are instrumental in meeting Polaris’ commitment to obtaining on-time, defect-free product with unmatched value to make us successful. This goal is accomplished by a collaborative relationship based on trust and open communication.

Where applicable, hyperlinks are available within this manual that will link you to the most current information/templates held within the Polaris Supplier Portal. Please use these links, which are designated with a blue button , to ensure your information, training and/or templates are of the latest revisions.
QLM (Quality Lifecycle Management) objectives will be classified by the following bar identifying applicable objectives by highlighted where the particular subject applies within the Polaris Development Process (PDP):

<table>
<thead>
<tr>
<th>Supplier Qualification</th>
<th>PDP</th>
<th>Supplier Performance</th>
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<tr>
<td>Supplier On-Boarding</td>
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<td>Safe Launch</td>
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<td>Product Assurance</td>
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<td>Quality Event Resolution</td>
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</table>

**Blue:** Typically used in this portion of the QLM  
**White:** Typically not used in this portion of the QLM

1.1.2. **Highlights:**

*Critical Definitions:*

**Shall** – The word “Shall” indicates mandatory requirements.

**Should** – The word “Should” indicates a recommendation.

Polaris suppliers shall:

- Understand, integrate, and follow the Polaris PDP process while adapting APQP/PDP to manage new product launch effectiveness when required by Polaris.

- Pro-actively communicate and seek Polaris authorization prior to implementing changes to process and/or design changes attributed to an approved Polaris process/design.

- Utilize effective sub-tier supplier management practice to ensure all sub-suppliers adhere to Polaris requirements at all times, without exception.

Our relationship shall instill a passion for “Zero Defects” across the entire Global Supply Chain. Having a Zero defects mindset is not a “business as usual” approach to resolving quality problems. It requires a proactive approach to managing quality that focuses on prevention and continuous improvement that is deeply embedded within the Global Supply Chain. We shall transform our mindset regarding quality from “as received” at the factory to zero defects “as delivered” to the end customer. The focus shall be on customer-perceived quality with metrics linked to leading product quality and reliability.
Polaris seeks suppliers who will make a commitment to continuous improvement (using tools such as lean manufacturing, six sigma and AIAG Core Tools) and provide objective evidence of measurable improvements in quality and delivery.

Polaris shall provide updates and revisions to the Supplier Quality Assurance Manual as necessary. Suppliers are expected to incorporate these updates and revisions into their quality system in a timely manner. If these changes generate a question or potential problem for a supplier, it is the supplier’s responsibility to bring the matter to the attention of Polaris by contacting the Polaris Buyer or Supplier Quality representative.

1.1.3. Scope

Note: If a conflict arises between the requirements of this manual and the Purchase Order/Contract, the requirements defined in the Purchase Order/Contract shall take precedence.

The expectations set forth in this manual are applicable to existing and new suppliers of parts, materials and services that directly impact the quality of Polaris products.

Our relationship with suppliers is defined by the provisions, terms and conditions of the Purchase Order or, where applicable, the contract with the supplier. Compliance with the guidelines of this manual or acceptance or approval of the supplier’s parts or materials does not relieve the supplier of any of the obligations or liabilities stated in the applicable Purchase Order or contract. In the event of conflict, the following order of precedence will apply:

- Design Record
- Purchase Order/Contract
- Procurement Specifications
- Supplier Quality Assurance Manual

1.1.4. Commitment

Polaris suppliers shall comply with this Supplier Quality Assurance Manual and all related processes, engineering specification, and procedures. This commitment begins with a strong management dedication to zero defects, problem prevention/resolution, and continuous improvement to the manufacturing process.
1.2. Supplier Excellence Manual (SEM)

OVERVIEW: SEM is the manual for a successful business partnership with Polaris. The manual provides an overview of the programs that Polaris uses to define supplier stratification and shared corporate objectives enabling mutual business benefits.

Achieving supplier excellence is an important part of our plan to build strong relationships with suppliers who can add distinctive value to our products and services, resulting in a competitive advantage.

The main objective of achieving excellence is to drive continuous improvement in our supply chain in a way that benefits our suppliers and Polaris. Going forward, supplier excellence will play an important role in our strategic sourcing process and becoming your customer of choice.

1.3. Supplier Business Practice Manual (SBPM)

OVERVIEW: The SBPM is the manual that outlines a successful commercial business partnership with Polaris. The manual provides an overview of our global business practices that defines our expectations of being a business partner to Polaris.

The SBPM defines both our customary and general guidelines of how Polaris conducts business. This manual outlines our expectations to create what Polaris believes is a strong, competitive, and value-added supply chain.

Polaris’ success is dependent upon our ability to provide the highest value to our customers through price, quality and service. A close working relationship with our supply base is critical to the achievement of this objective. The manual provides you with the necessary information that will be valuable to our mutual efforts of conducting business in a professional, efficient, and profitable manner.
1.4. **Supplier Portal (PolarisSuppliers.com)**

**OVERVIEW:** The Supplier information system (supplier portal) is the conduit to most recent revisions of Polaris systems, procedures, training and templates.

The Polaris Supplier Information System (www.polarisSuppliers.com) is the portal to all of the Polaris systems, procedures, training and templates. All key supplier personnel shall have access to this site and direct any requests for access according to the Login User ID Matrix (portal login overview) located at www.polarissuppliers.com. It is the supplier’s responsibility to keep the contacts up to date and with accurate job descriptions. Instructions on how to maintain this site can be found on the business practices section of the portal.

![Polaris Supplier Portal and Login User ID Matrix](Image)

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<td>Product Assurance</td>
</tr>
</tbody>
</table>
2. SUPPLIER EXPECTATIONS AND KEY REQUIREMENTS

2.1. QUALITY SYSTEM REQUIREMENTS

2.1.1. Quality Management System (QMS)

**OVERVIEW:** A Quality Management System is the fundamental quality system that provides for continuous improvement, emphasizing defect prevention and the reduction of variation and waste in the supply chain.

The supplier shall establish, document and maintain a quality management system (QMS) as a means of ensuring the product conforms to Polaris specified requirements. The supplier shall prepare a Quality Manual covering the requirements of these International Standards (ISO-9000 or TS16949). The Quality Manual shall include or make reference to the quality system procedures and outline the structure of the documentation used in the quality system.

Polaris prefers that suppliers have a quality system that is registered to ISO-9001 or TS16949 standards. The supplier shall use the most recent version for either of these certifications and the certifications must be registered through an accredited registrar. If the Supplier is not registered to one of the aforementioned standards, the Supplier’s quality system shall include the following elements at a minimum:

Quality Policy defined in a Quality Manual:

- Documentation control including the most recent drawing revisions as stated on the PO
- Inventory control including finished goods, WIP, raw stock and discrepant material including traceability of received goods
- Process controls including inspection techniques and frequency
- Non-conforming product control procedures
- Corrective action procedures
- Supplier quality assurance program including Sub Tier Management
- Quality auditing procedures
- Detailed work instructions (standard work)
- Documented evidence to support that personnel are adequately trained for their assigned functions

Suppliers’ responsibilities regarding the Quality Management System include:
• Ensure Polaris is updated with major changes to your quality system, quality system manual, ISO certification and primary quality contact by communicating the changes with your Polaris Purchasing Agent.

• Ensure registration to the requirements of ISO 9001:2008 or TS16949:2002 (registration must be through an accredited registrar and for the most recent revisions). Suppliers are required to forward all certificates of registry (including updates and/or suspensions) to the Polaris Purchasing Agent to be catalogued into Polaris’ system.

• Ensure your quality system supports all Polaris supplier quality requirements as defined in this Supplier Quality Assurance Manual.

• Ensure your organization’s compliance to all stated policies and procedures documented within your organization’s quality manual.

• Ensure no less than annually, conduct and make available the results of a comprehensive quality system audit. This audit should be conducted internally, by a third party, or by Polaris. Submitted results shall include the corrective action taken or planned against significant (major) findings resulting from the audit. All audit results, including any actions taken, shall be part of the supplier’s document control. Polaris will reserve the option of requesting the supplier to take specific action(s) upon review of the internal audit.

2.2. Quality Records

OVERVIEW: Supplier Quality Records shall be established to provide evidence of conformity to Polaris and industry requirements and the effective operation of the supplier quality management system.

Quality records are the documented evidence that the supplier’s processes were executed according to their QMS documentation. Unless otherwise specified by Polaris, suppliers are responsible for maintaining records and test specimens in accordance with the supplier’s quality system requirements.
2.2.1. Proprietary Information

**OVERVIEW:** *Creative ideas and expressions of the human mind that have commercial value and receive the legal protection of a property right that may include ideas, inventions, business methods and manufacturing processes.*

Suppliers serving as Tier I to Polaris shall comply and ensure that their respective sub-tier suppliers (Tier 2, 3, etc.) are advised of and agree to the obligations set forth in the *Polaris Business Practices Manual* relating to Confidential Information.

2.2.2. Resources and Technology

**OVERVIEW:** *Polaris expects suppliers to maintain and use the highest and most current levels of technology reasonably available and required for design and production of quality products, in addition to electronic communication.*

Suppliers shall possess and maintain relevant resources and technology necessary to interpret and comply with Polaris requirements. Some examples are CAD systems to interpret Polaris drawings and models, CMM/measurement technologies, digital scanning capabilities, computerized aids to assist in the analysis of data, flow mold technology, tool life/management, electronic communication including email, and the distribution of quality graphs, drawings and specifications.

2.2.3. Supplier Communication

**OVERVIEW:** *All communications from suppliers to Polaris shall be in English.*

Quality is everyone’s job and effective communication is an important element to ensure our success. All communications to Polaris must be in English, including but not limited to forms, submissions and general communication.

In order to maintain schedules and builds, effective communication regarding part qualification and quality requirements shall be communicated in a timely manner to the appropriate Polaris personnel. All communication shall include the Buyer and Supplier Quality/Development Engineer. In addition, pre-production information shall include the PDP Buyer and PDP Planner. Production information shall include the Production Planner.
Immediate notification is required regarding all non-conformance situations (including sub-tier suppliers). The supplier shall champion the non-conformance reaction plan including containment and resolution activities in order to minimize impact to Polaris. The Polaris Buyer, Supplier Quality/Development Engineer and Planner/Scheduler shall be kept informed as to the status of the non-conformance.

It is the Tier I’s responsibility to convey all relevant information for sub-tier suppliers to Polaris.

Oral communication may be effective for a quick avenue of notice but all communications shall be conducted electronically by use of appropriate forms or email notifications. Some examples of appropriate forms are:

- Process Change Request including rework (PCR)
- Supplier Corrective Action Report (SCAR)
- Deviation
- Design Change Request (DCR)
- Contact information

Note: All communication shall be conducted electronically. Questions regarding any of these electronic communication procedures should be directed to purchasing.systems@polaris.com.
3. SUPPLIER ASSESSMENT / SUPPLIER QUALIFICATION

3.1. SUPPLIER ASSESSMENTS

3.1.1. Polaris Supplier Assessment

OVERVIEW: The Polaris Supplier Assessment is a tool used by Polaris supply chain personnel to evaluate a supplier’s business capabilities. The tool gauges’ quality, engineering and business practices to ensure the supplier’s capabilities align with Polaris business needs.

Strategic Sourcing/Supplier Development/Supplier Quality utilizes the Supplier Assessment to evaluate the alignment of supplier capabilities to Polaris business needs. The supplier’s perceived capabilities, when initially completed by the supplier, are evaluated against the Polaris on-site audit, which follows. The intent is to improve collaboration in developing Polaris/supplier relationships.

Segments include:
- Best in Class
- Preferred
- Development Needed
- Non-Performing / Unacceptable

Key Elements Include:
- Performance
- Quality
- SIOP – Sales Inventory Operations Planning
- Environmental / Health / Safety
- Process Walk
- Lean Operational Excellence
- Measurement Sys
- New Product Development
- Supply Chain Management
- Process Controls
- Change Management
- Corrective Actions

Supplier Assessment Form
3.1.2. Supplier Manufacturing Assessment

OVERVIEW: The Supplier Manufacturing Assessment is a tool used by Polaris supply chain personnel to evaluate a supplier’s process capabilities. The tool gauges all aspects of manufacturing including process controls, maintenance, tool support, technology, and quality systems specific to the supplier’s core competencies. The goal is to ensure the supplier’s capabilities align with Polaris business needs.

Like the Polaris Supplier Assessment, the manufacturing assessment will begin with Polaris requesting a self-assessment for specific manufacturing processes. Upon receiving the self-assessment from the supplier, Polaris will dictate if an onsite follow-up audit conducted at a supplier’s facility is required. During the onsite audit Polaris will evaluate “as-is” conditions and supplier “potential” as related to specific manufacturing practices. The actual audit may contain more than one subject based on the services provided or proposed to Polaris.

Corrective actions may be needed, based on the Polaris audit, as a condition of being awarded new business or maintaining current business.

3.2. Supplier Productivity Metrics

3.2.1. Rolled Throughput Yield (RTY)

OVERVIEW: Rolled Throughput Yield is the probability that a process with more than one step will produce a defect-free unit. It is a product of yields for each process step of the entire process. This is also the predominant metric of concern to Polaris as it gives a conclusive snapshot of the supplier’s overall process.

Polaris expects that all component suppliers maintain a current tracking tool for their process’ production metrics. This tool shall be used to continuously improve the manufacturing process and mitigate the risk of producing non-conforming parts. Additional metrics that Polaris expects to be tracked and a sample tool outlining these metrics can be found at the SPM document links below.
3.3. **Test and Measurement Equipment**

*OVERVIEW: Test and Measurement Equipment may be owned by the supplier or Polaris. The following are Polaris expectations regarding the responsibilities of such equipment when used for Polaris products or services.*

Suppliers may use any test and measurement equipment (T&ME) deemed necessary to meet Polaris design record requirements. When Polaris requires the use of certain T&ME, it will be specified in the Design Record.

Suppliers shall perform internal calibration activities in accordance with ISO 10012 or equivalent. The supplier shall contract all external calibration activities with a calibration supplier who is accredited to ISO 17025 or equivalent, and whose scope of accreditation includes all of the equipment that they are being contracted to calibrate. Inspection gages, along with test equipment, shall be controlled and comply with a calibration schedule that is designed to be consistent with the organization’s calibration reliability target. Additionally, suppliers shall treat all T&ME with reasonable care to prevent loss, damage or out-of-calibration conditions. Suppliers shall not ship product to Polaris tested with T&ME that is not in calibration or not in good working order. If product tested with T&ME in this described condition escapes the supplier's location, Polaris shall be notified immediately with part number, shipping information and calibration results by contacting their assigned SQE and the scheduler/planner of the Polaris shipping destination.

In some cases, Polaris will provide T&ME to suppliers. This is typical when the T&ME is considered to be non-standard. The supplier is responsible for the care, maintenance, safekeeping, and proper use of Polaris-owned items. Suppliers shall promptly report any loss, damage or destruction of gages and test equipment. This does not include normal wear and tear. Polaris and the supplier will determine who has responsibility for calibration and specify the calibration interval of all Polaris owned T&ME. If Polaris assumes responsibility for calibration, the supplier shall return the recalled T&ME within the timeframe requested.
4. **PDP DEVELOPMENT / SOP READINESS**

### 4.1. **POLARIS DEVELOPMENT PROCESS (PDP)**

**OVERVIEW:** PDP is a 5-phase business process for integrated product development and validation that is designed for speed and flexibility. It emphasizes quality and teamwork, focusing heavily on analyzing risk in order to make well-informed decisions.

PDP is a phase-gate development process that Polaris new product programs use to develop, build and deliver quality products and services for customers worldwide. Polaris involves PII employees, suppliers, dealers and customers throughout the process. Guided by our product and industry strategies, we work in teams, think and act collaboratively, communicate clearly, apply new technologies, manage risk (APQP), and continuously improve to make our global supply chain and Polaris stronger and more profitable. Some of the benefits of PDP process include:

- A Stage-Gate process for integrated product development and validation;
- Major, Intermediate, and Minor levels that can be tailored based on the size and scope of individual programs;
- Gates which allow management to assess programs to prioritize and make go/no-go decisions;
- Pre-production builds which allow teams to validate products and processes from concept to SOP;
- Key deliverables provided at builds and reviews during product development.

### 4.2. **ADVANCED PRODUCT QUALITY PLANNING (APQP)**

**OVERVIEW:** Advanced Product Quality Planning is a structured method of defining, updating, establishing and documenting all steps to assure that critical customer requirements are considered throughout the planning processes.

Advanced Product Quality Planning is a structured method of defining and establishing the steps necessary to assure that a product satisfies the customer’s needs and that failure modes are identified and mitigated early in development process. The goal of product quality planning is to facilitate the communication with everyone involved to assure that all required steps are completed on time.

Effective product quality planning depends on a company’s top management commitment to the effort required to achieve customer satisfaction. Some of the benefits of product quality planning include:

- Direct resources to satisfy the customer
• Early identification of required changes
• Avoidance of late changes
• Providing a quality product on time at the optimum cost

4.3. DRAWING REVIEW

OVERVIEW: The drawing, model and specifications are part of the Design Record and a clear understanding of Polaris requirements is essential to mutual success.

Suppliers are responsible for the careful review of Polaris drawings, models and related specifications/standards to ensure comprehension and the ability to meet the requirements as defined.

The drawing review is the appropriate venue to share feasibility concerns through the Manufacturing Feasibility Commitment (MFC) discussed in section 4.4 of this manual. Upon completion, the MFC should be submitted to the Polaris Purchasing contact.

Drawings are considered a final refinement of the Design Record and as such when a conflict arises between a specification, purchase order or model, the drawing is the master document. Suppliers shall adhere to the latest revision of said documents and maintain proper document control. Only current revision levels as noted on the Purchase Order may be used for production purposes. Obsolete revision levels shall be controlled in a manner that ensures they are not used for production. Acceptable measures of obsolete document control would be to destroy or return the documents to Polaris or to ensure the documents are under lock and key and identified as obsolete. This requirement should be defined in the supplier’s QMS System.

4.4. KEY PRODUCT CHARACTERISTICS (KPC)

OVERVIEW: Key Product Characteristics are product or manufacturing process parameter that can affect safety / compliance with regulations. In addition, KPCs can include high customer satisfaction items through fit, form, function, performance or subsequent processing of product. Targeting control is necessary to meet Polaris requirements that directly or significantly impact customer
satisfaction through compliance with government, country or industry standards / regulations; ability to perform its intended design requirements; or design for manufacturability/assembly.

KPC is a product characteristic defined by Polaris design engineering where variation would significantly affect the product’s intended usage, the product’s safety or its regulatory compliance. A KPC is considered key to the design functionality and considered a special characteristic. KPCs are identified by the symbol of a diamond (◊) on drawings. A process capability of a 1.33 Cpk shall be demonstrated no later than 90 days after initial startup to prove long-term capability on all KPCs. During this 90 day-period, if a Cpk of 1.33 cannot be established there must be Error-Proofing, Mistake-Proofing or 100% inspection in place. After 90 days Error-Proofing, Mistake-Proofing or a 1.33 Cpk is the minimum requirement. 100% inspection that does not meet the requirements of Mistake-Proofing shall no longer be an acceptable replacement for process capability/control after the initial 90-day period.

In the instance process control is established via a 1.33 Cpk, ongoing statistical process monitoring shall be performed on KPCs (unless otherwise error/mistake proofed). This shall be done via X-bar and R, I-M, or other Polaris approved SPC charting process.

KPC’s shall receive first order of precedence for continuous improvement (starting with the highest severity failure mode items on the FMEA, lowest Capability Study metrics or non-Error-Proof [Poka-Yoke] or Mistake-Proof processes)

4.5. POLARIS MANUFACTURING FEASIBILITY COMMITMENT (MFC)

OVERVIEW: Polaris requests that all Suppliers analyze and determine their ability to commit to all requirements as specified in Polaris Design Record prior to acceptance of any pre-production purchase orders.

Suppliers are required to analyze and determine the ability to commit to all requirements as specified on Polaris Engineering documentation prior to acceptance of any pre-production part purchase orders. Polaris design ownership does not preclude the supplier’s obligation to assess manufacturing/assembly feasibility. The team must be satisfied that the proposed design can be manufactured, assembled, tested, packaged, and delivered in sufficient quantity, on schedule, per agreed-upon cost to Polaris.

The MFC is the document record of feasibility including any open issues that require presentation to management for resolution and support. Completion and submission of the MFC is required step of APQP. Send a completed signed copy of the MFC to the Polaris production or PDP buyer immediately after completing. Also copy your SQE/SDE when submitting the MFC.
4.6. **FIRST ARTICLE INSPECTION REPORT (FAIR)**

**OVERVIEW:** A FAIR is a formal method of providing a measurement report for a given manufacturing process. The method consists of measuring the properties and geometry of an initial sample item against given specifications, for example a drawing. First article inspection is typically called for between the manufacturer and supplier of some manufactured article, to ensure that the production process reliably produces what is intended. FAIRs are used for engineering samples submitted to Polaris for pre-production builds and are also used to qualify production tooling.

A FAIR, like an ISIR (Initial Sample Inspection Report), is not intended for production runs and therefore should not be used for a PPAP. AS9102 is the Aerospace Standard for First Article Inspection Requirements and is used as the primary method for inspection and testing of pre-production samples.

**Note:** Pre-production requirements may need various versions of FAIR information (quantities, featured measured, etc.) based on the types of pre-builds. These requirements shall be stated on the pre-production/engineering purchase order. All FAIRs shall include a ballooned drawing.

4.7. **PILOT BUILD ORDER PROCESS**

**OVERVIEW:** Material ordered outside of the production control system on unreleased or WIP (Work-In-Process) drawings shall be exempt from normal quality processing controls such as PCR, PPAP, RMO, Deviation and DCR.

Only released drawings can be processed through PCR, PPAP, RMO, Deviation and DCR. For these reasons Polaris engineering shall control the disposition of non-compliant material purchased outside of the production system. Products ordered for engineering purposes are expected to conform to the current unreleased drawing at the time of order.

Example: Engineering requests 30 parts manufactured on at least 75% tooling for the purposes of a V-Build (validation build) and the drawings are not yet released. Conditions such as this will fall under the pilot build order process.
4.8. **Pulse Orders**

**OVERVIEW:** The pulse process is a documented procedure that Polaris uses to pull ahead part certification dates and delivery an initial quantity of parts before the start of production.

Polaris may use a Pulse Order Process to aid suppliers in the development of procedures and processes that ensure high-quality parts. This procedure is set up to help the supplier determine if their manufacturing processes shall be able to hit the quoted numbers, find and fix any potential problems that could surface before production, and begin taking responsibility of the quality standards early to greatly reduce risk as start of production approaches.

This process is designed to benefit the supplier by giving them a chance to run their production process and produce a significant run of production-ready parts without the pressure of shutting down Polaris assembly plants in case of an issue.

4.9. **Run at Rate (R@R)**

**OVERVIEW:** Performing Run-at-Rate audits allows suppliers and Polaris to proactively expose and correct issues discovered in the supplier’s processes before they become production problems.

The Run-at-Rate’s purpose is to provide the evidence that all customer design records are properly understood by the supplier and that the manufacturing process has the ability to produce product consistently, meeting these requirements during an actual production run at the quoted production rate using production tooling and production personnel.

Run-at-Rates will be scheduled before PPAP (Production Part Approval Process) submission and prior to SOP (Start of Production) and when the conditions described above are congregated.
4.10. **Red Rabbit**

*OVERVIEW:* A Red Rabbit is the introduction of a known discrepancy into the system to validate whether actions/procedures put into place are effective at preventing escapes during the normal course of production.

The current processes/procedures can be tested for effectiveness prior to experiencing a loss, such as escapes or poor production yield, by introduction a known nonconforming part into the system. Many industries utilize the Red Rabbit process to closely manage the evaluation.

Suppliers should regularly introduce the Red Rabbit, enabling them to identify areas of continued improvement. In addition, the process can detect holes in the process that could eventually lead to an escape.
4.11. PRODUCTION PART APPROVAL PROCESS (PPAP)

OVERVIEW: The PPAP is a standardized process in manufacturing industries that helps manufacturers and suppliers communicate and approve production designs and processes before, during, and after manufacture. Polaris does not accept separate charges for the cost of PPAP development. Suppliers shall factor the cost of PPAP development into the overall cost of doing business.

The Production Part Approval Process (PPAP) is a rigorous and structured process for part qualification. PPAP is a method used for evaluating the complete manufacturing process which was developed by the domestic automotive industry as part of QS 9000 and now TS16949.

PPAPs shall be requested on all production parts and materials.

Examples are:
- New part submissions
- Implemented PCRs
- New supplier for a current part
- New revision level applied to a current part (ECL – Engineering Change Level)
- Otherwise required in whole or part regarding other qualification events unless officially waived by Polaris in the PPAP system

Suppliers will be notified by Polaris when a PPAP has been requested.

Suppliers shall submit the PPAP package requested prior to the due date listed on the PPAP request. The PPAP package must be received by Polaris before the due date. Typically, a PPAP package shall consist of the 18 elements defined by Polaris and referenced in the AIAG 4th Edition PPAP Manual. Suppliers shall be required to submit and/or retain the 18 elements based on the Polaris PPAP request.

Five different levels of documentation and submission requirements have been identified and standardized. All of them include a Part Submission Warrant (PSW).

Unreleased drawings/models cannot be PPAP’d but instead are subject to FAIRs.

Suppliers shall adhere to the Polaris-specific PPAP element requirements as defined in the PPAP manual (see hyperlink below for more details).
4.11.1. Appearance Approval Report (AAR)

OVERVIEW: A separate Appearance Approval Report shall be completed for each part or series of parts if the product/part has appearance requirements on the design record.

Upon satisfactory completion of all required criteria, suppliers shall record the required information on the AAR. The completed AAR and representative production products/parts shall be submitted to the location specified by Polaris to receive disposition. AARs shall then accompany the Part Submission Warrant (PSW) at the time of final PPAP submission based upon the submission level requested.

Note 1: AAR typically applies only for parts with color, grain or surface appearance requirements.

Note 2: Polaris requires all fields related to required criteria be completed on the AAR.
4.12. **Safe Launch Plan (SLP)**

**OVERVIEW:** A Safe Launch Plan (SLP) is an enhanced quality-control method that manufacturers / suppliers use to help ensure production excellence at launch. The SLP adds a temporary (90 days) layer of additional inspection and real-time reporting that provides critical support to the supply chain during the challenging initial phases of new processes and production.

The goal of SLP is the delivery of zero-defect parts that meet either the defined period of time or number of lots as defined by Polaris. SLP addresses all direct material suppliers of in-process or finished components to all Polaris facilities. Safe Launch is to be used for all pre-production and production requirements that are part of PDP, including APQP/PDP, or when requested by a Polaris representative on any parts that present significant risk.
5. PROCESS MANAGEMENT

5.1. PRODUCT ACCEPTABILITY REQUIREMENTS (PAR)

5.1.1. Corrosion

OVERVIEW: Polaris does not accept corroded material(s) nor product with inadequate protection from corrosion.

Corrosion is the gradual destruction of material by chemical reaction with its environment (IE: oxidation). Corroded features such as rust (oxidized ferrous material), white rust (aluminum oxide), or degradation of ceramics or polymers is not allowed.

Special causes contributing to corrosion while under the control of Polaris shall be reviewed on a case-by-case basis. Use of corrosion inhibitors, candidate lubricants, and all other chemicals is subject to Polaris MSDS guidelines and must be pre-approved according to the Polaris Product Acceptability Requirement (PAR) process.

Note: Unless otherwise defined in the design record, Polaris shall not accept product exhibiting corroded features within 90 days FOB from Polaris suppliers.

5.1.2. Material Safety Data Sheet Requirements (MSDS)

OVERVIEW: MSDS is a document that contains information on the potential health effects of exposure to chemicals or other potentially dangerous substances, and on safe working procedures when handling chemical products. Per OSHA regulations and to ensure safety standards, Suppliers of incoming materials and products shall utilize chemicals that comply with general lubrication guidelines and provide complete MSDS documentation as proof of that compliance.

The first priority is the safety of Polaris/supplier employees. Along with safety, numerous Polaris production processes rely on the ability to fully clean metal by removing oils, soils and contaminants in the existing wash process. Therefore, Suppliers of incoming materials and products are obligated to utilize chemicals that comply with general lubrication guidelines and provide complete MSDS documentation as proof of that compliance. Approval of candidate lubricants and all other chemicals shall be processed via a PPAP requirement for an MSDS submission.
5.2. **PACKAGING, LABELING AND DELIVERY**

**OVERVIEW:** Accurate labeling, proper packaging, and on-time delivery are critical to maintaining production schedules at Polaris’ worldwide assembly plants.

Mislabling causes unnecessary losses, resulting in rework, inventory instability, late delivery, and negative risk impact to Polaris’ operations, dealers, and consumers. Receipt of mislabeled parts will negatively impact Supplier PPM results/score cards. Due to the severity and impact of the mislabeling issue, Polaris will seek escalating recovery fees in relation to mislabeled material.

*Note: Recovery Fees are defined in the Supplier Business Practice Manual*

The supplier shall control packing, packaging and labeling processes (including materials used) to the extent necessary to ensure conformance to specified requirements. Suppliers shall ensure that the packaging of parts and components is suitable to prevent damage during transit. All packaging and delivery requirements shall conform to the *Polaris Delivery Manual*. The supplier shall develop a system to ensure that all materials shipped are labeled according to Polaris requirements.

Packaging/labeling shall be approved by Polaris prior to serial production shipments using the *Polaris Packaging Approval Form*. The Polaris packaging approval form approves features of the packaging but does not alleviate the supplier from protection of the product. Protection of the contents placed within the approved packaging shall always be the responsibility of the Supplier.

5.3. **PROCESS CONTROLS**

**OVERVIEW:** Suppliers are responsible for ensuring all items, regardless of their process sources (e.g. Sub Tier), meet Polaris specifications.

Suppliers shall establish and document process standards & controls for all aspects of their manufacturing operations in order to prevent defective product from being delivered to Polaris, ensure consistency of production operations, enable continuous improvement, and control cost. Process controls shall be referenced in an approved control plan when required/appropriate.
The supplier shall prepare documented process monitoring and operator instructions (work instructions) for all employees having responsibilities for operation of processes that enable production of Polaris components(s)/product(s). These instructions shall be accessible at the appropriate work station for usage by the production manufacturing personnel.

Process monitoring and operator instructions may take the form of process sheets, inspection and laboratory test instructions, shop travelers, test procedures, standard operation sheets, or other documents normally used by the supplier to provide the necessary information.

5.4. **PRODUCT IDENTIFICATION AND TRACEABILITY**

**OVERVIEW:** Suppliers shall establish and maintain documented procedures for identifying the product from receipt of raw material through production and delivery.

When required by Polaris, suitable methods of product traceability shall be maintained, including permanent part marking and recorded/stored data. Special attention should be given to traceability for outside processing such as heat treatment, plating, coating, etc.

Mechanical and metallurgical properties shall be monitored by lot and details (and/or certifications) shall be retained per supplier QMS record retention policies. Product identification and traceability shall be presented to Polaris personnel when requested and will be reviewed during an on-site audit process.

5.5. **SUB-TIER SUPPLIER MANAGEMENT**

**OVERVIEW:** Tier I suppliers shall be responsible for their sub-tier supplier performance and compliance to all Polaris requirements.

Suppliers shall establish and maintain documented procedures to ensure sub-tier suppliers comply with the supplier requirements defined in this manual. These procedures shall include proper distribution of Polaris drawings/specifications, raw material, quality and testing, and packaging and identification (labels). When required, proper levels of part traceability (lot codes and/or date codes) should be defined and the sub-tier suppliers shall maintain revision control methods that are properly embedded in their systems. Polaris Tier I suppliers shall ensure sub tier suppliers are managing material lead times and maintenance of fixtures and tooling. Tier I suppliers shall provide the remaining useful life of tools, including those within sub-tier supply base, on an annual basis to Polaris.
Sub-tier performance and compliance includes, but is not limited to, adherence to all requirements defined in the Design Record. Minimum Polaris requirements are defined to have current supplier quality audits for critical sub-tier suppliers on file, including a record of PPAP submissions. Tier I suppliers are also responsible for change management (PCR) compliance at their respective sub tiers. It is strongly encouraged that the Supplier Quality Manual is distributed to the sub-tier suppliers.

5.6. Deviation Request

OVERVIEW: Polaris must control the products and services provided by our global supply chain based on approved/validated products and processes. A deviation is initiated to request a temporary change to a Polaris print, engineering specification, or quality standard. Polaris requires notification and has right of refusal of any proposed deviations to the design record. Formal Polaris approval is required BEFORE a supplier ships a deviated product.

A deviation request is initiated to request temporary acceptance to ship product that is non-conforming to Polaris print, engineering specification, or quality standards. It is the supplier’s responsibility to make every effort to meet Polaris requirements prior to submitting a deviation request. Deviations shall define a set quantity of affected product for shipment within a prescribed time frame. A copy of the approved deviation shall be printed and fixed to a container until the deviation has expired or is no longer needed (i.e., new drawing release). All approved deviations expire after 1 year, regardless of quantity. At the time of expiration, the supplier shall request a new deviation if necessary.

A supplier shall never request a deviation to bypass the PPAP system. Deviations can be used in conjunction with a PPAP approval or interim approval, but not as a substitute.

The request for deviation shall be accompanied by a robust corrective action and implementation date. All deviation requests shall be submitted via the online electronic deviation system found on the supplier portal. For additional information, please reference the Electronic Deviations Manual.
5.7. **DRAWING CHANGE REQUEST (DCR)**

*OVERVIEW:* A Drawing Change Request (DCR) is initiated to request a permanent change to a Polaris print, engineering specification, or quality standard.

Suppliers are expected to make recommendations for changes to drawings or specifications upon initial part quotation. Change requests shall be submitted and approved prior to the part qualification submission.

Suppliers are not authorized to ship product to Polaris that does not meet the current design record unless accompanied by an approved deviation or DCR. A copy of the approved DCR shall be printed and fixed to a container until the revised design record is released.

All drawing change requests shall be submitted via the online electronic drawing change request system located within the supplier portal.

5.8. **PROCESS CHANGE REQUEST (PCR)**

*OVERVIEW:* Polaris controls the products and services provided by our global supply chain based on approved / validated products and processes. Polaris requires notification and right of refusal to any proposed changes BEFORE a supplier implements a process change. A process change request documents a change in the supply or manufacture of material/product that is not covered by a DCR.

Suppliers shall submit a PCR for all changes that occur after PPAP approval. This requirement includes the rework of material, which is done outside of the approved process (e.g. Rework not documented on the approved PF, PFMEA, and PCP). A supplier must receive an approved PCR, prior to implementing any change. Approval notification is achieved by complying with the Polaris PCR process.

In the event the PCR process is not properly followed, Polaris shall take appropriate action needed to recover any costs incurred due to the use of material / product produced. Costs shall include, but are not limited to, scrap, rework, production downtime, warranty, part validation, testing, etc.
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PCR Process & System Training

PCR System Log-in
6. QUALITY EVENT RESOLUTION AND PREVENTION

OVERVIEW: Polaris is committed to providing its consumers with the highest quality products and services. Polaris continuously works to improve its systems, processes, and products to ensure high customer satisfaction and expects similar continuous improvement from its suppliers.

6.1. REJECT MATERIAL ORDER (RMO)

OVERVIEW: The RMO process has been established to document and disposition product that is non-conforming to the design record.

Acceptance or rejection of purchased materials received by Polaris is based upon a representative sample inspection conducted by the Polaris receiving facility. Rejections shall also occur due to out-of-specification parts discovered during assembly or testing failures. Rejection of purchased material is documented and communicated electronically via an RMO.

Suppliers shall follow the procedure below once notified of an RMO:

- Stop shipment of non-conforming product
- Execute and document containment actions
- Inspect/rework parts for certified shipments
- Take appropriate measures to avoid interruption of Polaris production and continuity of supply

In the event of potential production interruption, Polaris shall authorize or request the following:

- Third-party containment at supplier expense
- Polaris sort at supplier expense
- Supplier-executed containment

Suppliers shall respond to all RMOs as soon as possible but no later than 1 business day from the date/time of notification. If a response is not received within that period, the material may be shipped back to the supplier at the supplier’s expense.

All RMOs receive a material disposition that is communicated via code. All disposition codes shall affect the Supplier’s Quality Performance Rating, expressed in parts per million (PPM), when it is determined that the Supplier is responsible for the non-conformance.
**RMO Disposition Codes**

**00 – Inventory Adjustment:** This code is used when an inventory adjustment is required to adjust received quantity versus labeled quantity. Misidentified parts/materials may be sorted and returned to the supplier at the supplier’s expense.

**01 – UAI (Use As Is):** This code is used when a non-conformance is identified, but components or material are able to be used in production without further rework or sorting operations. A request for deviation shall be completed and approved for all UAI dispositions prior to the parts being released to production.

**02 – RTV (Return to Vendor):** This code is used when components or material is identified with a non-conformance and are returned to the supplier without further processing by Polaris.

**03 – Scrap at Supplier Expense:** This code is used when components or materials are identified with a non-conformance and are scrapped at Polaris. The supplier is debited for the cost of the components.

**04 – Rework / Sort at Supplier Expense:** This code is used when components or materials are identified with a non-conformance and are sorted or reworked. All disposition codes shall affect the supplier’s quality performance rating, expressed in parts per million (PPM), when it is determined that the Supplier is responsible for the non-conformance. RMOs that have not been dispositioned by Polaris for >180 days shall be retracted.

**Note:** All costs incurred by Polaris as a result of an RMO are subject to cost recovery at the supplier’s expense.

In the event of incorrect labeling and incorrect quantities are received, the supplier shall be charged with a one-piece quantity in the RMO per occurrence (Appendix A, example #6). The above consideration is for received goods only. Any mislabeled product that enters the production stream shall be issued a fully quantity RMO including costs associated with the correction.

RMOs shall be issued for delivery of production material without prior PPAP approval and material received that underwent an unapproved process change (see Process Change Request (PCR) section for additional information).

As a result of the rejected material, Polaris may require a response to replenish stock, Certification ID, PDI, Supplier CAPA, 3rd Party Containment, or other requirements as defined by Polaris to ensure the impact to Polaris production is minimized.

6.1.1. **NON-CONFORMING PPM RATE**

The non-conforming PPM rate is defined by the following calculation:

\[
\text{Parts per Million (PPM)} = \left( \frac{\# \text{ of Parts Rejected}}{\# \text{ of Parts Received}} \right) \times 1,000,000
\]
A supplier’s PPM is calculated on a monthly basis and is recorded into the supplier’s performance scorecard.

The following shall be counted against a Supplier’s PPM:

- All non-conforming material received at Polaris;
  - Non-conforming material is subject to an RMO in accordance with this document and the requirements / specifications as defined in the design record.
- Non-conforming material received prior to a Polaris approved deviation or DCR;
  - Deviation approval after the occurrence shall not affect the RMO’s disposition.

The following shall not be counted against a Supplier’s PPM:

- Supplier notification to Polaris of non-conforming parts prior to Polaris discovery and use; including removal and certified replacement of product without impacting the production schedule.
- Non-conforming parts shipped to Polaris with an approved deviation prior to shipment. Copies of the deviation shall be attached to all containers affected by the deviation.
- Product that is not fit for use but conforms to Polaris design record with exception of unauthorized process changes.

### 6.2. Control of Non-conforming Products and Corrective Action Procedures

**OVERVIEW:** Suppliers shall establish a policy and maintain systems directed toward the control of non-conforming product and corrective / preventive actions.

Robust measures shall be in place to prevent escapes and a documented procedure to strengthen processes shall be built into internal corrective action procedures. This process shall also extend to the supplier’s sub-tier levels.

At a minimum, the supplier’s policy and systems shall contain:

- Documented reaction plan for a quality event;
- Identification of nonconforming material;
- Containment of nonconforming material throughout the value stream with controls to prevent further material from entering;
• A robust process to evaluate conformity of work in process (WIP) in both directions of the value stream at the point of discovery;
• Immediate notification to Polaris is required in the event that a supplier suspects or confirms a quality escape. Polaris notification should be given to your purchasing and quality representatives.
• Quantitative production measures and metrics should be utilized to drive improvement and/or validate corrective actions.
• Documented procedures for the creation and processing of internal corrective and preventive actions (CAPA).

6.2.1. Supplier Corrective and Preventive Action (CAPA)

OVERVIEW: Supplier corrective and preventive actions are required to establish root cause and prevent occurrence or recurrences of non-conformities.

The supplier shall establish and maintain documented procedures per Polaris requirements for implementing and communicating corrective and preventive actions.

When a quality event occurs, Polaris may request the execution of a CAPA with required submission for review and approval. Regardless of Polaris request, it is expected that suppliers execute CAPAs for all quality events that occur.

The supplier shall implement and record any changes as a result of the CAPA to any affected documentation.

6.3. Controlled Shipping Levels

6.3.1. Pre-Delivery Inspection (PDI)

OVERVIEW: Pre-delivery inspection (PDI) is a secondary act of inspecting a product for quality defect(s) prior to shipment to ensure nonconforming product does not reach the customer.
PDI is utilized once the product has been through all of its manufacturing/assembly processes and is prepared for shipment to a Polaris production facility.

Suppliers should implement PDI as a quality gate to:

- Certify a known non-conformity has been properly contained or corrected; and
- Validate the effectiveness of corrective or preventive action(s).

Suppliers shall implement PDI if Polaris determines it is necessary to prevent disruption to Polaris production. In effect, PDI shall be required based on potential impact to the Polaris production system and need for continuous supply per the delivery schedule.

Polaris shall reserve the right to utilize third-party resources or internal personnel to conduct PDI activities where needed within the value chain as required.

Upon a quality event, Polaris' minimum requirement is the next 5 shipments shall be inspected by the supplier at the rate of 100% and marked as certified. If additional discrepancies are found at Polaris, all shipments are subject to 100% sort. The aforementioned requirement is a guideline, if other instruction is provided by Polaris with regards to number of shipments and inspection rate, such instruction supersedes the guideline.

PDI shall be a temporary procedure to drive corrective actions and shall not become an integrated part of the day-to-day process. All PDI products shall be identified in accordance with certified ID requirement section. Any defects found in a certified shipment that are within the scope of PDI will result in implementation of PDI2. Please refer to third party containment - PDI2 section for details.
6.3.2. Third-Party Containment

OVERVIEW: Third-Party Containment is the act of inspecting a product for quality defect(s) by a Third-Party to ensure nonconforming product does not reach Polaris’ assembly lines.

In the event of non-conforming material reaching Polaris and at the discretion of Polaris’ plant quality or supplier quality teams, Third-Party containment may be required. Third-Party Containment is required when a supplier has been unable to provide sustainable corrective action to a quality issue, or a single quality issue bears high risk to Polaris’ customers. Third-party inspection is the most stringent inspection standard implemented by Polaris and suppliers who participate in the process must do so through a third party of Polaris’ choice.

If Polaris personnel or a third-party hired by Polaris conducts a supplier responsible sort, the charges for the sort shall be the responsibility of the supplier. However, if a supplier is already shipping certified product through PDI and Polaris chooses to conduct its own or third-party sort, the supplier will not be charged for the sort, unless non-conforming material is found. If non-conforming material is found, the supplier will be given 48 hours to replace stock at no cost. Charges are calculated per the current Polaris burden rate, which is typically higher than that of a third party.

6.4. Certified ID Requirement

OVERVIEW: Certified ID requirements define how to properly identify material when requested to ship certified product.

When requested suppliers shall affix the proper identifying labels and part markings per Polaris requirements as defined in the link below.
If a defect is found within a certified shipment related to the reason it was certified, Polaris shall, at its discretion, begin sorting subsequent certified shipments related to the original issue.

Polaris will use, if needed, a third-party sorting company, in which case the cost of the sort(s) as described above shall be the responsibility of the supplier.

Suppliers shall not be charged for sorting certified material without just cause.

Material received without Certification ID when required shall be considered suspect material and therefore be subject to sort and/or rejection.

6.5. PERFORMANCE ESCALATION PROCESS (PEP)

OVERVIEW: A performance escalation process (PEP) is used to escalate review and drive systematic improvement when suppliers are underperforming to Polaris requirements and expectations.

The PEP process is utilized to escalate management review and subsequent action to address systemic issues related to poor performance. PEP may be initiated as a result of, but not limited to, the following examples:

- Faulty purchased material / rejected material
- A supplier caused field issue
- Quality or delivery issue(s) resulting in an assembly line impact
- Unauthorized changes made by a supplier
- Inadequate sustainability in correction of defective material
- Sustained poor quality and/or delivery performance
- A supplier exits the PEP process by implementing robust corrective action, and demonstrating sustained improvement in performance.
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7. APPENDIX DOCUMENTS

7.1. APPENDIX A – REJECTION RULES FOR RMOs

The following examples are to provide additional understanding of RMO disposition, but are not to be interpreted as a comprehensive list that encompasses all potential scenarios.

Example 1 – RMO Qty: A lot of material received contains 2,500 pieces. An issue is identified; the supplier is notified and elects to sort the material at the point of receipt. Twelve pieces are found to be defective and are returned to the supplier as a material rejection (RMO). Only the 12 defective pieces found are counted in the PPM calculation: (12/2,500)*1,000,000 = 4,800 PPM.

Example 2 – RMO Qty: A lot of material received contains 2,500 pieces. An issue is identified; the supplier is notified and elects not to sort the material at the point of receipt. All pieces are returned to the supplier as a material rejection. Investigation by the supplier provides evidence that only 12 of the returned pieces are non-conforming. If the evidence provided indicates that only 12 pieces were non-conforming, the RMO shall be adjusted and only the 12 defective pieces found are counted in the PPM calculation: (12/2,500)*1,000,000 = 4,800 PPM.

Example 3 – Rejection Dispute: A lot of material received contains 2,500 pieces. An issue is identified; the supplier is notified and elects not to sort the material at the point of receipt. All pieces are returned to the supplier as a material rejection. Investigation by the supplier provides evidence that 100% of the returned product is conforming. The supplier shall provide that evidence to the receiving facility for review. If the evidence proves that an error was made by the receiving facility in the disposition of the rejected material, the receiving facility shall change the Quality Indicator on the material rejection (RMO) to hold the supplier harmless. No pieces returned are counted in the PPM calculation: (0/2,500)*1,000,000 = 0 PPM. If non-conformance is found in the returned material, the Quality Indicator shall not be changed and the full amount of the rejection shall be reflected in the PPM Calculation: (2,500/2,500)*1,000,000 = 1,000,000 PPM.

Example 4 – Supplier Rework: A non-conformance (as determined by the receiving facility operations/quality division) is identified after the receipt of material at the receiving facility. The supplier requests the opportunity to perform minor rework. In addition to following normal sort practices as
described in the RMO section, rework has to be approved by Polaris. All non-conformance pieces received by Polaris, reworked or not, shall be counted against the suppliers PPM: 

\[(2,500/2,500) \times 1,000,000 = 1,000,000\text{ PPM}\]

**Example 5 - Mislabeled:** Supplier has shipped and facility has received part number 1234567 in accordance with a scheduled release. The material is determined to be part number 1357891 (mislabeled product). Since part number 1357891 does not meet the design record of the part ordered (1234567) a quantity of one is rejected by way of an RMO. The resulting PPM shall be charged to the supplier’s PPM performance per occurrence (regardless of shipment size). This consideration is for received goods only; any mislabeled product put into the production stream shall be charged against the supplier, including costs associated with the correction and an RMO against the actual quantity that was found in production or built product. The intent of the RMO is for defective product that has impacted production. This transaction is completed even if the parts are subsequently received under their actual part number. Mislabeled is considered mislabeled by container labels, shipping labels or related paperwork (packing slips), not mislabeled parts such as color codes or bar code labels. These shall be treated as defective product and processed in the RMO system as such for the full quantity.

**Example 6 - Corrosion:** Corrosion has been identified as a non-conformance in a product stored in the warehouse as it is delivered to the line. The intended storage life and conditions shall be checked and verified prior to RMO disposition. If the material has been stored longer than the expected life of the corrosion protection, resulting PPM charges shall not be charged to the supplier’s performance (90 days FOB from Polaris suppliers). In all cases, corrosion protection shall be adequate to provide a minimum of 90 days FOB from date of shipment from supplier to Polaris, unless otherwise specified.

**Example 7 – Damage Report:** Damaged material is delivered to a receiving facility. It is determined that parts are no longer in the original supplier provided packaging, have been repackaged or otherwise forwarded absent of adequate packaging protection by a third-party. The damaged material shall be rejected to the third-party provider. If the purchase order needed to complete this rejection is not available, the material shall be rejected internally to the division / section responsible for managing the third-party provider.

**Example 8 – PPAP Approval:** Polaris requires an expedited engineering change to a part number or a new part number release. A PPAP has not been submitted on the new change or part number and the supplier is pressured to ship. Supplier does not receive PPAP approval or PPAP interim approval prior to shipment. Polaris requires one of the forms of PPAP approval before the
supplier may ship material. The entire lot received is subject to an RMO, resulting in PPM charges against the supplier and possible recovery fees.

**Example 9 – Damage Packaging:** The packaging has failed in the delivery truck; the load is visibly damaged upon receipt. The supplier has conformed to the documented packaging requirements. The owner of the packaging design, specification or third-party repackaging shall receive the charge to the PPM reporting. If the trucking company damaged the load, a shipper damage claim or the equivalent documents shall be filed. The appropriate parties shall handle the recovery for damage. Suppliers shall be held harmless for transit damage that is outside their control, such as transit forklift damage, falling off the truck, smashed containers, etc., if the supplier complied with Polaris approved packaging.

**Example 10 – RRDM of Additional Costs:** Material is received and processed at Polaris. During the processing (assembly or testing) the supplier supplied product is found to be defective. The defective material is subject to processing as an RMO but also the value add to the product shall also be added to the RMO under extended costs or processed as Recovery Fees. Suppliers shall be held liable for all losses attributed to the defective material. If the part is defective due to damage and it is unclear who was responsible for the damage, the decision for accountability shall be discussed and agreed upon by both Polaris and the supplier.

### 7.2. APPENDIX B – REFERENCES

AIAG Reference Manuals  
Advanced Product Quality Planning & Control Plan (APQP)  
Potential Failure Modes and Effects Analysis (PFMEA)  
Measurement System Analysis (MSA)  
Statistical Process Control (SPC)

### 7.3. GLOSSARY

**Action Register (AR)** – A description of specific steps including milestones, timeliness and ownership to achieve the results called for by one or more goals.

**Benchmarking** – Is an improvement tool whereby a company measures its performance or process against other companies’ best practices, determines how those companies achieved their performance levels, and uses the information to improve its own performance. It is a continuous process whereby an enterprise measures and compares all its functions, systems and
practices against strong competitors, identifying quality gaps in the organization and striving to achieve competitive advantage locally and globally.

**Black Box Part** – Refers to a part (e.g., an assembly, electrical device, mechanical device or control module) where design responsibility belongs to the Supplier. Black Box requirements are generally limited to those characteristics/items required for Polaris interface connections and verification of functional requirements. Outside Design and Development (ODD) has the equivalent meaning. A Supplier drawing that is placed onto a Polaris border shall be considered a Black Box part and all related Supplier owned drawings and specifications shall be considered part of the Design Record.

**Containment** — Immediate short-term Supplier actions taken or planned to identify and segregate defective product in order to eliminate further product impact to Polaris during the cause and corrective- action processes.

**Continuous Improvement** - Adopting new activities and eliminating those that are found to add little or no value. The goal is to increase effectiveness by reducing inefficiencies, frustrations, and waste (rework, time, effort, material, etc.).

**Control Plan** - Documented description of the systems and processes for controlling product. The control plan describes the actions that are required at each phase of the process, from receiving to shipping, to ensure that all process outputs remain in a state of control. The control plan reflects a strategy that is responsive to changing process conditions, and is maintained and used throughout the product life cycle.

**Corrective Action (CA)** - The permanent, documented, systemic corrections to the failed processes that shall prevent a recurrence of the identified non-conformance, and ensure future defect detection.

**Cp** - Ratio of tolerance to 6 Sigma, or the upper specification limit (USL), minus the lower specification limit (LSL), divided by 6 Sigma. Sometimes referred to as the engineering tolerance divided by the natural tolerance, and is only a measure of dispersion.

**Cpk** - Equals the lesser of the USL minus the mean divided by 3 sigma (or the mean) minus the LSL divided by 3 sigma. The greater the Cpk value, the better.

**Dashboard** – A display tool used to summarize key product and/or process measurements that directly affect customer satisfaction.

**Design for Manufacturability and Assembly (DFM / DFA)** - Simultaneous engineering process designed to optimize the relationship between design function, manufacturability, and ease of assembly.

**Design Record** – Contractual requirements as stated on the purchase order (e.g. engineering drawings, math data, referenced specifications, and additional requirements as noted on the PO). This may also include Supplier specification in instances of Black Box parts (details later in this manual under 5.1.1 Element 1 – Design Record).
**Engineering Change Level (ECL)** – New revision level applied to a current part.

**Error-Proofing** – The implementation of fail-safe mechanisms to prevent a process from producing defects (Poka-Yoke, poka (inadvertent errors) yokeru (to avoid)).

**Failure Modes and Effects Analysis (FMEA)** - Systematic group of activities intended to recognize and evaluate the potential failure of a product, and the effects and causes of that failure, identify actions that could eliminate or reduce the chance of the potential failure occurring, and document the process.

**FIFO** – First-In-First-Out (in reference to part flow in warehouse).

**Gage Repeatability** - Variation in measurements obtained with one measurement instrument, when used several times by one appraiser, while measuring the identical characteristic on the same part.

Gage Reproducibility - Variation in the average of the measurements made by different appraisers, using the same measurement instrument, used several times by each appraiser, while measuring the identical characteristic on the same part.

**Geometric Dimensioning and Tolerancing (GD&T)** – is a set of rules and standard symbols used to define the part features and relationships on an engineering drawing according to ASME Y14.5M 1994.

**Intellectual Property** - Creative ideas and expressions of the human mind that have commercial value and receive the legal protection of a property right. It includes ideas, inventions, business methods and manufacturing processes. The major legal mechanisms for protecting intellectual property rights are copyrights, patents, and trademarks.

Mistake-Proofing – The use of any reliable and efficient method that makes an error immediately obvious once it has occurred.

**Interim Corrective Action (ICA)** – Interim Corrective Action to ensure all suspect product is quarantined and certified prior to use by Polaris as soon as possible to minimize any production delays on the part of Polaris.

**Measurement System Analysis (MSA)** - An experimental and mathematical method of determining how much the variation within the measurement process contributes to overall process variability.

**Parts Per Million (PPM)** – PPM is a method of stating the performance of a process in terms of actual non-conforming material.

\[ \text{e.g.} \ (12/2,500) \times 1,000,000 = 4,800 \text{ PPM} \]

**PII** – New York Stock Exchange (NYSE) symbol, Polaris Industries Incorporated.

**Ppk** - Term used to predict the process capability of a new process (also referred to as the performance index).
**Preventative Action** – Actions taken to eliminate the causes of a potential nonconformity or other undesirable situation in order to prevent occurrence (must be validated to be complete).

**Preventative Corrective Action (PCA)** – 8D/Six Sigma term, quantitatively confirm that the selected corrective action will resolve the problem.

**Process Capability** - Range over which the natural variation of a process occurs as determined by the system of common causes. Process capability is comprised of three important components: the design tolerance, the centering of the process, and the range or spread of the process variation.

**Process Change** - Any Supplier method changes (i.e. process, tooling, material, location, etc.) potentially affecting any attributes and / or dimensions.

**Process Control** - Monitoring of characteristics for capability to produce a feature under stable conditions to maintain ongoing acceptable quality levels. Examples of process control documents include process sheets, inspection and test instructions, test procedures, standard operating procedures, preventive maintenance instructions, and specific part control plans.

**Process Failure Modes and Effects Analysis (PFMEA)** - Systematic group of activities intended to recognize and evaluate the potential failure of a process and the effects / causes of that failure, identify actions that could eliminate or reduce the chance of the potential failure occurring, and document the process.

**Product Acceptability Requirements (PAR)** – General requirements that suppliers need to adhere to that enables part / product shipment to a Polaris facility.

**Quality Audit** - An on-site verification activity based upon a sample used to determine the effective implementation of a supplier’s documented quality system.

**Quality Lifecycle Management (QLM)** –. The establishment of base-level quality product assurance to enable business / supply chain objectives.

**Quality Record** - Records established to provide evidence of conformity to requirements, and the effective operation of the quality management system.

**Quality System** - The organizational structure, responsibilities, procedures, processes and resources required to achieve management’s goals or objectives.

**Risk Priority Number (RPN)** - Product of severity, detection, and occurrence in a Failure Mode Effects Analysis (FMEA).

**Root Cause (RC)** - The primary, proven reason(s) for the product defect(s), or defect detection failure(s). The most basic reason(s) that, if eliminated, would prevent recurrence.

**Root Cause Analysis** - Study of original reason for non-conformance within a process. When the root cause is removed or corrected, the non-conformance shall be eliminated.
**Run Chart** - A simple line chart that plots one characteristic over time. It is used to plot individual observations and detect patterns in the data.

**Safe Launch Plan (SLP)** – an enhanced quality-control method that manufacturers / suppliers use to help ensure production excellence at launch.

**Sales Inventory Operations Planning (SIOP)** – The process Polaris uses to manage inventory levels, production lead times and finished goods.

**Shall** – The word “Shall” indicates mandatory requirements.

**Should** – The word “Should” indicates a recommendation.

**Site** – A supplier location at which value-added production processes occur. “Site” also includes distributors of parts manufactured by other companies.

**SOP** – Start of production

**Statistical Process Control (SPC)** - The application of statistical methods to identify and control the special cause of variation in a process.

**Subject Matter Expert (SME)** – Skilled professional with significant knowledge regarding the products, service or solution delivered by a supplier

**Sub-Supplier (Tier 2, 3, etc.)** – Supplier(s) or sub-contractor(s) to Polaris’ tier 1 suppliers / providers.

**Supplier (Tier I)**– Direct provider of: 1) production material, 2) indirect material, 3) production or service parts, or 4) services such as heat treating, plating, painting or other finishing processes. The party that produces, provides or furnishes an item or service to a purchasing organization.

**Supplier Business Practices Manual (SBPM)** – the manual that outlines a successful commercial business partnership with Polaris

**Supplier Excellence Manual (SEM)** – The manual provides an overview of the programs that Polaris uses to define supplier stratification and shared corporate objectives

**Supplier Quality Assurance Manual (SQAM)** – the manual used to define the quality tools and processes that a supplier needs to implement to meet Polaris’ customer expectations.

**Tool** – The portion of process machinery that is specific to a component or sub-assembly. Tools (or tooling) are used in process machinery to transform raw material into a finished part or assembly.

**Total Variation** - Ratio of the uncertainty of the repeatability and reproducibility of the gaging system to the tolerance range of the characteristic to be measured.

**TS 16949** - An international standard replacing QS-9000. TS 16949 contain all of ISO-9000, QS-9000, and many European standards. It defines the business as a set of processes with inputs and outputs that need to be defined, controlled, improved / optimized, etc.
**Validation** – Confirmation by examination and provision of objective evidence that the particular requirements for a specific intended use or requirements are fulfilled.

**YTD** – Year to Date