

PPAP SUBMISSION CHECKLIST

Part # : KF140033 Part Revision Level : A Revision Date : 14 May 14

Submission Type

Customer Name / Location :	Parker Hannifin	PPAP Level Req. :	3
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Reason for PPAP

- | | |
|---|--|
| <input checked="" type="checkbox"/> New part, initial submission
<input type="checkbox"/> Engineering Change (s)
<input type="checkbox"/> Tooling: Transfer, Replacement, Refurbish or additional
<input type="checkbox"/> Correction of a discrepancy
<input type="checkbox"/> Tooling Inactive > 1 year | <input type="checkbox"/> Change to Optional Construction or Material
<input type="checkbox"/> Sub-Supplier or Material Source Change
<input type="checkbox"/> Change in Part Processing
<input type="checkbox"/> Parts Produced at Additional Location
<input type="checkbox"/> Other – please specify (Re-PPAP) |
|---|--|

Requirements / Documentation

(S-Submit, R-Retain Make Available, *-Retain Submit Upon Request)

1. Design Records (Racor Print, /supp/ drawings, etc.)

-for proprietary components / details

-for all other components / details

2. Engineering Change Documents, if required (PWAR form)

3. Customer Engineering approval, if required (PAA, MDA)

4. Design FMEA- if applicable

5. Process Flow Diagrams (Ref. CFG-1000)

6. Process FMEA (Ref. CFG-1000)

7. Dimensional Results CFG-1003

8. Material, Performance Test Results CFG-1004

9. Initial Process Study (Ref. CFG-1000)

10. Measurement System Analysis Studies (GR&R Ref. CFG-1000)

11. Qualified Laboratory Documentation- Lab Accreditation Certificate, if needed

12. Control Plan (Ref. CFG-1000) includes Annual Layout for OEM Applications

13. Part Submission Warrant (PSW) CFG-1001

14. Appearance Approval Report, (AAR) if applicable per design record or SQE discretion

15. Bulk Materials Requirements Checklist (for bulk material PPAP only)

16. Sample Product (Ref. CFG-1000 Dimensional Results CFG-1003 for each cavity, die, tool, or process to be provided with PPAP submission) **PPAP/Product Sample shall have 2 package labels**

17. Master Sample –for each cavity, die, tool, or process

18. Checking Aids (fixtures, models, templates, etc. used in insp.)

19. Records of Compliance With Customer-Specific Requirements (In-Process Inspection Reports/OPC & SPC)

20. Supplier PTC Matrix (Ref. CFG. 1000)

21. IMDS

1	2	3	4	5	Comments (ensure that documentation is in PPAP file) *
R	S	S	*	R	Available
R	R	R	*	R	-
R	S	S	*	R	-
R	S	S	*	R	NA
R	R	S	*	R	NA
R	R	S	*	R	NA
R	R	S	*	R	Available
R	R	S	*	R	Available
R	S	S	*	R	Available
R	S	S	*	R	Available
R	R	S	*	R	Available
R	R	S	*	R	Available
R	S	S	*	R	Available
R	R	S	*	R	Available
S	S	S	S	R	Available
S	S	S	*	R	Available
R	R	R	*	R	-
R	S	S	*	R	Available
R	R	R	*	R	Available
R	R	S	*	R	NA
R	R	S	*	R	NA
R	R	S	*	R	-

PPAP performed / verified by : Manoj Kumar

Supplier Quality Requirements & PPAP Reporting

PPAP is Required When

A supplier PPAP submission is required for all New Parts, Dwg. Revisions, Material Change, Supplier Change, Change Tooling, Machine, Mfg. Location change, production tool or mold has not been used in last 12 months, and if a PPAP Request is received. Note: For Catalog/ Off the Shelf/ Commodity parts a Level 3 PPAP is required by default, unless otherwise specified by a Customer Representative.

PPAP Forms use only AIAG 4th Ed. PPAP Manual Rev. March 2006

Request a CFG-1000 and following PPAP Forms from Racor QA: CFG-1001, CFG-1003, CFG-1004, CFG-1005, Control Plan, PFMEA & Flowchart. Follow all applicable procedures in the AIAG PPAP 4th Ed manual. A Level 3 is the PPAP default level

PPAP Material Reporting

Suppliers are required to provide Lot Traceable Lab Test Reports or Mill Certification of Analysis with chemical or physical results for all assembly components. Mill & Dwg. specific Physical lab test results are required for all materials indicated on the blueprint and for parts mfg. from a raw material. I.e. fasteners, media, brackets, center tubes, fittings, & compounds.

PPAP Delivery address: Racor Modesto, CA. Plant:

Please submit hard copies of PPAP documents together with the sample parts and tracking number to the appropriate Racor locations listed below. For the electronic copies of PPAP documents, email to rcr_ppapmailbox@parker.com.

If you have any question, please contact your SQE:

"Johnny L Pittman" jpittman@parker.com, "Becca Murray" becca.murray@parker.com, "Diane Patino" diane.patino@parker.com

For suppliers in the West Coast of USA, Asia & Mexico suppliers near San Diego, CA, please submit to Racor Modesto, CA.

ATTN: Stephen Roberson/ Johnny Pittman

Parker Hannifin Racor Division

3400 Finch Road Modesto, CA 95354

For suppliers in the East Coast of USA, Europe and Mexico/ Latin America, please submit to Racor Beaufort, SC

ATTN: Diane Patino/ Becca Murray

Parker Hannifin Racor Division

302 Parker Drive Beaufort, SC 29906

PPAP Sample Label or Tag (With Serial No.)

Make a label as shown below & complete all sections & date & sign name. Affix it to the Sample Product part/s, tag, or clear Plastic bag with part inside. **Record the Serial No. on the Explanation / Comments line of the PSW Warrant.**

PPAP SAMPLE PRODUCT SERIAL # _____	
PART NO. _____	REV: _____
Part Name: _____	
Supplier Part No. _____	
Supplier Co. _____	
Lot No.: _____	
Customer: RACOR DIVISION	
Auditor Name _____	Date: _____

PPAP Delivery Promise Date: Keep the promised PPAP delivery date. E-mail Racor purchasing & QA if date cannot be met.

SHIPPING CONTAINER LABELING: Affix a Yellow Label as shown below on the package of the PPAP Sample Product and PPAP submission.

Fig-1 Post on 2 sides of Sample Package



Do NOT ship parts until receipt of approved PSW.

PPAP SUBMISSION INSTRUCTIONS

Do not ship first production delivery until in receipt of Racor approved PPAP Warrant.

1. RacorPrint. Place numbered circle next to each print dimension, item, or note and provide audit data results for each. Use the same no. on the PPAP dimensional report form as assigned on the print. Note: 2X next to a dimension means there are two Dwg. locations to number on inspect. Assign a different no. to each location. Both results must be conforming to the specification.

2. Engineering Change Documents: Product Waiver Authorization Request (PWAR) form DQ-PW-001. Suppliers shall process all deviation requests through Racor Quality to permit customer control of non-conforming material shipped. Suppliers shall download a PWAR form DQ-PW-001 from PH Connect and email to the appropriate Racor SQE (see PAGE 2) for entry of PWAR into QSI system and approval by Racor cross-functional team (CFT) prior to shipment of PPAP Samples, PPAP documentation, & or deliveries of parts with requested deviations. Once the supplier received the approved PWAR, the date of the approval must be identified on the CFG-1001 (PSW) under "Additional Engineering Changes." Also, check the "No" Box in the Submission Results section on the PSW that the results meet all design record requirements.

3. Customer Engineering Approval: Where specified by the customer, the organization shall have evidence of the customer engineering approval (e.g., PAA & MDA).

4. Design Failure Mode and Effect Analysis: (Design FMEA) if the organization is product design-responsible. The product design-responsible organization shall develop a Design FMEA in accordance with, and compliant to, customer-specified requirements (e.g., Potential Failure Mode and Effects Analysis reference manual).

5. Process Flow Chart: Submit a process flowchart with the PPAP for the mfg. process or machine used. Diagram each operation, store, move, delay, & inspection step. Detail gauge, type of report, & type of data recorded.

6. PFMEA Process Failure Mode & Effect Analysis: Use a team to perform PFMEA's. (Use AIAG FMEA Form). Conduct a TEAM review of the manufacturing process & review and document potential failure modes for all key print specifications. Note: Visual inspection detection must be "8" per AIAG guidelines. Cascade all inspection requirements for any high Severity or RPN ratings to the Control Plan. Regardless of rating, Racor Star & Oval (KCCs) dimensions must be included.

7. Dimensional Results: Form CFG-1003. Provide variable dimensional results taken from PPAP Mater Sample from each cavity, die, tool, or process. Be sure to check the OK or Not-OK in the Disposition column for each dimension. Report Thread Tests results using Calibrated Go & No-Go Thread Plug or Ring Gauge. No-Go thread spec. is 1-1/2 turns Max. Report the no. of turns as the No-Go result. Go Thread Gauge Test are acceptable if the gauge enters freely onto the part freely or with light drag. Provide pitch diameter variable results for all external threads. Use Racor print P.D. spec. or not specified on Racor Dwg. use ASME 14.5Y 1994 spec. Call Racor buyer & Engr. immediately if the fix of the PPAP run & re-audit of the nonconforming parts will cause a late delivery of the PPAP or production order.

8. Material Results: Form CFG-1004. Send Lot Traceable Lab Test Reports with actual Chemistry and/or Physical results. Record component part no., Material Specs. i.e. Grade, Type, & ASTM, SAE as specified on the print in the left column. Report audit results in right column: i.e. P/N, Material Grade, Type, & ASTM or SAE used, lot, batch or heat no. on test report. Attach copy of the Cert. of Analysis or test report. **Note:** All parts made must be lot traceable back to raw material used.

- **Performance Test Results: Form CFG-1005.** The organization shall perform tests for all part(s) or product material(s) when performance or functional requirements are specified by the design record or Control Plan:

9. Initial / Capability Study: RacorSTAR & Oval dimensions require process capability studies. Racor only accepts X Bar & R Control Charting. Statistically processed data must be recorded by suppliers for Star Dwg. dimensions. X Bar & R Control charts are required. Unless specified in the PPAP Request by the customer (Low Volume 30 pcs / cavity, High Volume 100 pcs / cavity); check a min. of 100 parts selected consecutively in subgroups of 4 or 5 pcs. from a 300 part minimum run. Acceptable CPK is \geq to 1.67.

10. Measurement Study: Gauge R & R is required for RacorStar & Oval dimensions. Submit measurement study for all gauges used to measure variable STAR or OVAL print dimensions. Attribute STAR or OVAL print dimensions may be required per customer request. Max. R&R Spec: is 20 %. GRR tolerance variation. All attribute gage studies must include a minimum and maximum tolerance part & an over and under spec. part. These 4 parts must be identified as such on the gage study sheet. (e.g., maximum tolerance part, over spec. part)

11. Qualified Laboratory Documentation: Inspection and testing for PPAP shall be performed by qualified laboratory (e.g., and accredited laboratory)

12. Control Plan: Racor OVAL & STAR print dimensions & specs must be addressed on the Supplier Control Plan. The Control Plan describes the actions that are required at each phase of the process including receiving, in-process, out-going, and periodic requirements to assure that all process outputs will be in a state of control. Use Racor or an AIAG approved Control Plan Form (Star & Oval Racor print dimensions are KCC's.) Include them on the Control Plan. Star features require SPC. Indicate the Racor Part no., Dwg. Revision, specs, tolerance & inspection gauges used on the Control Plan. Indicate Star & Oval features with a symbol in the Spec. Char. Column. **Note: An Annual Layout submission & verification is required to be identified on the Control Plan for OEM Applications.**

13. . Part Submission Warrant (PSW): Form CFG-1001 the default PPAP Level is a Level 3. Only Racor QA can assign PPAP Levels: Include a signed & dated PSW Warrant with the submission. Check the Yes Box on the SUBMISSION RESULTS section of PSW only if all results meet Racor print specifications. If any audit results is nonconforming on the assembly, check the **No Box** and state why on the Explanation / Comments line of the PSW Warrant. Contact Racor's Buyer & Engineer immediately if the promised PPAP delivery date cannot be met. A written waiver must be received from Racor QA to approve less than the minimum 300 part PPAP build or identified in the PPAP Request. For customer, enter "Parker Hannifin Corp, Racor Division" on the PSW Warrant. Enter your company Racor Vendor code no. after your Company Name. If not known, obtain from Racor purchasing. For application enter "OEM & U.S. Military Diesel Fuel Filter Assy's" Weight of part must be reported in kg at a minimum 4 places past the decimal on the PSW. Fill out a Racor approved PPAP Sample Label & affix it to part, part tag, or label bag. Assign a Serial No. to sample and report it on the PSW Warrant Comments/Explanation line. Report PPAP run size, Lot No. & Mfg. date on PSW Explanation Comments line. Place a Yellow PPAP Label on the shipping container stating "PPAP SAMPLE, DELIVER TO RNI". Ship first delivery after you have receipt of Racor approved PSW Warrant.

14. Appearance Approval Report (AAR): A separate Appearance Report (ARR) shall be completed for each part or series of parts if the product/part has appearance requirement on the design record or per SQE discretion & comment indicated on PPAP Submission Checklist emailed to the Supplier.

15. Bulk Material Requirements Checklist: For bulk material, the PPAP elements required are defined by the Bulk Materials Requirements Checklist. Any customer-specific requirements shall be documented on the Bulk Materials Requirements Checklist.

16. Sample Production Parts: The supplier shall provide sample product as specified by the customer. Packaging shall include 2 labels (1 on each side). See Label format above Fig-1.

17. Master Sample: The supplier shall retain a master sample for the same period as the production part approval record or until a new master sample is produced for the same customer part number for customer approval, or where a master sample is required by a design record, Control Plan, or inspection criteria, as a reference or standard.

18. Check Aids: If requested by the customer, the supplier shall submit with the PPAP submission any part-specific assembly or component checking aid.

19. In-Process Inspection Reporting: Supplier must document audit results. Oval & Star features are a KCC (Key Control Characteristic) These must be on the control plan & require supplier documented audits during start, stages of production, & end of run. Record results on an In-Process Report Submit this report with the PPAP & each delivery. Keep In-process Inspection reports on file 3 years, & all Annual 1st Art. & PPAP for life of product + 1 year.

20. Supplier PTC Matrix: The Supplier must identify each Pass Through Characteristic "PTC" in the Class column in the PFMEA and in the Special Character Column in the Process Control Plan. PTC are those internal and external supplied components with potential fit or function issues that will not get 100% detected within a production assembly and test area (essentially anywhere verifiable within a plant.) Quality defects are therefore at risk of "Passed Through" to our customer. The Supplier should visit and shall confirm that their Sub-Tier's PTC controls are adequately addressed through review of their PFMEA & Process Control Plan and provide Supplier PTC Matrix as indicated on the PPAP Submission Checklist.

21. IMDS: New & revised parts require the submission of data including part number, description, material and weight to the IMDS online database. The flow of data through the IMDS using companies must reflect the materials and components data are passed along the supply chain. Requirements are passed downstream in the supply chain to assure that compliance and data reporting of material formulation is accurate. In general, all components and materials being used throughout the supply chain must be disclosed. If submitted via IMDS include: Module ID#, Version#, and Date Transmitted and all other information as required by customer specifics. If submitted via other customer format, enter the date customer confirmation was received.

Note 1. PPAP Disposition's as followed:

Approved: Approved Disposition indicates that the part or material, including all sub-components, meet all customer requirements. The organization is therefore authorized to ship production quantities of the product, subject to releases from the customer scheduling activity.

Interim Approved: Interim Approved Disposition permits shipment of material for production requirements on a **limited time or piece quantity basis**. Interim Disposition will only be granted when the organization has:

- Clearly defined the non-compliances preventing approval using PWAR form.
- Prepared an action plan agreed upon by the customer. PPAP re-submission is required to obtain a status of "Approved."

A: The organization is responsible for implementing containment actions to ensure that only acceptable or PWAR form approved material is being shipped to the customer.

B: Parts with an Interim Disposition requires a PPAP re-submission within the specified quantity or timeframe. Material covered by an Interim Disposition that fails to meet the agreed-upon action plan, either by the expiration date or the shipment of the authorized quantity, will be **rejected**. No additional shipments are authorized unless an extension of the Interim Disposition is granted through new PSW along with a PWAR form if required.

Rejected: Rejected Disposition means that the PPAP submission does not meet customer requirements, based on the production lot from which it was taken and /or accompanying documentation. In such cases, the submission and / or process, as appropriate, shall be corrected to meet customer requirements. **The submission shall be approved before production quantities may be shipped.**

Note 2. Customer Notification: The supplier shall notify the customer representatives (Supply Chain, Product Engineering, & Quality) of any planned changes to the design, process or site. Note: The Supplier is responsible to notify the customer representative of all changes to the part design and/ or the manufacturing process. Upon

notification and approval of the proposed change by the customer representatives, and after change implementation, PPAP submission is required.

RACOR SPECIFIC REQUIREMENTS

Lot Traceability:(Required for all supplier Raw Materials, Components, and Assemblies)

Suppliers shall provide lot traceability of raw materials for each component of an assembly. The batch, heat, or lot no. used must be recorded on the receiving & production inspection records providing traceability history linked to the part job or lot no. The Job or Lot no. of the component or assembly shipped must be identified on the AIAG shipping label of each container.

Raw Material Lab Test Certifications: Racor requires all suppliers to provide Raw Material Test Reports for all component parts on an assembly. Blanket statements of conformance: i.e. Certificates of Compliance & Typical Certifications are unacceptable. Only lot # traceable test reports with material specifications & actual test results are acceptable. The reports must identify originator, and be signed & dated. **All test reports must be identified with a Certificate No. i.e. lot, batch or heat number:** If an Oval symbol is adjacent to the Material Specification on the Racor dwg., then a test report must be sent with each part delivery.

Key Control Characteristics: (KCC) Racor blueprint features with an Star & Oval symbols next to it are KCC's . Ovals on Racor prints next to a dimension, material, or note identify it as Key Control Characteristics. Suppliers are required to document in-process results or provide lab test data per Dwg. specifications and the control plan. Parts must be selected at start and stages (Frequency) indicated on a control plan. i.e. 3 pcs per hour. Random sample audits at end of the run are not an acceptable in-process inspection practice for Racor parts. A Star feature requires that variable data be collected in groups of 5 parts at assigned hourly intervals and data must be processed on a X Bar & R Control Chart. Histograms may be acceptable to Racor on special case basis. The Min. CPK acceptable is 1.67 AIAG 4th ed.

STAR Racor Print Features: Process Control Dimensions.

Critical Characteristics are identified on the Racor blueprint with a numbered STAR Symbol adjacent to the Dwg. dimension. Star SPC blueprint features must be included on supplier control plan and require supplier QC or QA to collect variable data & process it statistically: i.e. X Bar & R Control Chart or other customer approved statistical method. Minimum CPK is 1.67.

Annual Layouts: (Submit documents only to Racor QA) 1st Article inspection reports must be performed by vendors on all parts. The reports must be sent to Racor quality department. A layout is required on one part from each tool, process, or mold & die cavities. All features must meet print. Corrective action is required on tooling if product is nonconforming. Contact Racor buyer & purchasing analyst if down time may affect delivery.

Racor Prints: (Racor Print required) If supplier prints are created, they shall clone all Racor blueprint specifications and tolerances & identify the OVAL key Control Characteristics & Key Critical STAR SPC dimensions as shown on the Racor Blueprint. The Racor P.O. will identify the most current print revision. Suppliers shall ensure build is to the current revision stated on the RFQ or P.O. each build.

Corrective Action Requests: SNCR / 8D Prevention Reporting Suppliers must respond to Racor SNCR (Supplier Nonconformance Reports) with a completed 8D Prevention Report within 14 days. Initial response for Containment is required within 48 hours and Immediate Corrective Action must be addressed immediately if parts are currently running. i.e. 100% inspect and Certified Parts until tooling or process is corrected.

Quality & Delivery Priority: Quality must be met before delivery. On-time delivery of non-conforming parts does not benefit Racor. Parts must meet spec.

Deviations: If parts are Out-of-Spec but will not affect form fit and function, submit a PWAR form to the appropriate Racor SQE. You may ship parts **only** after receiving written PWAR approval. Provide Qty. Lot No. & P.O. info.

Supplier Inspection Gauges: Gauges used to verify Racor product must be calibrated with comparison standard traceable to N.I.S.T. A control no. and calibration due date Label must be affixed to each gauge used to inspect Racor parts. A Gauge R & R must be performed by the supplier's quality dept. for all inspection gauges used to inspect Oval or Star dimensions on Racor blueprints.

Shipping AIAG Barcode Label: AIAG Label - Minimum Information: Supplier Co. Name, Part No., Revision, Lot No., Qty., P.O., Part Name, & Ship Date.