

# Supplier Handbook



Revised: August 2025

## Royal Technologies Mission Statement

Royal Technologies' goal is to perform better tomorrow than we did today.

Our mission is to deliver a perfect product, on time, under cost control without compromising our environment. We are committed to our Customer and our Team to make our opportunities a successful reality.

## Royal Technologies Quality Policy

- **Perfect parts;**
- **On-time;**
- **Under cost control.**

## Environmental Policy

Royal Technologies is committed to energy sustainability and the protection of our global environment. We demonstrate this through:

- Continuous improvement of our Environmental Management System (ISO14001 certified)
- A commitment to the health and safety of our employees and surrounding communities
- Preventing harm to air and water quality through responsible chemical management
- Energy efficiency and water conservation
- Sustainable resource management and waste reduction
- Steadfast compliance to applicable regulations
- A commitment to monitor and reduce the greenhouse gas emissions associated with our activities
- Our expectation is that our suppliers align with the above principles and related requirements including but not limited to collaborating to achieve CO2 reductions within our shared value chain.

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## GENERAL INFORMATION

### A. Manufacturing Certifications

1. IATF: Royal Technologies requires eligible suppliers of parts and services used in the manufacture of our automotive products to be third party certified to ISO 9001 with the goal of obtaining IATF certification. Suppliers are required to show evidence of compliance with this requirement.
2. NAFTA - In an effort to comply with NAFTA requirements, suppliers may be required to certify all goods shipped to Royal Technologies. It is imperative that the HS classification number and description of the Product matches the parts or materials shipped.
3. 3TG Compliance (Conflict Minerals) – Some of our customers that are publicly traded are required to comply with conflict mineral disclosure rules under the Dodd-Frank Act. This requires those customers to request similar due diligence in the product we supply to them. Some of Royal's suppliers may be required to respond with status of compliance to these disclosure rules. [See Appendix L](#).
4. Other Certifications might be product or end customer specific. This would be handled on a case by case basis during quoting. IE: ISO 14001, IMDS
5. Suppliers should provide an IRS Form W-9 to the following email address:  
[royalap@royaltechnologies.com](mailto:royalap@royaltechnologies.com)

### B. Safety

1. The Hazardous Communication Act requires proper labeling as well as Safety Data Sheets on all products covered under this act.
2. Royal Technologies has contracted its SDS services thru 3E Company. This company maintains an SDS library thus Royal Technologies Suppliers should not send any SDS information to Royal Technologies.
3. All visitors must sign in each visit at the front desk of the facility. Please have the party that you are going to see meet you in the lobby. Please sign out when you leave the building.
4. Suppliers that are going to be doing work at a Royal Facility must sign the Contractor Procedure Form. This applies to all contractors rendering services who may have the potential to impact the safety standards set forth by Royal. See [Appendix J](#).

### C. Supplier Contact List

1. Suppliers may be required to supply Royal Purchasing with a list of their key contacts to ensure 24 hour coverage, (see [Appendix B](#))

## II. MATERIAL ORDERING

### A. Ordering Method

1. Royal Technologies commitment to the supplier is to balance orders to the best of our ability, allowing our production schedule to mirror that of our customers. The delivery schedules that are provided to the suppliers are based on:
  - a) Royal Technologies customers' firm orders and forecast
  - b) Royal Technologies inventory levels and production schedule
  - c) Other minor adjustments
2. Royal Technologies issues discrete purchase orders:
  - a) PO's will be issued on an as needed basis, (See [Appendix C](#))
  - b) Purchase orders will not be mailed; consider the faxed or e-mailed copy as the original copy.

NOTE: Suppliers are responsible to notify Royal Purchasing Department if there are exceptions to purchase orders or delivery schedules within 24 hours

  - c) Kanban and consignment programs are encouraged and utilized where applicable
3. Raw material and fabrication requests can be requested by suppliers from Royal Purchasing. This can be used for planning purposes. **Unless otherwise specified and agreed to by Royal Purchasing, the standard material and fabrication authorization are two (2) weeks of fabricated (finished) goods and an additional two (2) weeks of raw materials.**
4. Any new material being introduced to Royal's production facilities must be coordinated initially through Royal's Engineering Department to ensure Environmental / ISO14001 compliance.

### B. Supplier Lead-Times

Royal Technologies will make every effort to adhere to the supplier's quoted lead-time. It is the supplier's responsibility to notify the Royal Technologies Purchasing Department of any change in lead-times prior to the change taking effect.

### C. Delivery

1. Purchase order and delivery schedule due dates are the dates that Royal Technologies requires the product in house:
  - a) Royal Technologies delivery policy is zero days late and two days early. This will fulfill Royal Technologies requirement of on time delivery.

- b) The supplier shall prepare contingency plans to protect against interrupted supply of product in the event of an emergency (i.e. utility interruptions, labor shortages, key equipment failure) and have these available upon request.
- c) Partial and over-shipments must receive approval from the Royal Technologies Materials Planner prior to making a shipment. This may result in short/delayed payment or return of product to the supplier at their expense.
- d) Where delivery is FOB supplier, Royal Technologies will pay for the initial delivery charge. Subsequent partial deliveries are the suppliers' responsibility.

#### **D. Late Shipment Notification**

- 1. Suppliers shall communicate any possible late shipments to a Royal Technologies Materials Planner as soon as a problem is identified.
- 2. Deliveries that are late without communication with the Royal Technologies Material Planner shall be subject to a late delivery NCMR and fee.
- 3. **Fees for late shipments can be charged a fee up to \$5000.**

#### **E. Holiday Schedules**

- 1. Royal Technologies will post a holiday schedule each year for production days for all of our facilities. The information will be on our website on the Supplier Information page. If there are any questions or concerns, please contact your Materials Planner.

#### **F. Non-Conforming Material Report (NCMR) See [Appendix E](#).**

- 1. NCMR's can be issued for the following reasons:
  - a) All incoming product that does not comply with physical or functional specifications
  - b) Shipping container and product mislabeling, including incorrect counts, barcode labeling issues, and incorrect paperwork
  - c) Early (beyond 2 day window) or Late shipments
  - d) Shipping to the wrong location
  - e) Damaged shipments where supplier pays freight
- 2. Price of the product, and costs associated with non-conforming material (as an example: return freight costs) will be borne by the supplier.
- 3. If root cause responsibility is determined to be with the supplier, an RMA must be provided within 24 hours, or the non-conforming product will be dispositioned by Royal at the supplier's cost. If suspect material must be returned for root cause analysis, the supplier is responsible to provide a FedEx/UPS number to expedite the process.
- 4. Upon receipt of an NCMR the timing for each section of the 8D are as follows (days are week days):

- a) Sorting information / Containment 4d - **24 hours**
  - b) Root Cause and Long Term Corrective Action - **5 days**
  - c) Implementation - **15 days**
  - d) Verification - **35 days**
  - e) Prevention - **35 days**
5. Future demand must be covered by certified material. All 8D's should use the guidance located on the last 3 pages of the manual. Sorting may be required at the expense of the supplier and coordinated with the Royal Supplier Quality Engineer.

## **G. Sorting**

1. Third party sorting done at Royal Technologies facilities will only be done by Royal designated and approved sources
2. Royal Technologies suppliers may pick up and replace defective product with certified material/parts only. Suppliers are not allowed to sort product at Royal Technologies without Purchasing Department approval.

## **H. Charge Back Rates**

1. Suppliers are required to supply a quality product on time and shipped by specified carriers indicated on Royal Technologies purchase order and releases. Failure to comply will result in a monetary penalty not limited to the following actual costs:
  - a) Shipping, documentation discrepancies and Quality spills may be billed at \$250.00 for first occurrence, \$500.00 for the second occurrence, and \$1,000.00 for each subsequent occurrence within a 6-month time frame.
  - b) Sorting rates may be debited at a minimum of \$30.00 an hour. 3rd Party sorting will be debited at cost.
  - c) Press down time may result in a minimum charge of \$65.00 an hour
  - d) Any fines or fees that Royal's customer issued may be charged.
  - e) Premium freight may be debited at cost
  - f) NCMR's may include a \$100 processing fee

## **I. Purchase Order Terms and Conditions**

1. Requirements of purchase order acceptance:
  - a) Refer to Royal Technologies website Supplier Information page for Royal Purchase Order Terms and Conditions
  - b) It is important to note these terms and conditions, as they are NOT printed on the purchase order, faxed or mailed to the supplier
  - c) Acceptance of any Royal Technologies purchase order indicates acceptance of said Terms and Conditions.
  - d) The Royal Technologies Purchasing Department must approve any deviation to these Terms and Conditions.

## J. Obsolescence Claims

Where applicable, Royal Technologies will communicate balance out timing. Suppliers will have 90 days from the date of notification within a calendar year (whichever is less) to file any claims with Royal Purchasing.

## K. Price Changes

1. Price Change requests must be submitted for approval 30 days prior to shipment of product.
2. Supporting documentation may be required to substantiate any cost increase.

## III. PACKAGING REQUIREMENTS

### A. General Information

1. Part protection, quality and cost effectiveness are the most important aspects of packaging. These items should be kept in mind at all times during the design and maintenance of packaging. Royal Technologies expects to receive quality, damage free parts.
2. It is the supplier's responsibility to ensure that the packaging will adequately protect the product. If it fails to do this or is deemed inadequate, it is the supplier's responsibility to redesign, re-test and gain approval for new packaging.
3. Royal Technologies, when necessary, will request that packaging lot sizes be changed to accommodate the manufacturing schedule.
4. All cartons/containers that are physically handled must not exceed 35 pounds.
5. Normal receiving hours at all Royal Technologies facilities are from 7:00 A.M. to 7:00 P.M. Monday through Friday. Suppliers may be requested to adjust delivery dates/times to better accommodate Royal receiving schedules. If special arrangements must be made outside of these receiving hours contact the Purchasing Department.
6. Suppliers will be requested to submit a Packaging Declaration Form for any new product. If subsequent packaging related issues arise, it is the supplier's responsibility to redesign, retest and gain approval for new packaging using the same form (See [Appendix G](#))

### B. Labeling

1. The supplier shall identify each product shipped into a royal facility using AIAG labeling standards, (see [Appendix H](#)). **This includes samples.**
2. The supplier's name and address labels must be white with black lettering.
3. Required information on each AIAG label is as follows:



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5. No labels are to be placed on the top of boxes. Bar codes must be clearly printed so that scanners can read the code. **The bar should be in code 128 which is preferred however code 39 will also be accepted**
6. Packing slips (three copies) must be included with every shipment. The Royal Technologies part number must appear on the packing slip exactly as it is stated on the PO. They are to be placed on the side of the container, not on top of the container.
7. Packing slips should be located on the first container of every shipment.
  - a) **Example:** 1 of 2                      2 of 2  
                         1 of 3                      2 of 3  
                         1 of 4                      2 of 4

## C. Palletization

1. Royal prefers the use of a 44" X 44" pallet. The maximum pallet size for Royal Technologies is 48" X 45".
2. Plastic or wood pallets must have a minimum of 3.6" and maximum of 4.5" clearance for fork entry and have a four-way fork entry. Pallet deck boards should be spaced close enough to provide maximum support to prevent product damage and ensure a safe work environment. All pallets must allow for the fit of a skid jack (no double runners). Maximum skid height with the product is 48". Maximum height for chipboard shipments is 36".
3. Only one part number allowed per pallet unless alternative approved by Royal Purchasing.
4. Overhang is not acceptable. Shipments received in this manner may be returned at Supplier's cost.
5. Maximum pallet weight for a gaylord is 1700 pounds, unless otherwise approved by Royal Purchasing, and bagged raw material is 1100 pounds, (i.e. 20/55 pound bags per pallet).
6. Partial pallet loads are acceptable when shipped in a safe manner.
7. Containers should be secured to the pallet for transportation by plastic/steel banding or stretch wrap.
8. Stretch wrap shall be transparent so that labels are visible and can be scanned.
9. Corner posts are to be used when necessary to protect the product from damage.

## D. Expendable Packaging

1. Materials used for packaging parts that are not intended to be reused at a later date for the same purpose are considered expendable, i.e. corrugated board, fiberboard, plastic bags, bubble wrap and foam.
2. Expendable packaging shall be designed to preserve part quality during transportation and in-plant handling and minimize environmental impact.
3. Royal Technologies promotes recycling, thus the use of recyclable material such as corrugated board and paper is preferred. Loose fill materials such as polystyrene peanuts or shredded paper shall not be used.
4. In the interest of safety, **Royal Technologies prohibits the use of staples as a way to fasten or close any container. This applies to all Royal Technologies facilities.** Staples are not allowed in boxes used for packaging, sub-components, parts, or any item that directly or indirectly supports manufacturing plants. Tape and glue are considered preferred processes for closing boxes. Any exceptions need Royal Technologies Purchasing department approval before shipment arrival.

## **E. Returnable Packaging**

1. Returnable packaging will be approved by Royal Purchasing.
2. It is the suppliers responsibility to remove debris from the packaging prior to putting parts in. All packaging must be free of damage, dirt, oil, grease and other contaminants which may affect part quality.
3. It is the supplier's responsibility to remove any old labels prior to putting material in the totes or bins.
4. Royal Purchasing should be contacted if the packaging is worn out or damaged in such a way that it will not protect the parts during transportation.

## **F. Freight**

1. It is Royal Technologies preference that all pricing be FOB Royal Technologies dock.
2. Suppliers must contact the Royal shipping department (see Facility Contact List [Appendix A](#)) at least 24 hours in advance to confirm routing instructions and correct class code for any freight that is to be paid by Royal Technologies. The supplier will be responsible for the difference in freight cost if Royal has not previously approved shipment.
3. Any expedited freight that is the responsibility of Royal Technologies must have prior written approval from the Purchasing Department.

# **IV. QUALITY SYSTEM**

## **A. Quality Planning: AIAG Standards**

1. Tools such as Design Failure Mode and Effects Analysis (DFMEA), Process Failure Mode and Effects Analysis (PFMEA), and Process Flow Charts should be used when defining the characteristics to be controlled and to assure that production of quality products continue through the life of the product.
2. Critical quality characteristics must be statistically controlled initially through short term process capability studies with a minimum Ppk of 1.67 / 30 piece minimum. A continual improvement of process capability is expected.
3. The supplier is responsible for developing a control plan for all products manufactured for Royal Technologies when required. This control plan must include the following information, organized in a material flow sequence from incoming material to packaging and shipping:
  - a) Part number and part name
  - b) Brief description of each process step
  - c) Identification of product process characteristics
  - d) Process monitoring methods including process/product specifications
  - e) Evaluation method
  - f) Sample size and frequency

- g) Analysis method
  - h) Reaction plans for out of control conditions and nonconforming materials
  - i) Personnel responsible
  - j) Rework/repair methods
4. Control plans must be submitted to Royal Technologies for approval prior to sample submission. Any changes to the control plan after approval must be submitted to Royal Technologies.
  5. Customer specific requirements: IATF 16949 requires that Royal Technologies understand the specific requirements for our Automotive Customers. The requirement also extends to Royal Technologies supply base. The customer specific requirements can be found for our automotive customers at:  
<http://www.iatfglobaloversight.org/oem-requirements/customer-specific-requirements/>

## B. Sample Submission

1. Suppliers are responsible to perform the required inspection and testing in order to validate initial sample parts, including:
  - a) Material certifications
  - b) Environmental safety test results if applicable
  - c) Dimensional analysis as required
  - d) FMVSS 302 requirements as required
2. Royal Technologies may require additional containment activities during the early launch and start of production of product. Details will be reviewed with the supplier on a case by case basis and documented in PSO plans, Control Plan and / or Process Flow.

## C. Production Part Approval Process Report (PPAP)

1. Unless specified differently, Royal Technologies suppliers are required to use a Level III PPAP submission, using AIAG standard guidelines.
2. All PPAP submissions are to be sent directly to the designated Royal representative and must include all required information and **must be in English**. A minimum of six samples, unless otherwise specified, is required with a completed PPAP report. **The six samples and the PPAP paperwork must be submitted and disposition executed by Royal Technologies prior to shipping production parts, unless special arrangements have been made with Royal Purchasing.** Sample submission is also required when material, tooling, engineering or significant process changes are made, unless otherwise authorized by Royal Technologies.
3. If tools move to another supplier location, any operational system that is critical to the function of the supplier business is changed, or a merger / acquisition that affects the supplier takes place, notification to Royal Technologies Purchasing Department is required. Royal Technologies will determine if sample submission is required.

**NOTE: Regardless of the submission level, all supporting documentation must be maintained and available at the supplier's location.**

4. The Production Part Approval Process must include the following information

- a) Part number
- b) Part name
- c) Revision level/engineering change date
- d) Supplier name and address
- e) Number the characteristics sequentially and list each one on the report
- f) Dimensions (including tolerances)
- g) Actual measurement results
- h) Critical/significant characteristic designation
- i) Measurement method plus gauge R & R
- j) Date of completion
- k) Statistical data on key characteristics
- l) Person performing the layout
- m) Indicate accept/reject status
- n) IMDS: Automotive
- o) MBDC: Furniture
- p) CQI: Automotive Plating / Heat Treat / Coating

Note: Refer to the latest AIAG manual for details as to when a PPAP must be supplied.

#### **D. Product Verification**

- 1. Layout inspection is required to be performed during sample submission, to ensure continuing conformance to all Royal Technologies requirements. In addition to ensuring that products manufactured continue to meet requirements, a complete layout inspection may be requested. It is the supplier's responsibility to ensure that initial samples conform to all dimensional materials and functional specifications prior to submitting to Royal Technologies.
- 2. Annual validation / Layout inspection may be required in some cases. A Royal LQA will contact any suppliers that need to meet this requirement.

#### **E. Material Certification**

- 1. Material used in Royal Technologies product is controlled by industrial standard specifications or by OEM specifications. Suppliers must ensure compliance to all drawing and engineering specifications related to materials.
- 2. Tests must be performed by an accredited supplier or an accredited independent test laboratory to ensure that all requirements of the Royal Technologies standards relating to materials, components, assemblies and systems are achieved.
- 3. Material certifications must contain actual test data. Suppliers are required to keep this information. Royal Technologies will request material certifications from suppliers when needed.

4. Failure to supply certifications on production or pre-production sample submission materials will delay invoice or tooling payments and approvals until such time as certifications are received.
5. In concurrence with lot control requirements, test data by lot control number must be maintained in a manner allowing traceability to finished components.

## **F. Engineering Standards**

1. It is the supplier's responsibility to have the latest applicable OEM specifications, and be in compliance with the specified requirements.
2. Validation testing must be performed by the supplier prior to the start of production. This verifies that components produced using production tooling meet the engineering standard requirements.

## **G. Statistical Methods**

The use of Statistical Process Control (SPC) is mandatory for all safety, critical and significant product characteristics identified on the part drawings. When the designated item is not readily measurable or requires destructive testing, statistical controls must be instituted on key process parameters. Suppliers of raw materials with safety and critical designations are required to retain traceable statistical evidence of ongoing process capability and characteristics with a minimum Cpk of 1.33. This data must be available to Royal Technologies upon request.

## **H. Engineering Change Notice**

When an ECN is implemented, it is the supplier's responsibility to identify the first 5 shipments of material shipped to Royal Technologies. A tag must be placed on each container so it can be seen from the outside of the skid/pallet, or on the outside of single containers next to the part identification number identifying revision level change. Potential product changes must be communicated using the PCN (Product Change Notification) Form. See [Appendix F](#).

## **I. Contract Review**

The supplier is required to review contracts and amendments with Royal Technologies if requested.

## **J. Design Control**

Engineering changes are made only when authorized by Royal Technologies, or Royal Technologies' customers.

## V. SUPPLIER MEASUREMENT SYSTEM

### A. Supplier Scorecard (See [Appendix K](#))

#### 1. Supplier Status:

Supplier Status = Points Earned / Points assigned as Goal.

This percentage will translate to one of the following categories:

% of Goal Points = Points earned (12 month ave) / points as the goal.		
Preferred:	90-100	
Approved:	80-89	
Cautionary:	70-79	
High Risk:	<70	<i>* Cannot source future business without Director or VP Approval</i>

#### 2. Quality Score (35 points):

PPM points are calculated by taking the last 12 months of pieces shipped and defects found. Points are awarded as follows:

Score Break down:

- a) 0 PPM - 35 points
- b) 1- 30 PPM - 30 points
- c) 31- 100 - 25 points
- d) 101- 200 - 20 points
- e) 201 -500 - 15 points
- f) 501- 1000 - 5 points

#### 3. Delivery Score (35 points):

Delivery Points are calculated based on the (# successful shipments / # of total shipments \*100)

Points are awarded as follows:

- a) 100% - 35 points
- b) 99.80% - 32 points
- c) 99.60% - 29 points
- d) 99.40% - 25 points
- e) 99.20% - 20 points
- f) 99.00% - 15 points
- g) 98.50% - 10 points
- h) 98.00% - 5 points
- i) 97.00% - 0 points

#### 4. Customer Satisfaction Score (20 points)

Customer satisfaction points will automatically be given

Points will be kept if the following criteria is met:

a) Execution (ie. lack of timely response...etc)

- (1) (1) Late corrective action (-4 points)
- (2) (2) Repeat Issue (-4 points)
- (3) (3) Missing IATF Certificate (-4 points)
- (4) (4) Missing ISO 14001 Certificate (-4 points)

The criteria above shows how many points will be deducted from the total score if one of the criteria is not met

#### 5. Cost Score (10 points)

Cost points are automatically given, totally 10 points

a) Points will be kept if the following criteria is met:

- (1) Competitiveness
- (2) CIP Ideas
- (3) Actual Savings
- (4) Rebates
- (5) Below Index
- (6) PPV

Royal SSM's will monitor supplier and dock points based on compliance to the above categories

### **B. Sorting Material**

When defective material is found, the following criteria could be utilized to determine the actual quantity to count against PPM:

- a) Royal Technologies to sort suspect material on-site. A debit will be issued for non-conforming parts found and any other related costs (see [Charge Back Rates](#)). Only parts found to be defective during the sort will count against the supplier's PPM.
- b) Supplier to sort suspect material at Royal Technologies within an appropriate timeframe. A debit will be issued for non-conforming parts found. Parts found during the sort will not be counted as PPM, only toward the defect total
- c) Third part to sort suspect material at Royal Technologies. A debit will be issued for non-conforming parts found. Parts found during the sort will not be counted as PPM, only toward the defect total. The 3rd party should be approved by Royal prior to starting the containment.



- d) If the entire lot of suspect material is returned to the supplier for sorting, a debit will be issued for the total quantity. Only the number of defective parts found at the Royal facility will count against the supplier's PPM.

### **C. Supplier Score Card**

Suppliers will have a detailed score card reviewed at least twice a year. The metrics and goals will include Supplier Scorecard as well as other performance goals determined by the supplier and the responsible Royal Commodity Manager. Should a supplier of an automotive product fall into a yellow or red status on the scorecard, a second party audit of the supplier's quality management system may be required and action plans developed along with the supplier to move back to green. This audit will be conducted by a Royal Technologies SQE / SDE.

### **D. Social Responsibility Statement**

1. Royal Technologies requires all suppliers to be compliant with all applicable laws/ordinances as they pertain to:
  - a) Child and/or forced labor
  - b) Health and safety issues
  - c) Discrimination
  - d) Sexual harassment
  - e) Appropriate working hours and conditions
  - f) Fair and reasonable compensation
2. Any indication that these laws/ordinances are not being followed will result in the suspension of any/all business between Royal Technologies and an offending supplier.

## **VI. FINANCE**

### **A. Invoice Requirements**

1. The following information must be indicated on all invoices:
  - a) Date
  - b) Invoice number
  - c) Packing slip or BOL number
  - d) Purchase order number
  - e) Pricing per unit of measure
  - f) Royal Part number
  - g) Quantity shipped
  - h) Remit to address
  - i) Distinction between taxable and non-taxable items
  - j) Subtotal before taxes and freight
  - k) Final U.S dollar total
  - l) Payment Terms
  - m) Line # and release # where applicable

2. Incomplete/inaccurate invoices will delay payment, and negotiated payment terms will begin from the date of which the corrected invoice is received. This may also result in a processing fee and a negative impact to the supplier's monthly score.
3. Royal would prefer that suppliers send invoices electronically to: [apinvoices@royaltechnologies.com](mailto:apinvoices@royaltechnologies.com) This method not only saves on paper, but streamlines supplier payment processing. Statement and payment inquiries can be sent to [apinquiries@royaltechnologies.com](mailto:apinquiries@royaltechnologies.com)

## **B. Discounts**

Royal Technologies encourages discount payment terms. It is recommended that all suppliers discuss this option with the Purchasing Department.

## **C. Credit References**

See [Appendix I](#) for Royal Technologies credit references

## **Appendix A: Facility Contact List and Addresses**

### **Royal Center**

3765 Quincy  
Hudsonville, MI 49426  
Phone: (616) 669-3393  
Fax: (616) 896-0290

### **Quincy Facility**

3712 Quincy  
Hudsonville, MI 49426  
Phone: (616) 667-4102  
Fax: (616) 896-1312

### **Corp Grove Facility**

2905 Corporate Grove  
Hudsonville, MI 49426  
Phone: (616) 667-4103  
Fax: (616) 896-6499

### **Cullman Facility**

230 County Road 1601  
Cullman, AL 35058  
Phone: (616) 667-4810  
Toll Free: (877) 451-6396  
Fax: (256) 734-0021

### **Mission Facility**

1200 Trinity Dr  
Mission TX 78572  
Phone: (956) 424-9388  
Fax: (956) 432 0227

## [Appendix B: Supplier Information Form](#)

Please reach out to your purchasing rep for this form shown below.

 <b>Royal Technologies</b>		Customer Name:	
<b>Customer Contact Information</b>			
<b>Sales Contact</b>			
Name		Title	
Location		Email	
Phone		Secondary Phone	
<b>Sales Manager/Director</b>			
Name		Title	
Location		Email	
Phone		Secondary Phone	
<b>Sales VP</b>			
Name		Title	
Location		Email	
Phone		Secondary Phone	
<b>CEO/President</b>			
Name		Title	
Location		Email	
Phone		Secondary Phone	
<b>Planner/ Customer Service Contact</b>			
Name		Title	
Location		Email	
Phone		Secondary Phone	
<b>Planner/ Customer Service Manager</b>			
Name		Title	
Location		Email	
Phone		Secondary Phone	
<b>Planner/ Customer Service Director</b>			
Name		Title	
Location		Email	
Phone		Secondary Phone	
<b>Materials Manager</b>			
Name		Title	
Location		Email	
Phone		Secondary Phone	

## Appendix C: Discrete Purchase Order



3765 Quincy Street  
Hudsonville, MI 49426  
p 616.669.3393 f 616.896.0290  
www.royaltechnologiescorp.com

### PURCHASE ORDER

PURCHASE ORDER	PO TYPE	PAGE
137612	Regular	1

PO DATE	BUYER	SHIP VIA	FOB	TERMS
05/01/15	David McLaren	SHIP PICK MTHD	FOB	2% 10DAY, NET 30
		FREIGHT CLASS:		

#### SUPPLIER

561  
CONTACT  
Royal Tech Corp. Supplier  
1234 MAIN ST  
ANYTOWN MI 12345

#### SHIP TO

3  
\*ROYAL CENTER\*  
ROYAL TECHNOLOGIES  
3765 QUINCY  
HUDSONVILLE MI 49426  
(616) 669-3393

☐ FAX SENT PRIOR DO NOT DUPLICATE

☐ VERBAL PLACED PRIOR DO NOT DUPLICATE

LINE	ITEM REVISION DESCRIPTION	DUE DATE	QUANTITY DUE	U/M	UNIT PRICE	EXTENDED PRICE
1	MATERIAL DESCRIPTION OF PARTS	05/01/15	1.000	LB	1.2300	1.23
	The Royal Technologies Supplier Handbook and Purchase Order Terms and Conditions (revised 5-1-15) apply to this and all orders. Available online at royaltechnologies.com.					
					Total:	1.23

COMMENTS: OUR PURCHASE ORDER NUMBER MUST APPEAR ON INVOICE, B/L BUNDLES, CASES, PACKING LIST AND CORRESPONDENCE.

David McLaren 05/01/15  
Authorized Signature Date

Manager Signature Date

## Appendix D: Delivery Schedule

Example: Suggested order Inventory Report – Kanban

Plant	Item	PO Num	Description	ADU	Qty On Hand	Trigger Pt	Order Min	Order Multiple	Suggested Order Qty
QUINCY	12345-A	199999	PARTS A - USE ALL	200	400	1600	20	20	1200
QUINCY	12345-B	199999	PARTS B - USE ALL	200	400	1600	20	20	1200

- **Plant** – reflects preferred delivery site
- **Item** – Royal part number
- **PO Num** – Designated Spot buy PO for receipt of Suggested Order Qty
- **Description** – Royal part description
- **ADU** – Average Daily Usage
- **Qty On Hand** – Reflects current on hand amount
- **Trigger Pt** – Reflects designated Safety stock and acts as a trigger point for replenishment
- **Order Min** – Reflects item Min buy amount
- **Order Multiple** – Reflects lot size
- **Suggested Order Qty** – Reflects designated delivery amount

## Appendix E: Non-Conforming Material Report NCMR

**Create NCMR** Save Cancel

\* Effective Date: 09/27/16

\* Category: Quality

\* Type: Choose...

\* Severity: Choose...

\* Title:

\* NCMR Description:

\* Item:

Description: [Blank]

Product Code: [Blank]

\* Responsible: Coby Kempfers

\* Vendor: Choose...

\* Contact:

\* Royal Plant(s): [Blank]

8D Required?:

Initial Defect Qty:

Qty For PPM:

Customer:

Lot Number:

Royal Ship Order:

Supplier RMA:

CCN Reference:

Repeat Issue?:

Comments


No Comments Available

Attachments

No Attachments Available

## [Appendix F: 8D Report and PCN Form](#)

8D Report: See Supplier Information page on Royal Technologies' website for download.

	FORM:	SUPPLIER 8D FORM		NUMBER:	F-P-008
	PREPARED BY:	PURCHASING		REV. DATE:	3/3/2022
Supplier		Traceability		Issue Date	
Part Number		Defect Quantity		4D due date	
Part Name		PPM Quantity		8D due date	
Royal Contact:	Alex Bomers	Email:	alexander.bomers@royaltechnologies.com	Mobile Phone:	616-304-0521
<b>1a. Champion:</b>					
<b>1b. Team:</b>					
<b>2. Define Problem:</b>					
<b>3. Interim Containment Corrective Action</b>					
At Royal & In Transit:					
At Manufacturer/Supplier:					
<b>4. Define Root Causes (in 5-Why format):</b>					
<b>5. Define Permanent Corrective Action Plans:</b>					
<b>6a. Implement Corrective Actions:</b>					
<b>6b. Verify Corrective Actions:</b>					
<b>7. Prevention (Error &amp; Mistake Proofing, Systems &amp; Standards updates):</b>					
<b>8. Congratulate Your Team:</b>					





**PCN Form:**

[illegible]

## Appendix G: Packaging Declaration Form

See Royal Technologies website Supplier Information page for download

## Appendix H: Standard Label

<b>PART NUMBER</b> Data Identifier = <b>P</b> Must be listed exactly as shown on Royal Purchase Order.		<b>ROYAL PART NUMBER</b> 		<b>PART DESCRIPTION</b> The description must match Royal Purchase Order.	
<b>QTY</b> Data Identifier = <b>Q</b> Unit of measure is EACH or POUND. Exceptions must be approved by Royal Purchasing.		<b>10</b> 		<b>DESCRIPTION OF MATERIAL</b>	
<b>PO</b> Data Identifier = <b>K</b> . Must list the Royal Purchase Order number.		<b>12345</b> 			
<b>LOT NUMBER</b> Data Identifier = <b>L</b> Identify specific Lot # by date manufactured, or other approved tracking system.		<b>12345678</b> 		<b>HANDLER</b> <b>RVB</b>	
				<b>REVISION</b> Specify current revision level <b>1</b>	
				<b>OPTIONAL DATA</b>  Date shipped	

Label is available for download as MS Excel File.



## [Appendix I: Credit Reference](#)

# Royal Technologies Corp.

3765 QUINCY ST. • HUDSONVILLE, MI 49426 • (616) 669-3393 • FAX (616) 896-0290

2/23/2021

Attention: Credit Department

The following are Royal Technologies credit references per your request.

Royal Technologies Corp. is a manufacturer of injection molded components established in 1987.

FED I.D. 38-2726351

### **PolyOne Distribution**

2600 107<sup>th</sup> Street  
Lemont, IL 60439  
Phone: (630) 972-3792  
Fax: (630) 972-3135  
E-mail: [creditadm@polyone.com](mailto:creditadm@polyone.com)

### **Uniform Color Corporation**

942 Brooks Ave.  
Holland, MI 49423  
Phone: (800) 442-6567  
Fax: (616) 499-8406  
Contact: Bob Dean  
E-mail: [bdean@uniformcolor.com](mailto:bdean@uniformcolor.com)

### **Shoreline Container**

41450 North 136<sup>th</sup> Ave.  
Holland, MI 49422-1993  
Phone: (616) 399-2088  
Fax: (616) 399-7240  
Contact: Denise Bathke  
Mikki Fullerton


### **Chase Plastics**

6483 Waldon Center Dr.  
Suite 100  
Clarkston, MI 48346  
Phone: (800) 232-4273  
Fax: (248) 620-2310  
Contact: Karen Delorge

### **Bank Reference:**

Comerica Bank  
Scott Hibbard  
Phone#: 616-776-7888

## Appendix J: Contractor Procedure Form

	<b>WORK INSTRUCTIONS:</b>	<b>Contractor Safety Procedure</b>	<b>NUMBER:</b>	<b>WI-SAF-006</b>
			<b>REVISION:</b>	<b>K</b>
	<b>PREPARED BY:</b>	<b>Safety Committee</b>	<b>PAGE:</b>	<b>1 of 2</b>
			<b>ISSUE DATE:</b>	<b>6/12/23</b>

This procedure defines the expectations set for contractors rendering services at Royal Technologies Corp. Such contractors include any persons not employed by Royal. This applies to all contractors rendering services who may have the potential to impact the safety and environmental standards set forth by Royal.

Contractors at Royal Technologies must review the safety requirements and procedures listed below and sign in and out on the log at the front desk during each visit unless they are pre-authorized. Certain contractors that make frequent visits may be pre-authorized by departmental managers by signing the second page of this document.


The Royal team member requesting services is responsible to make sure that the contractor, upon their arrival to Royal, reviews this procedure (which shall be posted at the front desk) and then signs off (agreeing to follow it) on the sign in log sheet.

Royal Technologies Corporation is committed to quality excellence in manufacturing while protecting our global environment. Our philosophy of conserving natural resources, protection of our environment and our employees is demonstrated by our commitment through continuous improvements of:

- Prevention of Pollution
- Compliance to all applicable regulations and other requirements
- Health and Safety
- Quality Management System

### Requirements:

1. Must comply with all Federal, State, and Local safety and environmental regulations.
2. Open or concealed weapons are strictly prohibited within the facilities or on the grounds.
3. Must have all hazardous waste generated taken off-site by a responsible contractor and disposed of by a licensed disposal company.
4. Must not discharge any substance other than pure water to the storm water and/or sanitary sewer system.
5. Must be granted approval prior to discharging any fumes, vapors, etc. into the air.
6. Must not bring any chemicals on-site without prior approval from the Corporate Safety Committee. (Must have SDS readily accessible for review).
7. Must comply with all posted visual aids.
8. Must wear required personal protective equipment (PPE) at all times.
9. Must apply for a Hot Work permit if the services they are rendering involve sparks or open flames.
10. Must have general liability and worker's compensation insurance and be able to provide a certificate of insurance upon request.
11. Must understand and follow the Lockout policy. (WI-SAF-001)
12. Must understand the Emergency Preparedness & Evacuation Procedure. (WI-SAF-005)
13. Must understand and follow Confined Space Procedure. (WI-SAF-013)
14. Must review and understand Evacuation and Shelter Map.
15. Any damage to Royal property or product must be reported immediately to Royal and the company the contractor works for.
16. Must hold certifications from your employer for operation of any Royal equipment requiring a credential to operate (ex: forklift, OHC). License must be accessible while operating on the premises.

	<b>WORK INSTRUCTIONS:</b>	<b>Contractor Safety Procedure</b>	<b>NUMBER:</b>	<b>WI-SAF-006</b>
			<b>REVISION:</b>	<b>K</b>
	<b>PREPARED BY:</b>	<b>Safety Committee</b>	<b>PAGE:</b>	<b>2 of 2</b>
			<b>ISSUE DATE:</b>	<b>6/12/23</b>

*I understand that failure to comply with this procedure and/or the environmental expectations will result in the termination of all contract(s) my company holds with Royal. Royal reserves the right to suspend visitation rights of individuals for failure to comply with the above environmental policy and procedure.*

*By signing (log in sheet or below), I agree that I am competent on the basis of appropriate education, training or experience to minimize the potential to cause a significant environmental impact. I agree that I will be able to furnish documented training, certificates, etc., upon request by Royal.*

**Pre-authorization Signature:**

Company: \_\_\_\_\_ Name (Printed): \_\_\_\_\_ Date: \_\_\_\_\_

Signature: \_\_\_\_\_ Authorized Royal Representative: \_\_\_\_\_

**For Internal Use:**

A copy of the:

- Lockout Procedure (WI-SAF-001)
- Emergency Preparedness & Evacuation Procedure (WI-SAF-005)
- Confined Space Procedure (WI-SAF-013)
- Evacuation/Shelter Maps for the designated facility will be readily available in the Visitor Log Sheet binder at the front desk.

The sign-in **log sheet** must be scanned and electronically filed in the folder S:\Company\Documents\Sign in Sheets under the appropriate facility.

Pre-authorized contractor's signatures (on this procedure) are electronically filed in: G: \ Shared Drive \ Quality Department \ ISO14001 \ Contractor Agreement Forms

**REFERENCES:**

Visitor Log Sheet – Save to S:\Company\Documents\Sign in Sheets (when complete)  
Employee Training Matrix  
Lockout Procedure (WI-SAF-001)  
Emergency Preparedness & Evacuation Procedure (WI-SAF-005)  
Confined Space Procedure (WI-SAF-013)  
Evacuation and Shelter Maps

## Appendix K: Supplier Scorecard



## CERTIFICATION OF CONFLICT MINERALS COMPLIANCE

I CERTIFY, BASED ON INFORMATION AND BELIEF FORMED AFTER REASONABLE INQUIRY OF MY SUPPLIERS, THAT MATERIALS, TREATMENTS, GOODS AND/OR COMPONENTS SUPPLIED TO ROYAL TECHNOLOGIES CORPORATION, DO NOT CONTAIN ANY OF THE 3TG MINERALS, AS DEFINED BY THE DODD FRANK ACT, SECTION 1502, OR THE FINAL RULE ADOPTED BY THE SECURITIES AND EXCHANGE COMMISSION.

Name of Supplier: \_\_\_\_\_

\_\_\_\_\_  
Signature of Authorized Officer

\_\_\_\_\_  
Title of Authorized Officer

\_\_\_\_\_  
Print Name of Authorized Officer\*

\_\_\_\_\_  
Date Signed

**\*This certification should be signed by an officer who is at the Vice President level or above**

## [Appendix M: Revision Log](#)

- **Revision - August 2025**
  - Updated Supplier chargeback amounts - Section II - H
  - Updated Supplier late delivery charges - Section II - D - 3
- **Revision - May 2025**
  - Updated verbiage about supplier changes that Royal needs to be updated about - Section IV - C - 3
- **Revision - January 2025**
  - Updated the corrective action due dates and verbiage - Section II - F - 4 / 5
- **Revision - November 2024**
  - Added verbiage to the labeling section. Samples shipped into Royal must have a standard AIAG label.
  - Changed the verbiage about what counts toward PPM - Section V - A - B
- **Revision - June 2024**
  - Updated Environmental policy
  - Added in English only to the PPAP submission verbiage - Section IV - C - 2
- **Revision - October 2023**
  - Update Contractor Safety Procedure
- **Revision – January 2022**
  - Changed AP email addresses
  - Added 8D standard for problem solving
  - Update score for scorecard
  - Added update standard label
- **Revision – August 2020**
  - Added Bar code 128 or 39 under Labeling section
  - Updated verbiage on IATF
  - Added charges for quality spills page 8 section H
- **Revision – January 2019**
  - Added CSR under PPAP section
  - Added FMVSS testing as required
  - Updated supplier audits if scorecard is yellow or red
  - Added verbiage to allow material over #1700 with purchasing approval
  - Added verbiage related to IATF requirements
- **Revision - January 2017**
  - Updated Material Ordering for ISO 14001
  - Updated Supplier Score Carding
  - Updated for 3TG Compliance
  - Product Change Notice
- **Revision - January 2016**
  - Added 3TG statement.
  - Added Environmental Policy statement
- **Revision – May 2015**
  - Revised Terms and Conditions
  - Revised PO verbiage to include reference to updated Terms and Conditions
  - Removed references to Blanket POs
- **Revision – June 2014**
  - Re Written and updated all sections

- Changed Supplier Scoring to match ISO Work Instructions and Work Flow.
- **Revision – May 2011**
  - Added Social Responsibility Statement to V. Supplier Measurement System
- **Revision – December 2010**
  - Updated Charge Back Rates and Procedures – effective 12-1-10
  - Revision – March 2010:
  - Updated terms (Appendix I)
- **Revision – February 2009**
  - Added Packaging Declaration Form - Appendix J
  - Updated Non Conforming Material Report – Appendix G
  - New 8D Problem Response Form added – Appendix H
  - Section VI: Finance A.3 – Electronic invoicing added
  - Supplier Performance scoring updated (Section V: C)
  - Material ordering clarified (Section II: A.4)
  - Material Obsolescence clarified (Section II: I)
  - Recovery Plan expectations (Section V: A)
  - Added Shipping contacts numbers to Contact List – Appendix A

## 8D Standard for problem solving

### TEAM

**Champion:** Responsible for coordinating and documenting the corrective action process from root cause through prevention. Also responsible for timing requirements. Drives involvement from the right people. Generally: Production Manager (manufacturing issue), Project Engineer (design, engineering or launch issue) or SQE (supplier-caused issue).

**Team:** Those that own a portion of the issue, with valuable input, and/or will perform actions.

### DEFINE PROBLEM

Describe the issue both from the customer's point of view, and then with as much detail as possible of the actual issue. Be as objective as possible. Think: what, when, where, who, how much, how often. Which part(s)? What requirement or standard was not met? Where found? Where on the part? How many? What is the fall-out rate?. When did the problem start? Which mfg dates are okay and which are not? What is the issue *not*? Avoid adding causes in the problem statement.

### INTERIM CONTAINMENT CORRECTIVE ACTIONS

#### Customer Location(s):

Does suspect stock need to be sorted? If so, coordinate with Royal Technologies who will perform the sort, agree upon the criteria, and ensure that Royal Technologies and the inspectors have clear instructions of what is bad (and also what is good if subjective). How is certified stock identified? What needs to happen to the bad parts? Is suspect stock in transit that needs to be certified? Are there suspect parts on the shipping dock? Document how many parts were suspect, inspected and rejected.

### ROOT CAUSES

"3-Legged 5-Why" is the Standard: Root Causes for (a) Occurrence' or "Why made?", (b) Escape or "Why shipped?", and (c) System or "Why did our system allow it?". Any of the 3 "legs" may have more than one root cause. For each, utilize the "5 Why" method: Ask "why?" until you get past symptoms and uncover the true root causes (it may be more than, or less than, 5 "whys"). The path should make sense when read in reverse using "therefore". Include names and dates for all actions. During investigation, don't put "TBD" for timing of the action; instead add the target date for the next step(s) of the investigation. An exception to the "3-legged 5-why" may be if an Ishikawa ("fishbone") is being used (generally for more complex problems). The root cause should be stated as if the reader of the 8D knows nothing about the process that caused the issue.

#### (a) Occurrence Root Causes:

Why was the issue made? Typically related to man, machine, method, material, method, processing parameters, process steps, change in equipment, process, tooling or method. Instead of "operator did not follow instructions", ask "why?": Do standard instructions exist? Are they good enough? Was s/he trained well enough? How is the root cause verified? It should be able to be turned "on" and "off". Include a clear root cause statement(s).

#### (b) Escape Root Cause(s):

Why was the issue able to be shipped? Typically related to the inspection system. If poka yokes exist, does a loophole exist? is it possible to bypass them? Were all checks performed as they should have been? Was there a missing check? Does the operator have appropriate time or conditions to detect? Include a clear root cause statement(s).

#### (c) System Root Cause(s):

Why/How did your system allow the issue/condition to occur? Typically related to Quality or Development systems. Are there weaknesses in our system? Lack of preventative maintenance? Ineffective APQP controls (PFMEA, Control Plan missed accounting for the possibility)? New process or equipment not validated well enough? Include a clear root cause statement(s).

#### Task Notes

Problem Statement summary

Occurrence Root Cause

Why?:

Why?:

Why?:

Why?:

Why?:

Escape Root Cause

Why?:

Why?:

Why?:

Why?:

Why?:

System Root Cause

Why?:

Why?:

Why?:

Why?:

Why?:



## **CORRECTIVE ACTION PLANS**

Include at least one Corrective Action for each root cause. Document the plans here to implement corrective actions (bullet-point format tends to work well) including an owner and timing for each step (remember: avoid terms like "TBD") Consider which actions need customer approval and include those approvals into the timeline.

## **IMPLEMENT & VERIFY CORRECTIVE ACTIONS**

### **Implementation:**

Actions taken to implement each of the corrective actions; including owner and implementation dates. Include details of what was corrected, how and when.

### **Verification of Corrective Actions:**

How the effectiveness of each corrective action is verified. This may include statistical evidence, monitoring, auditing and trying to bypass error proofing (ex: "red rabbits" or "poka yoke verification"). Include evidence/data if applicable. Include reviewing all controls and documentation included in the corrective actions.

## **PREVENTION**

How the issue will be avoided in the future. Systems, practices and/or procedures to prevent reoccurrence.

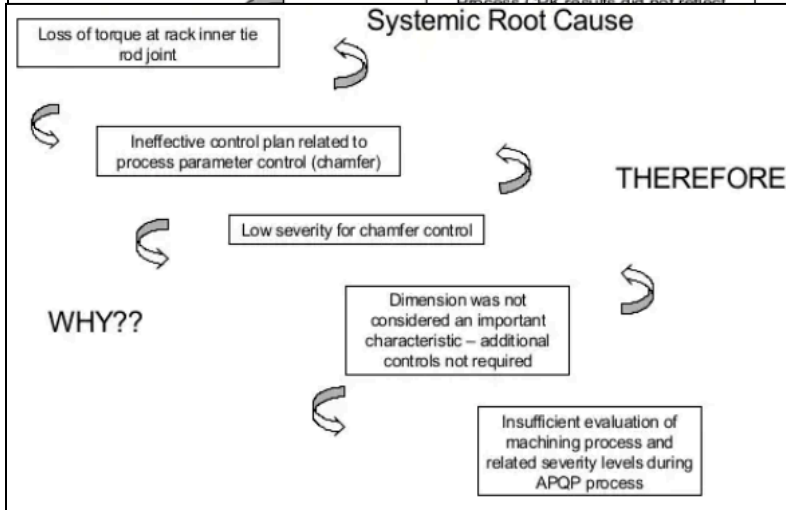
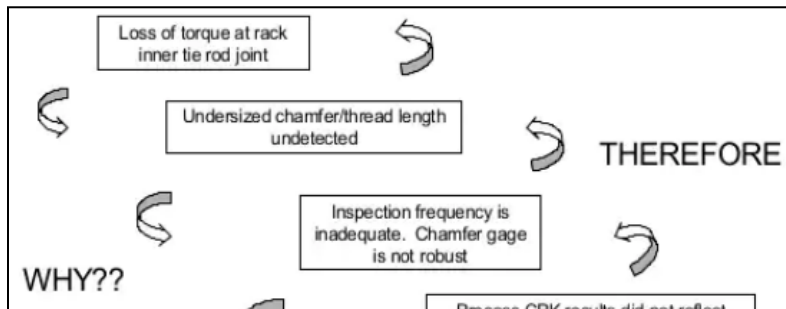
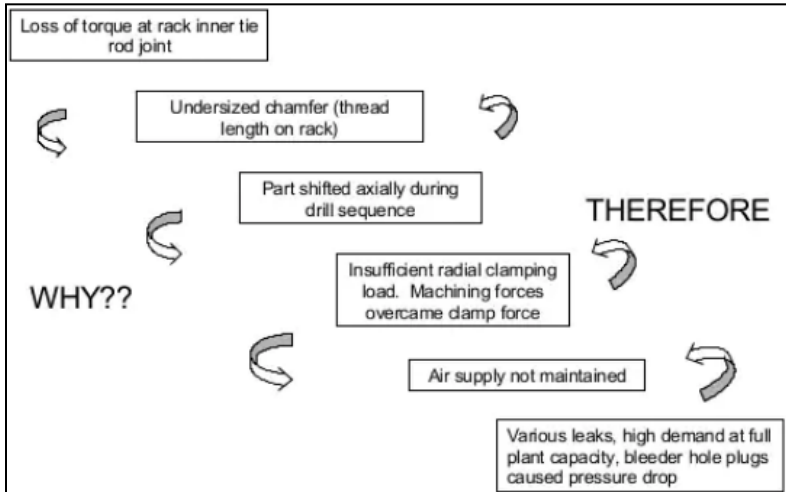
"Read-Across" or standardize improvement actions with other similar areas/products that share root cause(s). Update control documents Control Plan, PFMEA, Launch process, Procedures, Work Instructions, Equipment Standards, Tooling Standards, etc.). What other lessons-learned should be shared across the company?

## **CONGRATULATE YOUR TEAM**

Recognize the collective efforts of your team and thank them.

## Example of Root Causes

### Occurrence:



## Example of Corrective Actions

### •Corrective Action:

- Reset alarm limits to sound if <90 PSI.
  - Smith 10/12/10
- Disable machine if <90 PSI.
  - Jones 9/28/10
- Dropped feed on drill cycle to .0058 from .008.
  - Davis 10/10/10
- Clean collets on Kennebec @ PM frequency
  - Smith 10/12/10
- Added dedicated accumulator (air) for system or compressor for each Kennebec
  - Smith 10/12/10
- Verify system pressure at machines at beginning, middle, and end of shift

### •Corrective Action:

- Implement 100% sort for chamfer length and thread depth.
  - Smith 9/26/10
- Create & maintain inspection sheet log to validate
  - Davis 8/22/10
- Redesign chamfer gage to make more effective
  - Jones 11/30/10
- Increase inspection frequency at machine from 2X per shift to 2X per hour
  - Johnson 10/14/10
- Review audit sheets to record data from both ends on an hourly basis
  - Davis 10/4/10
- Conduct machine capability studies on thread depth
  - Jones 9/22/10
- Perform capability studies on chamfer diameters

Escape:

System:

### Corrective Action:

- Design record, FMEA, and Control Plan to be reviewed/upgraded by Quality, Manufacturing Engineering
- Update control plan to reflect 100% inspection of feature
- PM machine controls all utility/power/pressure
- Implement layered audit schedule by Management for robustness/compliance to standardized work

### Lessons Learned:

- PFMEA severity should focus on affect to subsequent internal process (immediate customer) as well as final customer
- Measurement system and gage design standard should be robust and supported by R & R studies
- Evaluate the affect of utility interruptions to all machine processed (air/electric/gas)

#### Problem Description

- ☐ Who described the problem to Royal? Who told them about the issue?
- ☐ What. Which parts? Clear description of the issue and requirement(s) not met? Where on the part?
- ☐ Where & How. Which customer location(s) and where found within the customer location(s) & How?
- ☐ When (found, made, shipped). Customer identified date/time? Part traceability?
- ☐ How Many & How Often. Quantity and approx. fall-out rate?

#### Containment at Customer

- ☐ Qty at all Royal location(s) including in-transit? Are all locations considered?
- ☐ Is the customer at risk of having their production interrupted? If so - how many are needed & by when?
- ☐ Who will certify stock? How is certified stock identified?
- ☐ Is it clear when sorting at the customer will end? (an agreed cleanpoint or other criteria)
- ☐ What needs to happen to bad/suspect parts found? (scrap, return, rework)

#### Containment at Royal

- ☐ Qty suspect at all customer location(s) including on the shipping dock?
- ☐ Who will certify stock? How is certified stock identified?
- ☐ When did/do they start and when should they be finished?
- ☐ What needs to happen to bad/suspect parts found? (scrap, return, rework)

#### Root Cause - Occurrence

- ☐ 5-Why method used? The 5-why makes sense backwards with using “therefore” between each “why”?
- ☐ True root cause makes sense as to why the problem occurred?

#### Root Cause - Escape

- ☐ 5-Why method used? The 5-why makes sense backwards with using “therefore” between each “why”?
- ☐ True root cause makes sense as to why the problem escaped?

#### Root Cause - System

- ☐ 5-Why method used? The 5-why makes sense backwards with using “therefore” between each “why”?
- ☐ True root cause makes sense as to what system failed?

#### Corrective Action Plans

- ☐ There is at least one corrective action identified for each root cause?
- ☐ For each plan an owner and a target date exists for next steps (not “TBD”)?
- ☐ Each Corrective Action makes sense according to the root cause it is addressing?
- ☐ If (re)training is involved, enough detail that it sounds effective (how, where, by whom, etc.)?

#### Implement Corrective Actions

- ☐ Details of what was corrected, how, when, and by whom? Corrective Actions are understandable?

#### Verification of Corrective Actions

- ☐ Verification methods make sense and ensure actions are implemented effectively.
- ☐ If possible, evidence is included?

#### Prevention

- ☐ System, practice and/or procedure to prevent reoccurrence?
- ☐ If applicable, corrective actions include “Read Across” (spread to like parts, processes or equipment)